

PACK RATS'



CHEESE BITS



CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

MT. AIRY VHF RADIO CLUB., "THE PACK RATS", PHILADELPHIA, PA.

NET FREQUENCIES: 50.125, 144.150, 222.125, 224.58/222.98, 432.110, 903.100, 1296.100 MHz

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

W3CCX

ARNS

Meetings: Third Thursday of each month at 8:00 PM
Southampton Free Library, 947 E. Street Road
Southampton, Pennsylvania 18966

SCANNED TO PDF BY BERT, K3IUV, 2013

VOLUME XXXIV

MAY 1992

NUMBER 5

THE PREZ SEZ

Well Spring is finally here and with it Daylight Savings Time. If the doctor allows, I may see you at the April meeting and certainly by May I will be completely over my bout of pneumonia. I have had time to reflect on lots of things during my three week disability. One of the areas that I took time to look at was an in-depth analysis of contest contacts. I have been using the WA3JUF contest logger since 1986. It has a record of all my contacts which sorry to say with the exception of 6 meters have been in the contests. I was able to go back to determine the stations and grids that I had worked on each band since moving to Easton, PA back in December 1985.

The results were a pleasant surprise. I am close to getting a VUCC award on several bands. This may motivate me to get the last few grids. I also noticed that WA3AXV, N3CX, WC2K were the only Pack Rats who submitted input to the QST microwave standing box. I guess their reason is the same a mine -no time or for some no interest. Well at any rate if you do go back in the logs and dig out the contacts and get them confirmed by QSL you to will probably be surprised. Harry Brown, W3IIT is the local VUCC awards checker contact and he will be happy to validate your contacts. If some of you find that you are not working the rare Grids, daylight savings will allow you to fix or modify the antenna systems and be in a better position in the upcoming contests. If you want to know what the magic number of grids should be with a single antenna up to 432 MHz try 15 for a start. If you have less than number in the contest some antenna work may be required. And don't forget to ask for help, contact N3AGO or myself. We all must give serious consideration to upgrading our stations if we expect to continue our reign of January Sweepstakes gavels. If we did win again this year, it was by the closest of margins.

With this issue of Cheese Bits, we have a new editor Harry Brown, W3IIT, in Norristown, Pa. (215) 584-4846.

I want to thank Rick Connor, WC2K and Janice for their efforts over the past several years as editor of the paper. It is a thankless job and Rick deserves all of our gratitude for his efforts.

William T. Murphy
WORSJ FN20JR

Pack Rats CHEESE BITS is a publication of the Mt. AIRY VHF RADIO CLUB, INC. Philadelphia, PA. and is published monthly. SUBSCRIPTION RATE: \$10.00 PER YEAR.

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DEADLINE FOR ARTICLES AND SWAP SHOP IS THE MONTHLY MEETING DATE. NON-COMMERCIAL SWAP SHOP ITEMS-FREE OF CHARGE.

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K3EOD, Al Boblitt (1 YR)
N3AOG, Dick Comley (2 YRS)
WA3NUP, Phil Miguez (2 YRS)

MONDAY NIGHT NETS

TIME	FREQ.	NET CONTROL
7:30 PM	50.125 MHz	K3EOD
8:00 PM	144.150 MHz	W2EIF
8:30 PM	222.125 MHz	WC2K
8:30 PM	224.58R MHz	K3EOD
9:00 PM	432.110 MHz	WA3AXV
9:30 PM	1296.100 MHz	WA3NUG
10:00 PM	903.100 MHz	N3AOG

COMMITTEE CHAIRMEN

LADIES' NIGHT: WA3YUE 215-666-1558
JUNE CONTEST: N3CX 215-679-7293
HAMARAMA: K3EOD 215-742-3312
VHF CONFERENCE: KB3XG 215-766-2643



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THE ROVER QUESTION
by Paul Drexler, WB3JYO

Until recently, the Rover Station has been able to compete on a similar level with other rovers in VHF contests. The ARRL's redefinition of a Rover however, has changed all that. The December 1991 issue of QST defines the rover class: "...One or more operators of a single station that moves among two or more grid squares during the course of the contest will be considered a rover."

At first glance the definition doesn't seem to pose any problems. The concern however, is that any station that operates in more than one grid square will be considered a rover station, and his score is computed accordingly. The "big-gun" station operating from home for 75% of the contest can accumulate a significant score, then hop into his car when things get slow, drive to the next grid to work a few contacts on 2M FM, and blow away the legitimate rover stations! This is hardly valid competition in the spirit of a contest!

This change is destructive to the original intent of the rover category. Anyone who has even attempted a moderate roving expedition with several VHF bands knows how much effort is required. A contest participant who operates from home should not be competing with the legitimate rover stations.

Write to Randy Thompson, K5ZD, Chairman of the Contest Advisory Committee and let him know your thoughts.

Response from Randy Thompson

The following response from Randy in response to a previous letter sent in regards to Rovers. The previous letter was not exactly the same as the note above from Paul, WB3JYO. It was received just before Cheesebits went to press. The complete letter is not presented here because of space limitations.

Dear OM:

Thanks for your letter regarding a possible problem with the rules defining a Rover entry in the ARRL VHF contests. The situation of your unnamed home station travelling to another grid to become a Rover station is an interesting one. I personally feel it represents an isolated incident and exposes a condition that was never anticipated when the rule was written.

The CAC is not as experienced in VHF contest matters as with HF contesting. However, the rules for the Rover category were drafted by three experienced VHF contesters-W9IP/2, W3EP, and K9AKS- based on a nationwide survey of VHF contesters they conducted in 1990. The CAC passed their suggestions without modification and the Rover category was first introduced in the 1991 June VHF QSO Party. Your letter claims the ARRL "redefined" the Rover category for the 1992 January VHF Sweepstakes. This is not true- the rule is the same as it was for the 1991 June and September contests.

As the VHF contest community gains more experience with the new category, exceptions and conflicts are bound to be discovered. That's why the ARRL Contest Advisory Committee exists - to provide a mechanism for rules changes to be suggested and considered.

As we discussed on the telephone, the best way to facilitate a change in the Rover category is to propose an exact wording of how you feel the Rover category should be defined. The wording should be brief (not more than 3 sentences) and define what is allowed rather than what is not. You may send your suggestion note to me or to ARRL headquarters (marked to the attention of the CAC).

Atlantic Division League Advisory Committee Members

Contest Advisory Committee: Randy Thompson, K5ZD, Chairman, 398 Three Degree Rd., Renfrew, PA. 16053.

VHF/UHF Advisory Committee: Robert Bennett, W3WCQ, Chairman, 1006 Green Acre Rd, Towson, MD, 21204.

For other committee members see May 1992 QST page 85.

The Propagation Report for 3/15 to 4/15/92
by Bill Murphy WORSJ

I have not had a lot of input from club members but this is in part due to my lack of activity during my illness. However I have done a lot of listening particularly on 6 meters. Six is beginning to show some signs of F2 and E skip. The F2 was from South America to the VA area. Several E openings occurred into the Midwest 8 and 9 from south Texas. Trans equatorial continues into the southern US. But none of this has reached into the our area FN20/FM29. I also noted some E to Trans equatorial linkage out in the western US. The Spring Sprint's have arrived I heard plenty of activity on 2 meters on 4/6/92. The following week 4/14/92 the 220 sprint was disappointing. Conditions were almost as bad as the beginning of the January contest. There were a number of Rats on scraping for the available contacts. A slow deep QSB took stations into the noise for minutes at a time. CW was a must in this one if you wanted to get any grids. I struggled to work 12 Grids. I never heard anything south of the Mason Dixon line.

The following Pack Rats were heard on the 220 Sprint: W3ESJ, N3CX, W3GXB, W2EIF, WB2YEH AND K3EXA. One final note K1TR says hello from FN42, they are getting ready for the big trip down to our area again this year for the June contest.

John, WU3C, Wins Scholarship

Packrat John Kedziora, WU3C, has won a Presidential Scholarship to Drexel University and a Bronze medal in the Delaware Valley Science Fair. John's project, on RF Amplifiers was titled "Clean Signals: Power Transistor Linearity and Junction Temperature". John's project explained how he designed a circuit to keep the amplifier linear over temperature. In addition, his entry was first in the electronics category and he also won four other science and engineering awards. John will venture to the International Science and Engineering Fair in Nashville, Tennessee this month to try to add to his awards. Congratulations John for showing how hard work pays off.

HAMARAMA '92

by Al Boblitt, K3EOD

Hamarama flyers are now available and all Packrats planning on attending hamfests this spring and summer are encouraged to distribute them. The more advertising we can get, the more successful the hamfest will be. Call me before club meetings and I'll have a supply for you.

W3ZD Memorial Service

On April 5th, a memorial service was held for long-time Packrat Dave Zimmerman, W3ZD, at the Lehman Methodist Church in Hatboro. Zimmerman children Nancy, Mark, and Jill gave a moving account of their Dad's life as a father, engineer, and ham radio operator. A large number of Packrats attended the service to remember Dave and pay their respects to Jane Zimmerman and family. We express our appreciation to Jane and family for arranging the local service. See K3EOD's note on a memorial fund being established in Dave's memory.

MEMORIAL DONATIONS

by Al Boblitt, K3EOD

Dave Zimmerman, W3ZD

Memorial funds will be sent to a medical mission in Nepal to provide medical care to the poor. Dave's son Mark is a medical doctor in Nepal.

Harry Stein, W3CL

Memorial funds will be used to purchase and plant trees in Israel in Harry's name. Each tree costs \$7.00 but donations will be welcomed in any amount.

Please make checks payable to: Mt. Airy VHF Radio Club and send them to Al Boblitt, 8389 Langdon Street, Philadelphia, Pa. 19152. Make a separate check for each fund and note on the check which fund it is for.

Calendar of Coming Events - May 1992

- 1 ARRL 902 MHz Spring Sprint Contest, 7-11 P.M. (Friday Evening). See March QST, page 101 for rules.
- 2-3 The Olympia RAC will operate special Event station WA3BAT from aboard the USS Olympia to commemorate the 94th anniversary of Admiral Dewey's triumph over the Spanish fleet in the Battle of Manila Bay.
- 3 The PENN-DEL ARC Hamfest will be held at the Nur Temple, New Castle, DE. For info, call 215-497-2124.
- 5 ETA Aquarid meteor shower predicted peak at 2055 UTC.
- 7 ARRL 1296 MHz Spring Sprint, 7-11 PM (Thurs. evening). See March QST, page 101 for rules.
- 7 Greater South Jersey Spring Hamfest will be held at the National Guard Armory on Haddonfield Road in Cherry Hill, NJ. TI on 147.345R, 147.15R and .52.
- 9 SNJ ARES, NTS & Skywarn Section Repeater System Hamfest at the National Guard Armory on Haddenfield Rd. in Cherry Hill NJ. Talk-in on 147.945/345.
- 10 Mothers Day.
- 14 Packrat Board of Directors meeting at the QTH of A1, K3EOD, at 8:00 PM. All Interested Parties invited. Call 742-3312 for directions.
- 14 ARRL 2304 MHz Sprints from 7PM to 11PM local time (Thursday night). See March QST, Page 101 for rules.
- 15-17 West Coast VHF Conference at the Holiday Inn in Ventura, CA. For info send a SASE to West Coast VHF Conference, PO Box 2103, Oxnard, CA. 93033.
- 15-17 Atlantic Division Convention at the Monroe County Fairgrounds near Rochester, NY. Talk-in on 146.28/.88
- 16 The Lancaster County Hamfest will be held at the Ephrata Senior High School, Ephrata, PA. Talk-in on 144.85/145.45. VE Exam at 9 AM.
- 16 Armed Forces Day
- 17 Warminster Amateur Radio Association Hamfest at the Grange Fairgrounds in Wrightstown, Pa. Talk-in on 146.69/.09 and 146.52.
- 21 ARRL Night. Billy Lundt, KR1R, ARRL Contest Manager will be our guest. Packrat general membership meeting at the Southampton Free Library on Street Road in Southampton, Pa. at 8:00 PM. All club members and VHFers invited. Nominations for the election of officers in June will be accepted.
- 22-24 1989 Eastern VHF Conference will be held at the University of Hartford in Hartford Conn. For further information, call Lew Collins, W1GXT, at 508-358-2854 between 6 and 10 PM Eastern time.
- 23-24 ARRL 50 MHz Spring Sprint Contest 2300Z (Saturday Evening) until 0300Z. See March QST, page 101 for rules.
- 24 Maryland FM Association Annual Memorial Day Hamfest at the Howard County Fairgrounds in West Friendship, MD. Talk-in on 146.16/76 and 223.16/224.76. VE Exams at 9 AM.
- 25 Memorial Day (Observed).

WANT ADS

Wanted: Elevation Rotator or Elevation/Azimuth Rotator. Call Dave, N3CX, 215-679-7293. Riders to the 18 th Annual Eastern VHF/UHF/SHF Conference in Conn.

For Sale: 222 MHz 16 element KLM Antenna, \$25, 2304 MHz Looper, new, \$50, Call Herb, K2LNS, 717-829-2695.

For Free: 4 13 element K2RIW Yagi's - Weathered but usable. Call Harry, W3IIT, 215-584-4846.

COMMERCIAL AD

LOOP YAGIS: 902 MHz 33 element \$89 kit, \$109 assembled and tested. 1296 MHz 45 element, \$89 kit, \$109 assembled and tested. 1296 MHz 55 element "Sooper Looper" \$99 kit, \$124 assembled and tested. 2304 MHz 45 element \$75 kit, \$89 assembled and tested. Also available: element and hardware kits for the above. 2 and 4-way power dividers. Discount on complete arrays. Solid state linear power amps, 13 VDC: 1296 - 8W in 35W out \$315, 1W in 20W out \$265, 4W in 70W out \$695. GaAs FET preamps: 903 MHz .8dB NF \$90, 1296 MHz .8 dB, 2304 MHz 1 dB max NF \$140. SHF SYSTEMS no-tune transverter kits, v/144 MHz IF now available for 903 through 3456 MHz. Write or call for complete catalog. DOWN EAST MICROWAVE, Bill Olson, W3HQT, Box 2301 RR-1, Troy, Maine. For information and orders telephone (207) 948-3741.

18th ANNUAL EASTERN VHF/UHF/SHF CONFERENCE

The 18th Annual Eastern VHF/UHF/SHF Conference will be held on May 22-24 at the University of Hartford in Hartford, Conn. Registration is \$24.00 before 15 May and \$30.00 at the door. A printed copy of the proceedings will be provided. Housing will be available in the dorms for \$30.00 per night, payable by May 15. Send registrations to David Knight, KA1DT, 15 Oakdale Ave., Nashua, NH 02062. Dave Hackford, N3CX, is giving a paper on a 2304 MHz power amplifier with 80 watts out combining two 40 watt stages at the conference and is looking for others to share the trip with. Call Dave at 215-679-7293 to make arrangements.

1992 CLUB DUES ARE DUE

Members of the Mt. Airy VHF Radio Club should pay their dues for the year 1992 immediately. Full membership costs \$10.00. Retired members pay \$5.00. Checks should be written payable to "Mt. Airy VHF Radio Club".

Send* your payment to: Dave Mascaro, Treasurer
1603 Mink Road
Ottsville, PA 18942

* Better yet, bring it to the next club meeting -our annual ARRL night.

TIDBITS

New VHF Publication: A new newsletter, "VHF-UHF DXer" has been started with Dave Hardy, G3ROU as the editor. It is intended for those interested in VHF DX, contests, etc. Subscriptions are available for \$10.00. Send to D. Hardy, Thorntree House, Matlock, Derbyshire DE42LL, England. The schematic and board layout for the 12 volt to 24-28 volt power supply shown elsewhere in this issue is from the pilot issue.

G3WDG 10 GHz Transverters: Charlie, G3WDG has 10 GHz transmitter kits available. They consist of a number of individual modules which can be purchased separately. The 2.5 GHz LO module (less crystal) is \$105, the 10 GHz transmit module (50 mw out) is \$220, the 10 GHz receive converter is \$170, the 10 GHz power amplifier (300 mw out) is \$115. For information write G3WDG at 314A Newton Road, Rushden, Northants, NN10 OSY, UK.

MARCH 1992 HOMEBREW NIGHT

Our annual show and tell session continued to demonstrate that homebrewing is still alive and well in amateur radio (at least for VHFers). The following list of projects were shown and described with enthusiasm by their proud constructors:

- Dave, N3CX 6 Meter Transverter, WB3JYO design, 15 watts, 28 MHz IF.
 903 MHz No Tune Transverter, 5 watts out, 144 MHz IF.
 903 MHz Yagi, DL6WU design, T match feed.
- Pat, WB3DNI IF Switch Box for interconnecting, switching, attenuating transverters
 to transceivers.
 5760 MHz Transverter, 5 Watts out, GaAs FET preamp, Frequency West LO
- Dave, WA3JUF 2304 Beacon, X4 SRD multiplier, Interdigital filter and pin diode
 modulator for keying, 1.5 watts out.
- Dick, N3AOG 5760 MHz Transverter, 5 watts out.
 903 MHz Amplifier, 70 watts out.
 5760 MHz Dish Antenna, dipole feed, approx 25 dB gain.
 1296 Power Amplifier, water cooled, 70 watts out.
- Chuck, WA3IAC 903 MHz Power Amp, using a Motorola MHW 932, 80 mw in and 35 watts out.
 Microwave Discone Antenna.
- Gus, WA3GYS 903 MHz Transverter, WA3AXV design, 10 watts out.
- Ron, WA3AXV 5760 MHz Transverter, 144 MHz IF, 5 watts out, WB5LUA preamp.
 Loop Yagi Computer Program.
 Path Loss Computer Program.
- Walt, N2EVV PSK Modem and Demodulator, 137 MHz Weather Satellite Receiver.
- John, WU3C 50 MHz Transmit Converter, WB3JYO design.
- Richard, WA3IWT Transverter Switching Box with dummy load and adjustable drive levels
 for each transverter.
- Jim, WA3EHD 50 MHz Transverter, 22 watts out, very well filtered.
- Bob, W3GXB 903 MHz Amplifier, 60 watts out.

I'm sure that the constructors will be glad to share their project secrets with you. Give them a call for the details. The winners for each category were presented awards at the Ladies Night Banquet. They are:

- Most Unique: Dick, N3AOG, for his 1296 MHz Amplifier
Most Ambitious: Jim, WA3EHD for his 50 MHz Transverter
Best Construction: Ron, WA3AXV, for his 5760 MHz Transverter
Best Design: Dave, WA3JUF, for his 2304 MHz Beacon

DC/DC Converter for 24V Relays Jon Eastment - GW4LXO

Most surplus microwave relays, and many for VHF, have actuators requiring a source of 24 - 28V. If you are to use a 13.8V supply, a DC/DC converter is needed. The circuit to be described (Figure 1) has been successfully used in this application with relays from Transco and Teledyne. It comprises a square wave oscillator, current amplifier, and charge pump generating -11V at the emitter of TR5. When TR5 is made to conduct, by raising Point Y to the positive rail (Point V) a potential of approximately 24V appears across points W and X, to which the relay terminals are connected. Typical coil currents were in the range 100 - 150mA. Point Z is connected to ground.

The circuit was built on a small single-sided PCB, and housed in a diecast box with 10 nF feedthrough capacitors for connections V, W, X and Y, plus a 88A solder tag for Z. PCB artwork is shown in Figure 2, and component layout in Figure 3. Component values are given in table 1. Three of these units are currently in use at GW4LXO to switch antenna changeover relays in separate transverters for 9, 6 and 3cm.

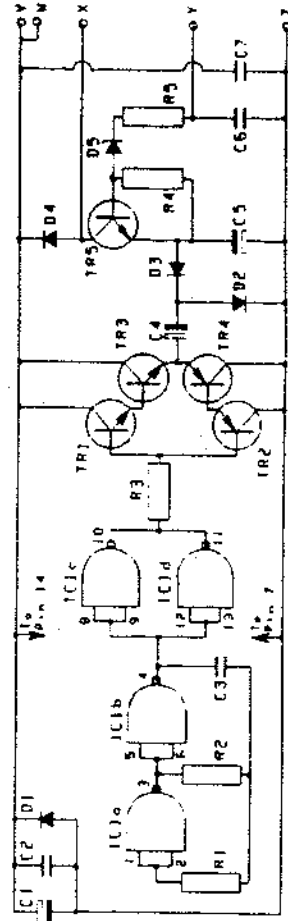


Figure 1.

Table 1. Component Values							
TR1	2N2222A	D1	1N4001	IC1	4093UB	C1	47 uF 20V Tant.
TR2	2N2907A	D2	1N4001	R1	1M0 1/8 W	C2	10 nF Ceramic
TR3	BFY51	D3	1N4001	R2	8K2 1/8 W	C3	10nF Ceramic
TR4	BC461	D4	1N4001	R3	2K7 1/8 W	C4	47uF 20V Tant.
TR5	BFY51	D5	BZY88C15V	R4	10k 1/8 W	C5	47uF 20V Tant.
				R5	1K2 1/8 W	C6	10nF Ceramic
						C7	10nF Ceramic

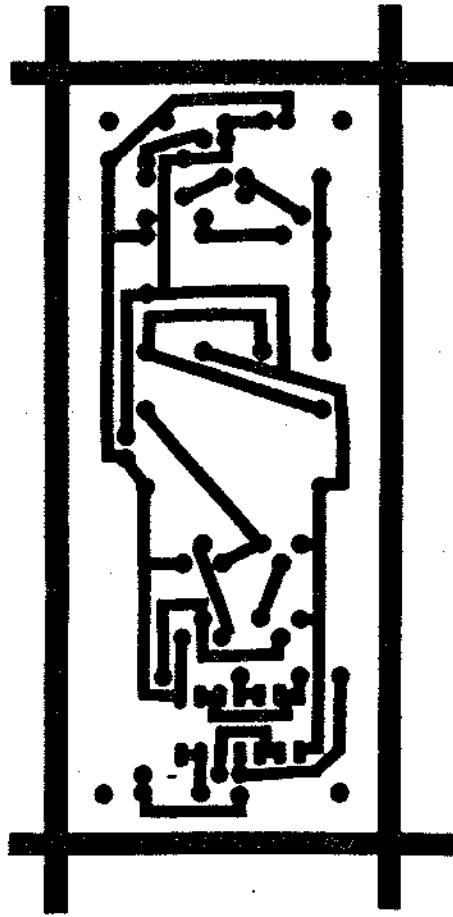


Figure 2. (From Component Side)

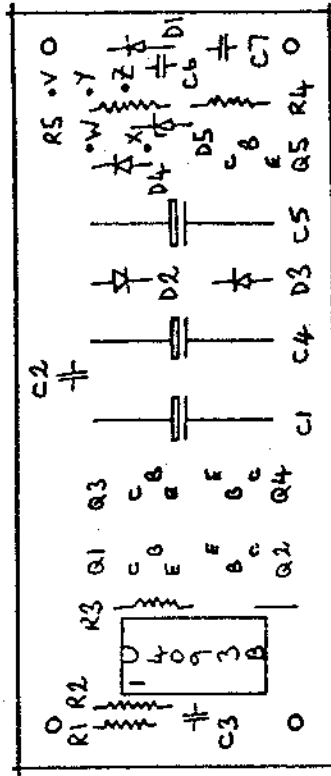


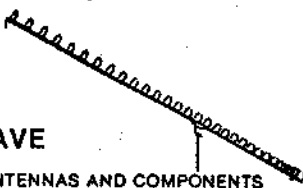
Figure 3.

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