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

CQ Contest W3CCX FN21hb

CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL Affiliated Club

Volume XLVI | **June 2004** | **Number 6**

PREZ SEZ

As my term as President comes to an end, I want to thank some people who aided us during transition periods. Bill K3EGE stepped up when Walt WA3AQA was unable to continue as secretary. Chris N3PLM took over as Vice President when Bob W2SJ was also unable to serve. Rick K1DS, Brian N3EXA, and Drex W3ICC assisted as program chairmen, lining up some great speakers for our meetings. There were also others who contributed in many ways. We had a record number of new members join the Packrat fraternity, adding to the enjoyment of our radio hobby.

I believe that one of the most important contributions to the club is that of newsletter editor. Rick spends a lot of time putting this first rate paper together. There is always critical information about activities as well as technical articles. Rick, I want to personally thank you for your hard work.

As I would like to continue as President, certain upcoming life situations make the commitment difficult. We all enjoy going to meetings and participating in activities. These things do not automatically occur. Officers and others are needed to keep these things going. Please say yes if asked to run for an office. I served because I appreciated what others did for me. I invite all to help. I will continue to serve as Awards Chairman, a board member, 432 net control, and on the 50th anniversary committee for our celebration in 2006.

I have mentioned the contest in my last several columns. This has the potential to be one of our best efforts in many years. We have some operators and could use more. It is important that the bands are manned for the entire contest. The technical preparations are phenomenal. Rotors are rebuilt and we have new antennas and feedlines for many bands. Our ears should be sharp. The rover commitments are quite impressive. Randy Bynum NR6CA is driving cross-country in a motor home to join our efforts. All in all it will be a year to remember. 73s, Paul Sokoloff WA3GFZ

Below: Bob, N4HY, gave a great talk and demo of Software Defined Radio and the SDR-1000 at the packed house May meeting

June Contest...FINAL UPDATE!

Hard to believe its June already but here it is! The culmination of weeks and months of work , planning and organizing is almost upon us. First I would like to congratulate Steve KF6AJ on accepting the job as contest co-chair. Steve has actually been doing this job for months , now it's official. Thanks Steve for all your work so far getting things organized , and moving things along. Steve is also 2m band captain, which alone is a formidable job! Also special thanks to Phil, K3TUF for putting together our new networked computer system, Paul, W2PED for all his work as Rover Coordinator , I'm sure we'll color in a lot of those "missing grids" from the past, and Len, N3NGE for his work restoring ALL the W3CCX rotors, this was a time consuming task but despite a tough work schedule Len got this much needed job done! Also thanks to all the band captains, co-captains , to Bruce, WA3YUE for his work on the AC power system , Doc, W3GAD for doing food again , and to all who volunteered to help set up , operate and tear down. As of this writing , a last minute addition of sign ups has brought us up to a comfortable level for operators , but a few more volunteers wouldn't hurt especially for set up and tear down so if you have the time , don't hesitate to call me and be part of the team!

THE PLAN is to meet at W3GXB's (Continued on p 5)

Pack Rats **CHEESE BITS** is a monthly publication of the
Mt. AIRY VHF RADIO CLUB, INC. -Southampton, PA.
SUBSCRIPTION RATE: $16.00 PER YEAR (USA)
$20.00 PER YEAR (CANADA)
$10 PDF only $24.00 PER YEAR (ELSEWHERE)
We operate on a .PDF exchange basis with other non-commercial publications. Anything that is printed in CHEESE BITS may be reprinted in a not for profit publication, unless stated otherwise, provided proper credit is given. Deadline for articles and swap-shop is the monthly meeting date. Non-commercial swap-shop items free of charge.
Pack Rat Web Site: http://www.ij.net/packrats
SUBSCRIPTION/ADVERTISING MANAGER:
Bob Fischer, W2SJ 7258 Walnut Avenue, Pennsauken, NJ 08110
(856) 665-8488 bobw2sj@prodigy.net
EDITOR:
Rick Rosen, K1DS 206 Kimberton Drive Blue Bell, PA 19422
(610)-270-8884 rick1ds@hotmail.com
CLUB TREASURER:
Dave Mascaro, W3KM 1603 Mink Road Ottsville, PA 18942
(215)-795-2648 dmascaro@motorola.com
TRUSTEE OF CLUB CALL - W3CCX
Ron Whitsel, W3RJW
(215) 355-5730 W3RJW@aol.com
PACKRAT 222 MHz REPEATER - W3CCX/R
222.98/224.58 MHz, Churchville, PA
OFFICERS: 2001-02
PRESIDENT: WA3GFZ Paul Sokoloff dogfaces@comcast.net
VICE PRES: N3PLM, Chris Getman
CORRESP. SEC: WA3EHD Jim Antonacci, Antonacci@worldnet.att.net
REC. SEC: WA3AQA Walt Zumbach, wzumbach@bellatlantic.net
TREASURER: W3KM Dave Mascaro, dmascaro@motorola.com
ACTING REC SEC K3EGE Bill Shaw
DIRECTORS:
K1DS (2 Yr) Rick Rosen
W3GAD (2 yr) "Doc" Whitticar
WA3DRC (1 Yr) Ed Finn
AA3GN (1 Yr) Joe Landis
COMMITTEE CHAIRMEN
January Contest AA2UK
June Contest: N3ITT & KF6AJ
HAMARAMA: WA3DRC
VHF Conference: KB3XG 610-584-2489
Awards Chairman WA3GFZ 215-884-3116
QUARTERMASTER: K3IUV, Bert Soltoff, soltoff@uscom.com
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 FN20kc
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

Paul Wade, W1GHZ 24GHz rig at the ESVHF Conference

Editor's Column

It's a rainy night and I'm putting together some thoughts about recent issues; like how to increase officership and board membership and activity, considering that the Packrats have now extended their geography considerably, with members from mid-DE, to Mid-PA and mid-NJ, and let's not forget NR6CA, Randy in CA, who is heading east in a mobile home to rove here in June. With monthly board meetings and club meetings, the time and expense of making meetings held in the greater suburban Philly area is not easy. Is it time to consider teleconferencing, or web-conferencing, or radio-conferencing for these meetings to involve a potentially active, but distant group of members? And "Doc" W3GAD is continuing to seek additional candidates for this year's slate of officers. Please step up!

On the topic of roving, expect that the W2SZ gang will be doing their same stuff, but there is an offer from their leader that they will try to contact other stations: see p7. Seeing them in the log will be believing. Contact with some of our friends out west leads me to believe that we will again see a substantial pack-rove, activating grids throughout the west (maybe southwest) where there is a paucity of microwave activity during the various summer activities. The irony of getting quiet and sparsely populated grids activated with pack-rovers is still controversial as the Ad-hoc committee digests all the feedback and considers options for 2005.

With the recent warming trend, and a trip to Camelback for the microwave sprint and the SBMS, my heart has started pumping for the June VHF. The most fun is being out there and participating. I have been well rewarded in this past year with lots of QSOs and some great E openings on 6 last summer, and tropo on 10G, and now having 24G to play with too. After a nice discussion with W2PED today, my thoughts were; plan well, but don't over-plan to the point of disappointment if something doesn't happen. As always, safety is a prime concern, especially with all the rovers on the road, temporary towers being erected, and lots of watts and amps close at hand.

For all the readership that has the opportunity to get on the air for June, do it, and call your friends to be on and active also, even for a little while, if not the whole weekend. SSB, CW, FM, EME, it all counts! You will be pleasantly surprised by the activity, and how far you can get with simple gear and antennas, and even low power. Everyone who has a leaning toward VHF should participate in as many of the events as possible, to preserve the opportunity. The numbers of calls in the logs and the numbers of logs submitted (and paper still counts) are the measures by which we VHF'ers are counted and represented by the ARRL and its focus.

The meeting was packed this month, with the June contest on the business agenda, and a fabulous presentation on Software Defined Radio by one of our newest members, Bob McGwier, N4HY, who has done a lot of the software development. With some of his explanations of how the rig works, I am even getting to understand the concept! The slides and demo screens were extremely helpful in understanding what's going on with the digital processing, and the clarity of the signals was remarkable.

I feel like Walter Mitty, (pocketta-pocketta) with plans about the upcoming June rove swirling in my head, checking out topo maps, playing with a new mapping disc (tnx to N3FTI), and soldering a few more cables, bidding on some additional amps on eBay, and as always, hoping for great weather and problem-free traffic, great conditions, and a lot of fun. We're down to the wire in decision making as to what grids to cover, considering the possible beach traffic on the weekend, especially with 4 shore sites selected in FN30, FN31, FN41, FN42 and 51. Well, don't get your hopes up yet, we're still in the planning stages. Final plans for Leon and I are sure to be posted on the usual reflectors.
C U all on the air, and at Otto's later this month. 73, Rick, K1DS

Important Dates and Events—Be Radio-Active!!

Saturday June 5	**Microwave Activity Day**	**6AM-1PM**
Monday June 7	**Microwave Activity Evening**	**7PM-11PM**

All bands 432 & Up, Coordinate on 144.260

~~~~~~

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

~~~~~~

Friday, June 11, PACKRATS BOD MEETING on Camelback Mountain

June ARRL VHF QSO PARTY
Sat-Sun June 12-13

Contact Chairman, Al Sheppard, N3ITT or co-chair Steve Simons, KF6AJ to define your role in this effort. This is one of the defining Packrat activities, to be on the mountain or at your home station, active and operating

~~~~~~

Thurs, June 17— PACKRATS MEETING—8:00PM

Come early if you want to order a meal. At Otto's Brauhaus

Elections, followed by a pleasurable evening in the open air at Otto's Brauhaus 233 Easton Rd, Horsham, PA

~~~~~~

Thu July 15: White Elephant Sale—the best auction of "stuff" of the year; QTH WA2OMY
Sat Aug 14: Annual Packrat Picnic—bring a covered dish—drinks supplied; QTH N3ITT
Sun Aug 15: Rain Date for Annual Picnic
Sat-Sun Aug 21-22: First weekend for the ARRL 10G & up cumulative contest

~~~~~~

- **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**

~~~~~~

CQ World-Wide VHF Contest 6m & 2m

1800 UTC Saturday, July 17, - 2100 UTC Sunday, July 18, 2004

Rules: http://www.cq-amateur-radio.com/VHF%20Contest%20Rules%20200432104.pdf

~~~~~~

ARRL UHF Contest 222 & up

1800 UTC Saturday, ends 1800 UTC Sunday (August 7-8, 2004)

Rules: http://www2.arrl.org/contests/rules/2004/uhf.html

~~~~~~

HAMARAMA: Sunday, October 10th

PORTABLE RF SNIFFER
PAUL WADE W1GHZ © 2003

Sooner or later, a rover station finds that no one will answer his calls. Is the equipment working? Failures are not surprising, since the gear is bounced around in the vehicle and then operated in various unpleasant conditions. So, how does a rover station check that the equipment is working? If you are lucky, there are beacons to check that the receiver can hear, but what about the transmitter? Is it generating power? Does it get to the antenna?

A couple of years ago, I put together a 10 GHz radiation indicator – a surplus horn connected to a surplus diode detector, with a waveguide attenuator between them to reduce the power. Since this was a last-minute job, I simply ty-wrapped everything to a micro-ammeter and stuffed it into a cardboard box. Simply holding it in front of the dish did the job – when the rig was working, it pinned the meter. Later, when I got reports that my signal was weak, the meter barely moved. Fortunately, I had a backup rig and was able to keep operating. This past summer, I went roving for the UHF contest. I took the 10 GHz indicator and checked the transmitter each time I set up at a new location. However, it didn't help on other bands, particularly 5760, where activity is lower. Making an indicator for each band is one solution, but there are enough things loose in the back of the pickup already. I needed a multiband indicator.

Several semiconductor companies have come out with power detector chips for wireless networking. The first of these was the Analog Devices AD8307, good to 500 MHz; W7ZOI and W7PUA used this chip to make a simple RF power meter[1]. New chips that work at higher frequencies have become avail-able recently. Most are good to 2.5 GHz or so, but one, the Linear Technology LTC5508, is rated to 7 GHz. Since Linear Tech is glad to sell them direct from their web page (www.linear.com) for only $1.75 each, I ordered a few. The AD8307 comes in a standard DIP package, but the higher frequency ones come in tiny surface-mount packages, so a PC board was necessary. I squeezed it onto a small board and piggybacked it in the corner of another board – I try to use every millimeter of an ExpressPCB miniboard (www.expressPCB.com). I wanted to see how high in frequency the chip would operate, so I assembled the board with a good SMA connector with a small pin, and a quality microwave ATC capacitor. The completed board is shown in Figure 1, and the schematic in Fig 2.

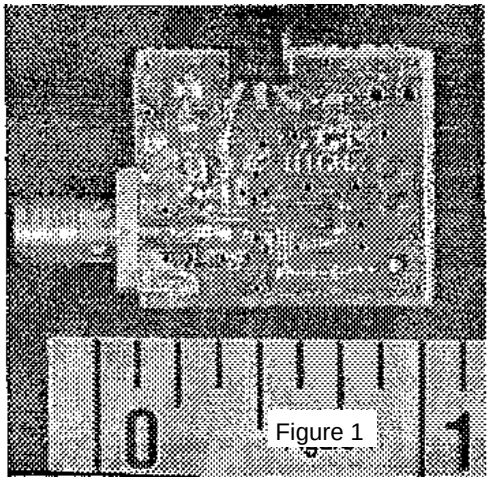


Figure 1

Performance is very good. The LTC5508 has a temperature compensated Schottky diode detector, so the readings are quite repeatable, and an output amplifier so it can drive ameter directly. The sensitivity is good, with usable output for input power from –20 to +10 dBm. Frequency response was good from about 100 MHz to 5 GHz, rolling off slightly to 8 GHz, and about 5 dB down at 10.368 GHz, as shown in Figure 3. The important thing is that it still works even at 12 GHz, and covers every VHF band from 2 meters up (low frequency rolloff is due to the small 8.2 pf input capacitor). While the frequency response is not as flat as a laboratory power meter, for instance an HP 432, it appears to be comparable in sensitivity and repeatability. The detector chip does have some advantages: very low power, requiring only a couple of milliamps at 3 to 5 volts, and fast response – fast enough to demodulate data at rates up to about 2 MHz. To compensate for the frequency response, we could make a calibration chart for each band, or even make a separate unit for each band – the chips are cheap enough. The low power required is ideal for my application, a portable power

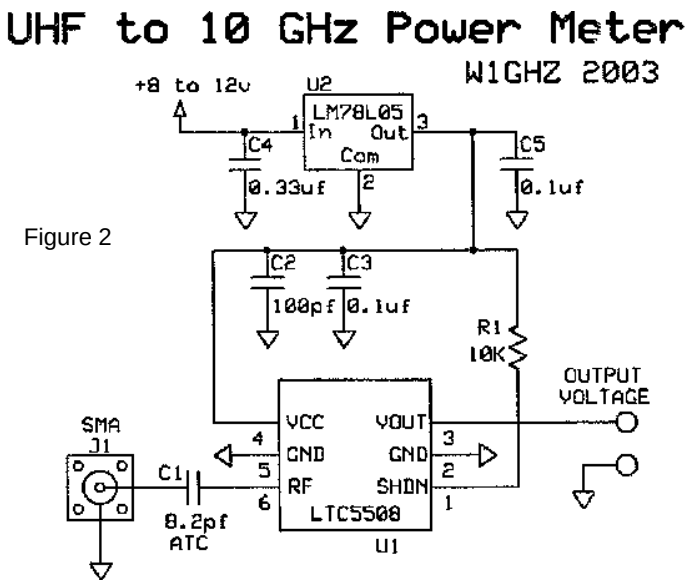


Figure 2

indicator. Rather than a fragile meter, I chose the RFPM LED power meter from DEMI (www.downeastmicrowave.com), an LED bar indicator designed by WW2R.

Figure 3: LTC5508 Power Detector

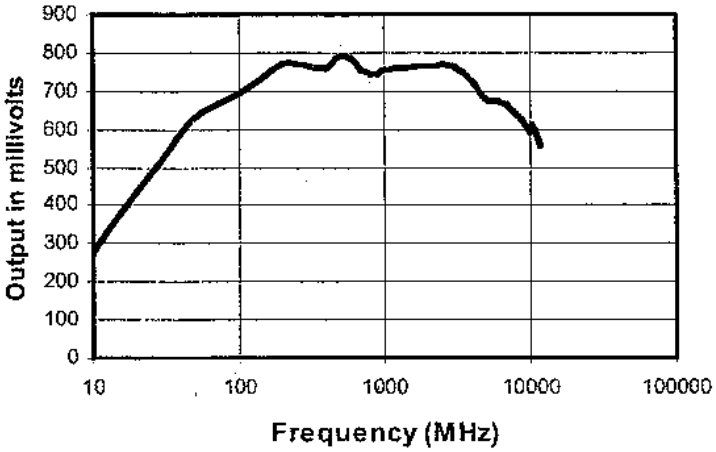
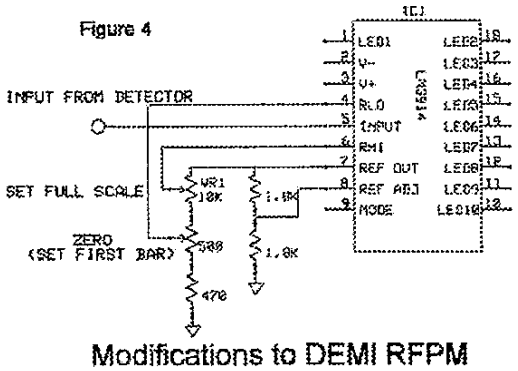


Figure 4



Modifications to DEMI RFPM

Since the LTC5508 has an offset, about 260 millivolts output with no RF input, I had to hack up the RFPM to zero the off-set; three resistors and a pot were needed. The modifications

are shown in Figure 4. The detector board and the RFPM board both fit in a small plastic case with a 9-volt battery compartment (LMB 502 or Philmore PB524). I adjusted the ZERO pot so that the first LED bar is lit as a pilot light, and the full-scale pot for +10 dBm. The second bar lights at –14 dBm, so we have 24 dB of dynamic range. The final piece of the puzzle is a 2 to 11 GHz printed log-periodic antenna from WA5VJB. The complete RF sniffer is shown in Figure 4 – broadband, cheap, portable, and battery-operated. The insides are shown in Figure 5.

Next summer, if someone doesn't answer, I'll suspect their receiver.

1. Wes Hayward, W7ZOI, and Bob Larkin, W7PUA, "Simple RF-Power Measurement," QST, June 2001, pp. 38-43.

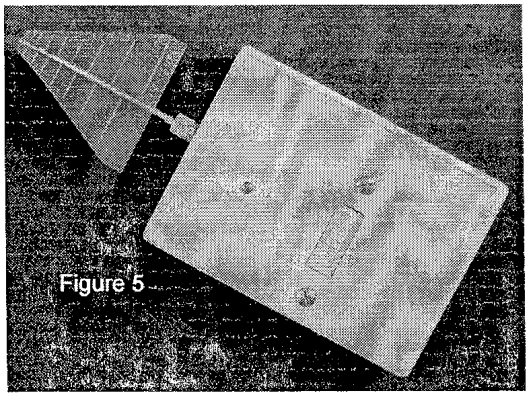


Figure 5

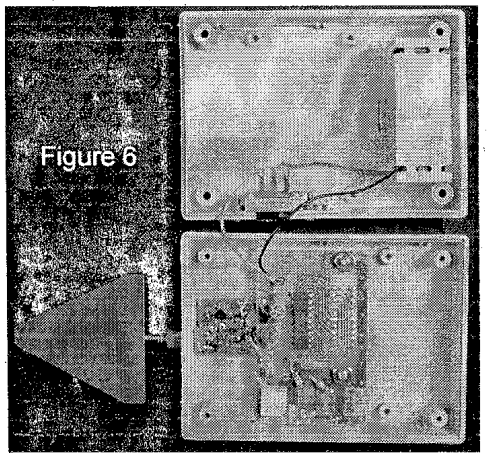


Figure 6

Directions to Camelback Mountain

There are many approaches to the mountain, the best way depends on where you are staring from, take either the Northeast extension of the PA Turnpike to Rte 80 E for approx 19 mi, exit at Tannersville. Another approach is via Rte 33 North to Rte 80 W, exit about 2 mi at Tannersville. Yet others will be driving West on Rte 80 to the Tannersville exit. Remember that the gate is locked half-way up the mountain from about 8PM to 8AM.

You'll be headed to Big Pocono State Park and Ski Area. Once in Tannersville and down the exit, go to the intersection at the light and make a left onto 4002 (you pass by an outlet store mall on the right). In about a mile, make a left at the fork by the local microbrew restaurant, and follow that road another mile or so until you see signs for the ski area, making a sharp left up the hill and you are on your way to the top of the mountain. Follow this road through its turns until you pass a few parking areas, the helipad, and then at the top, a large black-top parking area, and beyond that the club set-up.

The weather can be highly variable on the mountain, winds, rain, cold, hot, sun, clouds, bugs, and possibly wild animals. Be prepared with what you bring for all contingencies.

Fri. morning 8:00AM SHARP! Load up the trucks , stop at the base of the mountain for lunch (hoagies) and be on the summit by noon. We hope to have most tower/antenna work done by nightfall. After sunset and dinner , work on indoor stuff or relax. K3TUF will have the logging software running Fri night for anyone who needs to get familiar with "Write Log". Sat. morning , finish getting the stuff on the air. Eat lunch and at 2:00PM we "Release the Dogs of War"! I'm fired up! It's gonna be a great contest, our best score ever! Pray for good Wx and great band conditions! Remember even if you can't come up to the mountain YOU CAN STILL HELP THE EFFORT BY WORKING W3CCX ON ALL POSSIBLE BANDS FROM YOUR HOME STATION! Now is the time to make sure all the stuff is working. Work us early in case "retries" are necessary on a band or two! SEE YA ON THE MOUNTAIN ,OR WORK U AT HOME!

Following is a list of "MOUNTAINEERS" as of 5/24:

1 N3ITT	Contest co-chair , commissary
2 K3EGE	6m Band Capt.
3 KF6AJ	Contest co-chair , 2m Band Capt.
4 AA3GN	222 Co Capt.
5 WA3DRC	222 Co Capt.
6 N3EXA	432 Band Capt.
7 W2PED	Micro. Co Capt. "Rover Coordination Dude"
8 KB3XG	Micro Band Capt.
9 K3TUF	Computer logging/networking Capt.
10 WA3YUE	AC Power phone system
11 K1JT	WSJT Chairman
12 N3NGE	Rotor Refurbishing
13 W3GAD	Executive Chef
14 K1DS	Rover
15 N3FTI	Rover
16 N4HY	Rover
17 NR6CA	Rover
18 NE3I	Rover

73 AL , N3ITT

19 WA3RLT
20 KB3GJT
21 WA3NUF
22 N3EVV
23 W3KJ
24 N3FUJ
25 W3IIT
26 KB3BBR
27 KA3WXV
28 WA3GFZ

Directions to W3GXB for Loading
1449 Maple Rd, Kintnersville, PA

I generally head toward Doylestown and take 611 North from the bypass. Once you get to the villages of Ottsville and Harrow, make a left turn onto 412, go about 3 miles, and make a left onto Stony Garden road. I usually miss this, as the road is semi-hidden right after a house, but I am reminded immediately as I approach a fork in the road, and turn around to get back on track. Take Stony Garden road for about a mile, turn right onto Maple, and go about 0.3 miles, the driveway is on the right, well hidden by tall shrubs. The landmark is the third mailbox (a black one?) on the left of the road after you pass the intersection of Hunter Rd.

It's essential that we have an adequate number of 'rats there to handle the gear. There is a power lift-gate on one of the trucks for the heavy gear, and ramps to assist in loading. A pair of work gloves is essential for the task. Once the gear is loaded, the group usually forms a caravan to head up to the mountain, with a stop in Tannersville at the supply shop for hoagies for lunch. Friday evening dinner will be the first of 7 or 8 meals served on the mountain by you by the highly talented and capable executive chef, W3GAD and his assistants.

Liquid refreshments are available all weekend at the mess tent. Bring some tools (wrench sets always needed) your cameras, film, personal items, sleeping gear, a flashlight, and some wet-wipes and toilet paper are also useful.

An RF Microwave Sniffer
John A. Jaminet, W3HMS

Often I like to know immediately if my transverter or amplifier is QRV-100&—yes or no. In the past I have found that it is possible to see a signal on a voltmeter fom the MON jack on my transverters by DB6NT, without in fact having emitted a signal..the fault was my antenna relay!

Thus I made a promise to myself that I would eliminate this circumstance once and for all. The means which I used is simple, effective, and quite old in the history of radio. It is a field strength meter which works in the RF field close to the antenna, e. g., a few feet, and it operates without need of batteries, a power supply, or resonant circuit.

The circuit uses just 4 parts plus a “radome.” The most important part is the log-periodic antenna (LPD) imprinted on a piece of PCB and available in the USA and in England. The frequency range is 2-11 GHz. I spoke in Feb., 2004 by email with the inventor/fabricator, Kent, WA5VJB, who told me that his model for 2-11GHz is ideal for an RF sniffer. The LPD is available by mail for $5.00 in the USA. Outside the USA, Kent told me that he will accept 5 Euros per LPD. Put your order in an envelope with a brief note indicating the quantity needed, your name, call, address, and of course, your cash.

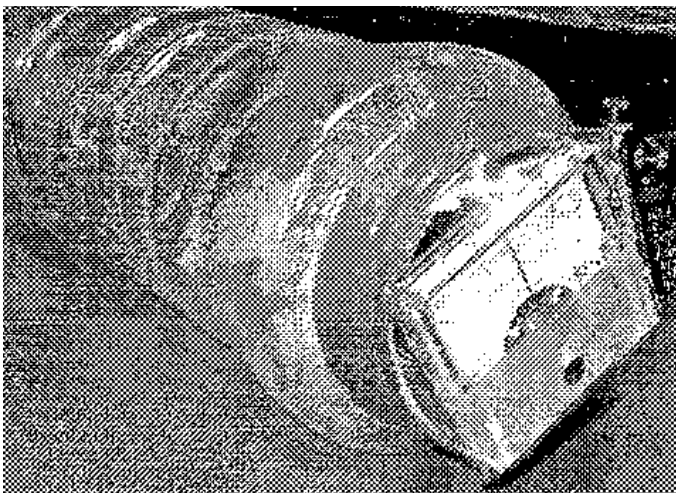
The circuit is very simple; the center conductor of a piece of semi-rigid hardline .085 connects to the (UHF) diode with output to a 25 (or so) microammeter, a capacitor of about 0.001 is connected between the two terminals of the meter, and the outer conductor of the cable is connected to the other terminal of the meter. Meters of 50 or 100 microamps should be acceptable but less sensitive.

The radome for protection against poor usage of this sniffer is an old plastic peanut can which I emptied myself. This is hard but essential work...if it is tough for you, you can mail the peanut cans to me for emptying, HI! There is no attenuation according to my test on my 10GHz beacon where the same radome covers the slot antenna.

The sniffer is so simple to operate; start in front of your parabola (antenna) at a distance of about 15 feet if you have some power (like 40W) or a few feet with QRP and meander slowly toward your antenna with the polarization like your RF source. With 40 watts, I tend to back into the dish as I can avoid looking into the feed. You will know by meter movement when your signal is strong enough or you will have a clear sign that some work is needed on your microwave gear!

There are two sources for the LPD: The UK Microwave Group and WA5VJB. His address is: Mr. Kent Britain, WA5VJB, 1626 Vineyard, Grand Prairie, TX 75052-1405, USA.

If you would like to contact me on the topic, email at W3HMS@AOL.com 73 and happy building, John, W3HMS



WHITE HOUSE GIVES ARRL DELEGATION ASSURANCES ON BPL INTERFERENCE ARRL President Jim Haynie, W5JBP, headed an ARRL delegation during a May 20 White House visit to discuss concerns about broadband over power line (BPL). Haynie, ARRL General Counsel Chris Imlay, W3KD, and Chief Technology Officer Paul Rinaldo, W4RI, met with Richard Russell, the White House associate director for technology in the Office of Science and Technology Policy. The ARRL officials asked the Bush administration to heed its own experts at the National Telecommunications and Information Administration (NTIA) and back away from its support of BPL in favor of less troublesome technologies. The NTIA's Phase 1 BPL study acknowledged BPL as an interference source. Haynie said the meeting was both revealing and encouraging. "He assured us that based on the NTIA report, the interference issues would be addressed," Haynie said. "That was one of our main purposes for being there." Haynie said, however, that he remains "absolutely" convinced that a political agenda is driving the BPL proceeding. Russell told the ARRL contingent that the administration is "very excited" about BPL and is committed to finding ways to make it work. Imlay said the League's problems were not with broadband access but with the "rush-to-judgment" approach the FCC seems to be taking in the BPL proceeding. As one example, he cited the timing between the release of the extensive NTIA study and the comment deadline on the BPL proceeding just a few days later. The Commission denied requests from the ARRL and others to extend the comment deadline. While somewhat sympathetic, Russell suggested that his office was in less of a position to influence the FCC than it was the NTIA. After Rinaldo presented some of the ARRL's BPL interference test findings, Russell asked the League to provide a breakdown of the BPL systems and providers manifesting both lesser and greater degrees of interference. Rinaldo also told Russell that representatives of the BPL industry have been double-talking their way around interference claims. Imlay pointed out that the FCC has yet to address dozens of BPL-related interference complaints from amateurs. The administration does not want a flawed technology to result from the BPL proceeding, Russell said at the session's conclusion, and he offered assurances to the League visitors that the NTIA would work to address the interference. "We did get listened to," Haynie said afterward. "Did I leave there feeling euphoric? No, I didn't, but at least I have a better feeling now of the overall big picture, of where BPL's coming from, and I hope that I can take to the bank the fact that they're going to address and continue to address aggressively the interference issues." Derek Riker, KB3JLF, of Chwat & Company, the ARRL's legislative relations consultant, arranged the meeting and accompanied the delegation on the White House visit. The ARRL already has asked the FCC to put its BPL proceeding on hold to allow more thorough research of its interference potential. The League contended in its comments on the February 23 Notice of Proposed Rule Making in ET Docket 03-47 that the FCC's "overly aggressive timetable" to proceed with BPL deployment will effectively preclude the development of cooperative interference avoidance and resolution mechanisms. The ARRL Letter Vol. 23, No. 21 May 21, 2004

Letters to the Editor

To the editor: The following caption appeared beside a photo of the 2, 3 and 5 GHz equipment used by new mentored rovers associated with W2SZ. "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."

Since there is no attribution, I must conclude the statement was authored by the editor. The most important point made during the presentation and demonstration was PRECISELY HOW an ordinary station using a transverter and a multimode radio can talk to the old rover equipment depicted. Sadly you did not report that in Cheese Bits, but rather chose to perpetuate the myth by omission and implication that rovers using this older equipment cannot be worked by modern microwave stations.

Please find attached a photo of the modern transverter station using a Yaesu FT-290R that we demonstrated could work the simple rover station in the live demo. It should also be noted that the Eastern VHF Conference Proceedings contains the complete specifications for the simple rovers as well as detailed info on how to configure a modern microwave station to work the simple rovers. Please encourage your readers to obtain a copy of the Proceedings if they are interested in more details. With regard to submitting logs: In the September 2004 contest over half of the rovers associated with W2SZ submitted their logs. That is a considerably larger fraction than is typical of the general population that participates in the VHF contests according to Dan Henderson, N1ND. Next time, please be fair and complete in your reporting. Thank you, Dick

Editor's response: Guilty as charged! Dick did show us how it could be possible to work one of these rovers. Here is the abstract from the paper from the Proceedings of the 30th Eastern VHF/ UHF Conference, as published by the ARRL and copyright 2004, pp 118-120, abstracted

"How Can I Work A 'W2SZ/1 Rover' "?

"….With modern VHF and microwave stations it is now easier than ever to work "a W2SZ rover". And in fact, contrary to popular belief, we would LOVE for you to work us. That would absolutely THRILL the new microwave ops we are mentoring even more, and hook them all more firmly. Here are the specifications for the rovers. Virtually all of the rovers associated with W2SZ/1 go into the field with FM HTs for 144, 222, and 432 and can be found on the standard FM frequencies on those bands.

903: NBFM @ 903.250, 180 mW, 1/4 wave whip or 30" dish

1296; NBFM @ 1296.250, 250 mW 1/4 wave whip or 30" dish

On the 2304, 3456, and 5760 MHz microwave bands a little extra effort is required to work these simple microwave rovers, but with modern equipment it really isn't very hard. The fixed station must have the ability tp transmit on a frequency 5.595 above the harmonics of 1152 MHz and must receive on exactly the harmonic frequencies. For example, you must transmit on 2309.595 and receive on 2304.000. One way to accomplish this is by using a Down East transverter and 2-meter multimode radio that can be modified to transmit and receive outside the ham band, Set the transmit frequency to 149.595 MHz—5.595 MHz above 144 MHz. Tune in the rover by listening around 144.000 MHz. It's a good idea to be able to tune a little below the band. This arrangement will work on all 3 bands.

2304: CW 2304.0 xmt, 2309.595 rcv 220 mW, coffee can or 30" dish

3456: CW 3456.0 xmt, 3461.595 rcv 50-100 mW, can horn or 30" dish

5760: CW 5760.0 xmt, 5765.595 rcv 10-20 mW, 8" horn or 30" dish

10G: WBFM, 75KHz dev, 10250-10260, 20-100mW, 17db horn, 2' dish

24G: WBFM, 75KHz dev, 24125-24135, 50-100mW, 1-2' dish

Other Frequencies—some rovers are equipped with extremely high frequency millimeter wave bands. Please contact us if you would like to try working one of those rovers.

Invitation — We welcome your requests for QSOs. Contrary to popular belief, our mentored rovers would really get a fabulous thrill out of working other folks. Let's all go out there and REALLY activate those microwave bands."©

Editor: So, modify your IF transverter to work a 5.595 MHz split on the microwaves, dial in FM frequencies for bands BCD9E, get your Gunnplexers for 10 & 24GHz, and contact W2SZ to set up some skeds with their mentored rovers. I am trying to set up some potential skeds myself, as I plan to rove in the NE grids. I will be glad to publish reports on your efforts and successful contacts. The full proceedings of the 2004 conference may be available for purchase from either the New England Weak Signal group or from the ARRL.

~~~~~~~~~~~~~~~~~~~~~~

I wanted to express my gratitude to the entire Packrats membership for the 2004 Mario Fontana Award. This is a very important award to me because I have always regarded the Packrats as a highly technical group with special talents that is always on the cutting edge of amateur radio technology. I hope my projects will inspire others to experiment with the microwave bands and beyond, as "it does not take an engineer to design and build" on the microwave bands. I have several more projects that have been completed lately and will continue to support the membership by publishing these in Cheesebits. Once again, Thank you! **Steven Kerns, N3FTI**
~~~~~~~~~~~~~~~~~~~~~~

MICROWAVE SPRINT ACTIVITY BITS

Activity was pretty good! Conditions were about average (flat). I had a couple minor problems but pretty much operated the whole time. Here's the 2 band tally: 1296 - 19 QSO's, 9 grids 10 GHz - 10 QSO's, 4 grids Like Jeff I noticed very little activity from New England. Come on guys - get on for these events!
73, Russ K2TXB ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Well, all's well that ends well...I was driving home from Camelback thinking about having to replace my microwave IF rig and one of my transverters...but then an idea struck me...going thru the steps of where I was at the last time that everything was working, and where I was now, and what, if anything would have changed to cause my problem: The IF rig had no BFO tone, and things sounded equally bad on transmit, wide and a hiss. Thanks to K1TEO (maybe it was a voltage prob?) and WA3GFZ (reset the IF to factory defaults?)...so I put on the engine, started to recharge the battery that serves the transceivers, reset the microprocessor to factory defaults, and now it was working, at least for an hour or so. I also found that my coax to the 2m antenna had been inadvertently attached to the 222 yagi. Well, I am embarrassed, and sorry to disappoint, as we could have been on a lot earlier and better, but the real first QSO was at 10:20 AM...so an hour later things go bonkers again--what could it be, did the reset again, but, silly me, thinking that was the prob and NOT the battery voltage!! So I got my IC-201, it was still live with C cells in it, and was able to work another dozen QSOs using it as an IF. Going home I recharged the transceiver batteries again--and behold, everything is now working again. TOO LATE!! Tnx to Bill, K3EGE who drove up to Camelback, when he heard from K1TEO that I was "having probs on Camelback" and kept me company thru my angst, and to my XYL who sat thru the misery and didn't say a word! Well, several lessons learned: I broke my cardinal rule: make sure everything is working before leaving the driveway, but with a rush to set up Fri, then a late night with a prearranged event with the XYL, and an early start at 6AM, who would have thought...but then the culprit caught my memory--when we got to the mountain, it seemed that the main rig was already on...had I left it on overnight? I guess so...well, mystery solved--all the gear is working and I do hear the beacons again. An important lesson learned today. Install the constant voltage stabilizer and monitor the battery voltage! Tnx to all of you for you patience, again my apologies for not being able to work more of you. Final results: 902: 2/2, 1296: 7/5, 2304: 3/1, 3456: 4/2, 5760: 3/2 10G: 5Q/3 **73, Rick, K1DS**

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Microwave activity is increasing here in the south. I went exploring in the North Carolina mountains and found one good site (EM75). My choice in EM85 was not my best. In all, 12 Qs total on 3 bands (903, 1296 and 2304) and 4 hrs operating time in 2 grids. At least I demonstrated the van was rain proof and all the uWave gear is functional... **John B. N8UM** Oak Ridge, Tennessee

~~~~~~

Was on for the microwave sprint 5/1/04 and Microwave activity day and SBMS contest. Only working microwave band here was 2.3GHz. Windstorm antenna damage, and rover under repairs. WX, threatening rain, some scattered rain. Band conditions, little above dead band. Listened on 144.260, heard or worked K8MD EN82, WW8M EN72, K8EB EN73, WA8RJF EN91, K8TVD, ND3F/Rover, W3IY, and K1RZ. Heard lots of contacts being made, through 3.4GHz. For awhile .260 was outright busy. Lots of weak signals to the east, bits and pieces. Nothing out of 9 land. Presume too much heavy rain. Again, the activity helps get that equipment out, and make use of it. Find out if it is really working, or needs something done before the big contest. Good to hear the activity. Score 1Q 1G, 2304. And yes, I am going to send it in. If nothing else, shows activity.
73 Lloyd Ellsworth NE8I Grid EN82jm~~~~~~~~~~~~~~~~~

Fun as always to get on in the microwave sprint. Activity seemed pretty good as I was almost always busy during my stints on the air. However, the only other station in all of New England I worked was K1WHS. Looks like we have to get my fellow NEWS Group guys a bit more involved. On the other hand a number of Packrats were active as well as several in the MD/VA area. Tnx guys! Condx seemed poor as the beacons weren't terribly loud. Also, not a peep heard from VE3AX and only a little from K4QI on 1296. Both are often quite workable here. Here's the tally: 903: 7 in 5 1296: 12 in 8 2304: 6 in 3 3456: 4 in 2 5760: 3 in 2 (includes W3IY in FM08 for a new one!) 10GHz: 5 in 2 Total : 37 in 22 Tnx guys and Cu in June! Tnx also to the ETDXA for sponsoring.
7**3, Jeff K1TEO** ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Tnx to all the stations active in the uwave sprint. The wx held out, and the activity was good from FM08us. Condx weren't so hot, but propagation was certainly better than during the Jan contest. Highlights were new initials with W3SZ thru 3.4G, and a nice QSO w/ND3F on 24G (our 1st). It was great working K1DS on 5.7/10G also. Another pleasant surprise working K1TEO on 5.7G! Had a nice eyeball w/W4SHG too. Good QSOs with other portables W3HMS, WA3PTV, & W4SW. Tnx fer the effort guys. Hpe we can do it agn in June (or sooner!). 903 11/6, 1296 14/8, 2304 9/5, 3456 8/4, 5760 6/4, 10368 9/5, 24G 1/1 TOTAL 58/33
Use 'em or lose 'em... Tnx & **73, Bill W3IY** ~~~~~~~~~~~~~~~~

Well guys from the W4SHG portable Microwave Report. The day started early, 3:30am to get food, gas and make the 1:45 trek to FM08TN Skyline Drive. Worked all day the day before putting, or should I say cobbling, the system together. I hoped to have the following: 144.260 - Listening Coordination 903.110 - Down East Xverter and 150watt 26 volt brick Amp to a Directive Systems Looper 16 elements 1296.110 - ICOM 910H + 50 watt DL2AM Brick to phased M2 22 Element Yagis 2304.110 - DB6NT Transverter with 50 watt Brick to a 3 foot Dish Linear Fed (23dbd) 3456.110 - DB6NT Transverter with 55 watt PyroJoe to a 3 foot Dish Linear Fed (25dbd) All of this was tested the day before the contest. Got to the spot, set up, got all the antennas up on the Rohn Tower on the back of the vehicle. Wired everything the night before plugged it up and thought I was ready. Went to the front of the car to get some coffee and saw the back was filled with smoke. (Ahrg). Spilled the coffee, ran to the back to find some wiring snafu with the 900 system and the 24 volt crap so that was down and out. Not to worry, a bit angry but not deterred, I continued to work the other bands in a quite unprofessional manner. I had to flip three switches in sequence to move bands. Very messy but I really didn't get the antennas until the day before. This was really a rush to get something put together. Things were going fine then I found that the rig had a 1/8 inch keyer plug not 1/4. Hmm no problem I had an adapter. Wrong the 817 IF just sent constant dits. Ok, I can rewire this when the keyer decided it wanted nothing to do with rewiring and flew out of the door on to the asphalt were it simply disintegrated. OK, lets not get to mad and continue. I worked a few guys and could have worked more if the dam keyer worked. I even tried the old Chrisophe (W3IY) trick of whistling CW. That went over like passing gas in church. The good news is that the 3.456 transverter and antenna worked very well, as did the 2304, 1200 systems. The 1200 was an ICOM 910H with the brick the others were and 817 to transverters. About 10:30 when I was just getting rolling N3NGE was in the chute and I could hear him 20+ on 2304 but couldn't work him. Then the same on 3.456. OK no big deal then W3IY 25 minutes North of me on the mountain same thing. What now. The Transverter 817 had no power output, the meter showed juice but nothing from the SO239 connector. Then the little bastard wouldn't key at all. Hand Mic / Headset nothing. I am looking at it now and not in a good way. At this point a major decision had to be made. One does this 817 stay in the woods up there in the mountain, and should I stay and continue on 1200 only. Well the result, with no coffee and only one useable band left, pack it up and go the hell home, tail between my legs if you will. Guess what, still had fun and as Arnold would say, "I'll be Back" The miserable SSB Totals Band Contacts Grids 903 0 0 ** Fixed it - It's already back on the Air ..... ** 1296 10/7 2304 7/5 3456 2/2 Sorry guys that's all this Technician had in him and my patience went South. On a serious note, thanks to all who worked me or attempted to work me as clearly my act was not together during this event. I decided to drive up North a bit and see Bill - W3IY and the monster rover. Now there is a hard act to follow. See some of you on the 6 meter sprint, Saturday 5/8/2004 as I will probably be at home in FM18 for that one. CU all in the June QSO Party if not earlier. **73 de W4SHG** Always Listening

NZ Waveguide Relay Info

I found that the threads on the waveguide flanges on the relays from New Zealand are "M3 x .5" and the length of six millimeters seems to do the trick. The threads are not 4-40 WA4DFS

Although likely NOT the way the vendor intended them to be wired (my re-invented wheels always have a flat-spot on them!) I tested one of them and have come up with this first pass pin-out. The relays I received have a harness with 6 wires in it.

Solid Brown - momentarily ground for relay position #1
Solid Black - +8.2 VDC at less than 500mA
Solid Red - momentarily ground for relay position #2
White with Brown - n/c
White with Black - indicator A
White with Red - indicator B

White with Black & White with Brown will have zero ohms between them when the relay is position #2 and open-circuit when in position #1. For those who are interested, I peeked inside the relay and saw what included 4 reed switches, 3 diodes/SVPs, and 2 three-wire relay coils. Hope this helps and I'm sure we'll find the vendor's recommended pin-out some day and my comments will become moot. 73, -Brian, WA1ZMS

TIDBITS

In the Winter 2004 issue of CQ-VHF a conversion of an ETO Alpha 3674 HF amp to 6 meters, by Packrat, N2CG. (Tnx W3IIT)

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Last weeks 6m sprint was fun I got 90 q's and 20 grids with a band that didn't even open a notch. K3TUF

San Bernardino Microwave Contest Results

Call	QSO pts	Dist pts	Totals
W3SZ	2800	4485	7285
W3RJW	1700	2954	4654
K1DS	1500	3140	4640
W3KJ	1800	1838	3638
N3NGE	1300	1044	2344
K2TXB	500	784	1284
WA3GFZ	700	213	913
AA3GN	500	97	597
WA3EHD	100	144	244
K3TUF	100	15	115
totals	11,000 +	14,714 =	**25,714**

Welcome the Newest Rats

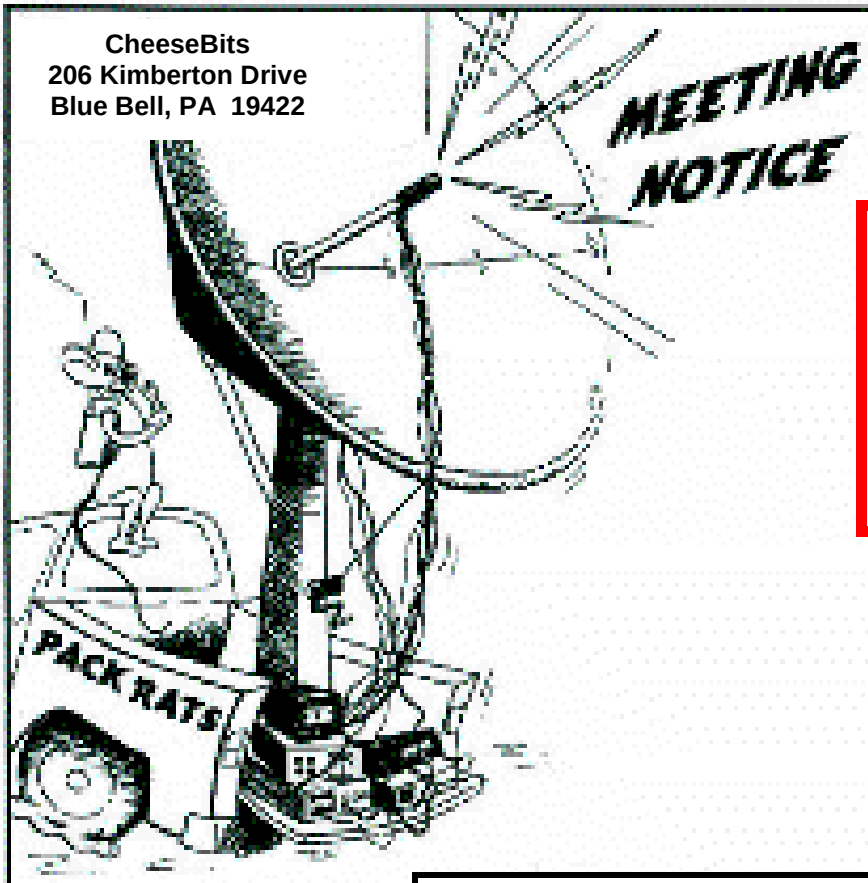
George Altemus, KA3WXV (no photo)

Gus Shaw W3EFH

Dave Wilmore N0YMV


~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

CheeseBits
206 Kimberton Drive
Blue Bell, PA 19422



- CONTEST Edition
- RF Sniffers-Basic and Intermediate
- Activity News
- Letters to the Editor

FIRST CLASS

MT. AIRY VHF RADIO CLUB, INC.