

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



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

JUNE 1992

NUMBER 6

THE PREZ SEZ

Since last month I recuperated enough to have made my way to the Mecca of all hamfests Dayton. The Pack Rats were well represented. This year I had no particular plan to find any special parts so I mingled. I ran into a number of VHF and microwave people that I have known for a number of years and met some new ones for the first time. The following is some of the information I picked up. Each year a group of VHF/Microwave folks get together for dinner on Friday night. I was asked why we did not attend. My answer was we did not know about it or we would have. Years ago I can remember a similar get together that was arranged by W8KPY which was attended by the late Jim Fisk then editor of Ham Radio magazine and others. In those days 20 or so people attended. From what I hear this year is that they had 100 which may be their limit. I was told that a HF net takes place on Monday night for VHF information and schedules. I explained that the Pack Rats run nets on Monday evening and this preoccupies us. I was asked what happened to the 222 net now that WC2K is off the air. My answer was that WB2YEH has taken over the net.

I had a long talk with Bill Tynan, W3XO, who shares the concerns that a lot of us have that our beloved VHF/Microwave bands are under risks of being lost. He has asked me to distribute cumulative contest forms to all in the club who want them. The intent is to get people on the air, more on this later.

Well what is the point of all this rambling? It is simple: other VHF/Microwave hams are interested in all the same things that we are. We must keep our communications channels open and listen to what they have to say with an open mind. This is in the best interest of all of us and may help save the bands.

William T. Murphy
WORSJ, FN2OJR

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.

We operate on an exchange basis with other publications. Anything that is printed in CHEESE BITS may be reprinted, unless otherwise stated, provided proper credit is given.

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

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Ottsville, PA 18492
(215) 795-2628

AWARDS CHAIRMAN:

Joe Kilgore, W2EIF
(609) 783-9478

TRUSTEE OF CLUB CALL - W3CCX

Ron Whitsel
(215) 355-5730

PACKRAT 222 MHz REPEATER - W3CCX/RPTR

222.98/224.58 MHz, Churchville, PA

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DIRECTORS: WA3AXV, Ron Whitsel (1 YR)
K3EOD, Al Boblitt (1 YR)
N3AOG, Dick Comley (2 YRS)
WA3NUF, Phil Miguezlez (2 YRS)

MONDAY NIGHT NETS

<u>TIME</u>	<u>FREQ.</u>	<u>NET CONTROL</u>
7:30 PM	50.125 MHz	K3EOD
8:00 PM	144.150 MHz	W2EIF
8:30 PM	222.125 MHz	WB2YEH
8:30 PM	224.58R MHz	K3EOD
9:00 PM	432.110 MHz	WA3AXV
9:30 PM	1296.100 MHz	WA3NUF
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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215 355-5730

Calendar of Coming Events- June 1992

June

- 4 Packrat Board of Directors meeting held at the QTH of Dave, WA3JUF at 8:00 PM. All members of the club are invited. Call (215) 795-2648 for directions.
- 6 The ARRL Hudson Division Convention '92 will be held at Fairleigh Dickinson University in Teaneck NJ. Forums and VE exams will be given. TI on 146.10/70, and .52.
- 6-7 The USS Olympia RAC will operate WA3BAT from 1400Z to 2300Z to commemorate the birthday of John Paul Jones. 3.895, 7.245, 14.245, 21.365, and 28.365 MHz.
- 7 Tamaqua Transmitting Society Hamfest in Tamaqua, Pa. at the New England Valley Fire Company. Talk-in on 146.67 and 147.105.
- 7 The Arietids Meteor Shower predicted peak will be at 0226 UTC.
- 13 The Raritan Valley New Jersey (Warren) RC Hamfest will be held at the Watchung Hills H.S. Talk-in on 146.025/.625 and 146.52.
- 13-15 June VHF QSO Party. See May QST Page 126 for rules. W3CCX will be operating from Camelback Mountain, FN21 near Tannersville, Pa. on all bands thorough 24 GHz.
- 14 Flag Day.
- 18 Packrat meeting at the Southampton Free Library on Street Road in Southampton, Pa. Annual election of officers and a demo of computer aided design aids useful for the VHFer. All members and interested VHFers welcome.
- 20 The Skyline ARC Hamfest will be held at the Cortland Co. Fairgrounds in Cortland NY. Talk-in on 147.825/.225.
- 20-21 SMIRK QSO Party. 0000-2400Z. See rules in this issue of Cheesebits.
- 21 Fathers Day
- 21 The Frederick Amateur Radio Club Hamfest will be held at the Frederick County Fairgrounds in Frederick MD. Talk-in on 147.66/06, 146.13/73.
- 21 +/- 1 month. Look for openings to Europe on 6 meters.
- 27-28 Field Day. See May QST page 124 for the rules. Look for lots of activity on 50 and 144 MHz.

MID-ATLANTIC VHF CONFERENCE

The Annual Mid-Atlantic VHF Conference will be held on Saturday, October 3, The day before our annual hamfest. John Sorter, KB3XG, is again chairman of the conference. If you would like to present a paper at the conference or know of someone that might, please contact John as follows:

John Sortor, KB3XG
5290 Stump Road
Pipersville. PA 18947
(215) 766-2643

The Propagation Report for 4/15/92 to 5/13/92

by Bill Murphy, WORSJ

At long last we are beginning to see some activity. On the weekend of May 9th and 10th a fairly good aurora took place. At 1930 UTC on 10 May, I noticed aurora on 6 meters. It was weak but gradually strengthened. I was hearing VE3, and the 8th and 9th call areas. K3EOD reported that he worked the following stations, W1AJR, N8CCC and K1GAO. It is interesting to note that an Auroral E session developed as the aurora died. The clarity of the E was excellent on six with no trace of distortion. I did not notice any trace of the aurora E on two meters. Two had plenty of aurora earlier however. On 12 May, there was E skip to NOLL and KOFF at 2343 UTC. The 6 meter band remained open for about 3 hours to the 5th and 0 call areas. The 1296 MHz sprint had a good turn-out in the NE with a new station active in FM07.

HEALTH and WELFARE

Ralph Alexander, WR3P's, father is in the hospital.

John Allen, W3CXU, is back in the hospital due to dislocating his repaired hip.

Ernie (also known as Mr. Dacron), W3KKN, says: Dear Gang, I sure appreciate the calls, the cards and the lovely flowers. It's nice to have so many friends. I am starting to feel stronger every day now and hope to rejoin club activities shortly.

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 Election of Officers at the June meeting.

The VHF-UHF DXer

In the last issue, this new VHF newsletter was announced. The first "official" issue is now out-Issue 1, May 1992. Some interesting articles in this issue are:

1. A description of a modular 10 GHz transverter available thorough the Microwave Committee Components Service of the RSGB.
2. Results of the 3rd Martlesham VHF Round Table NF Measurement Session.
3. 144 MHz GaAsFET Preamplifier.
4. Measurement Jig for Yagi Elements.
5. A table of 144 MHz Es from May thorough Aug. from 1977 to 1991. This is a UK list but it shows June 5 thorough 11 to be very worthwhile watching over the years. A copy of this chart is included in this issue.

The subscription price listed in the May issue of Cheesebits was incorrect. The correct amount is \$14.00. Send subscriptions to: D. Hardy, G8ROU

Thorntree House,
Wensley,
Matlock,
Derbyshire DE4 2LL, United Kingdom

DAVE, WA3JUF Awarded Atlantic Division Technical Excellence Award

Kay Craigie, WT3P, Vice Director of the Atlantic Division of the ARRL presented Dave Mascaro, WA3JUF, with a Technical Excellence Award that was announced at the Division Convention in Rochester on May 16. Also getting an award was Dave Holladay, KD5RO. Congratulations to both Dave's for their outstanding technical leadership in the VHF community.

JUNE ELECTION for 1992-92 CLUB OFFICERS

At the May club meeting, the nominating committee presented a preliminary slate of new club officers for the year starting in July 1992 and ending June 1993. Nominations were as follows:

President:
Vice President: Paul, WB3JYO
Treasurer: Dave, WA3JUF
Recording Secretary: Walt, WA3AQA
Corresponding Secretary: Paul, WA3JYO
Directors: Bill, K3ESJ
 Brian, N3EXA

Additional nominations will be accepted at the June club meeting. Please obtain the consent of anyone that you plan on nominating.

VHF/UHF CENTURY CLUB

By Harry, W3IIT

Have you thought about gathering up your QSL cards and submitting them for a VHF/UHF Century Club Certificate? Are you unsure of what the rules are and don't look forward to the hassle and worry of mailing them to the ARRL? Well, part of this problem is easily solved since I am an official checker of logs and can certify your cards without you having to send them to the league. I have the forms and rules available and can check your cards if you can get them to me. Basically, you must be a member of the ARRL and have QSL cards confirming your contacts. Contacts must be direct (not through a repeater) and must have occurred after Jan. 1, 1983.

Initial requirements for each band are as follows:

50 and 144 MHz: 100 grid squares
222 and 432 MHz: 50 grid squares
902 and 1296 MHz: 25 grid squares
2304 MHz: 10 grid squares
3.4 GHz and up: 5 grid squares

CHEESEBITS SUBSCRIPTIONS

Cheesebits subscriptions are available to everyone interested in activities and information from the VHF through the microwave frequencies. Subscriptions are for 1 year of 12 issues. For a subscription, send the following information:

Name: _____ Call: _____
Street Address: _____
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Bob Fischer, WB2YEH
7258 Walnut Avenue
Pennsauken, NJ 08110

SWAP SHOP

Send non commercial swap shop items to the editor.

For Sale: 60 QST's from late 70's through 1990, not continuous: \$15.00
Chiltons auto repair manual, hardcover 1979, (72-79): \$10.00
HP 606A Signal Generator 50KHz to 65MHz: \$75.00
HP 5253B, 500 MHz plug in for 5245 counter: \$20.00
Curtis CMOS keyer EK-420A: \$20.00
Wang PC , IBM compatible, (XT) w/ 780K mem, 10 Meg hard drive, monitor,
keyboard, serial and parallel ports. Boots ok and ready to run: \$100.00, w/
Wang serial printer (Epson FX 286): \$150.00

Call Gary, WA2OMY, (215) 539-6409,

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, w/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.

THE STRENGTH OF MASTS

By Dick Comly, N3AOG

Thinking of upgrading your tower, adding more antennas, or possibly bigger ones? Some considerations of mast size will or should come to play. Some years ago a fellow "Rat" and myself were designing a large array for his station and I gave this problem some thought. I did some number crunching and the following table is the result. All of the figures given represent the maximum load. The load distance is the distance from the last support of the mast (thrust bearing, etc.) to the top of the mast or the location of the antennas. The values given are for T6061 aluminum.

<u>Mast Diameter</u> <u>(inches)</u>	<u>Wall Thickness</u> <u>(inches)</u>	<u>Load Distance</u> <u>(feet)</u>	<u>Load</u> <u>(pounds)</u>
2.00	0.25	24	79.72
2.00	0.125	24	48.9
2.00	0.062	24	26.98
1.75	0.25	24	57.37
1.75	0.125	24	36.47
1.75	0.062	24	20.44
1.50	0.25	24	35.5
1.50	0.125	24	23.68
1.50	0.062	24	13.4
1.25	0.25	24	21.8
1.25	0.125	24	15.5
1.25	0.062	24	9.0
1.00	0.25	24	11.5
1.00	0.125	24	9.13
1.00	0.062	24	5.5

Note: If your mast is only 12 feet long, then the load in pounds will be X2. If your mast is only 6 feet long, it will be X4, etc.

1992 SMIRK PARTY CONTEST

Contest #17 is on for 0000 UTC 20 JUNE -TO- 2400 UTC 21 JUNE 1992

EXCHANGE: Callsign, SMIRK #, & Grid Locator. No cross-band or partial contacts allowed. No check logs or dupe sheets required.

SCORING: 2 points for each SMIRK contact and 1 point for each non-SMIRK contact. Total SMIRK score + total non-SMIRK score x total number of different grid squares worked = Claimed score.

To obtain a copy of the official log sheet, send a SASE to Pat Rose W5OZI.

Where log asks for your SECTION/STATE/COUNTRY or MAJOR POLITICAL SUBDIVISION.....

If W or VE.....put your Section.
If Japan.....put your Prefecture.
If Australia.....put your State.
If New Zealand.....put your State.
If United Kingdom.....put your Shire/County/Scottish Region, etc.
If none of the above.....put your COUNTRY.

Use Universal Coordinated Time (UTC).

Use the NEW MULT block of the log to number sequentially the DIFFERENT grids worked.

AWARDS: Certificates will be issued for the high score in each geographical division.

ELIGIBILITY: To be eligible for contest awards your 1991 dues should be paid up. If not, enclose dues in the amount of \$6.00 (Checks made payable to SMIRK) with your entry. FAILURE TO PROVIDE YOUR NAME, CALL, & SMIRK # WILL DISQUALIFY YOU.

Send contest entries postmarked no later than ⁶~~10~~ July 1992 to:

Pat Rose W5OZI, P. O. Box 393, Junction, Texas 76849 USA.

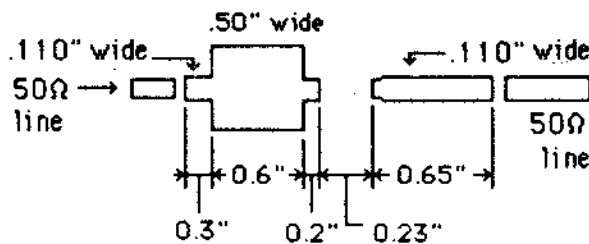
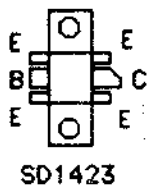
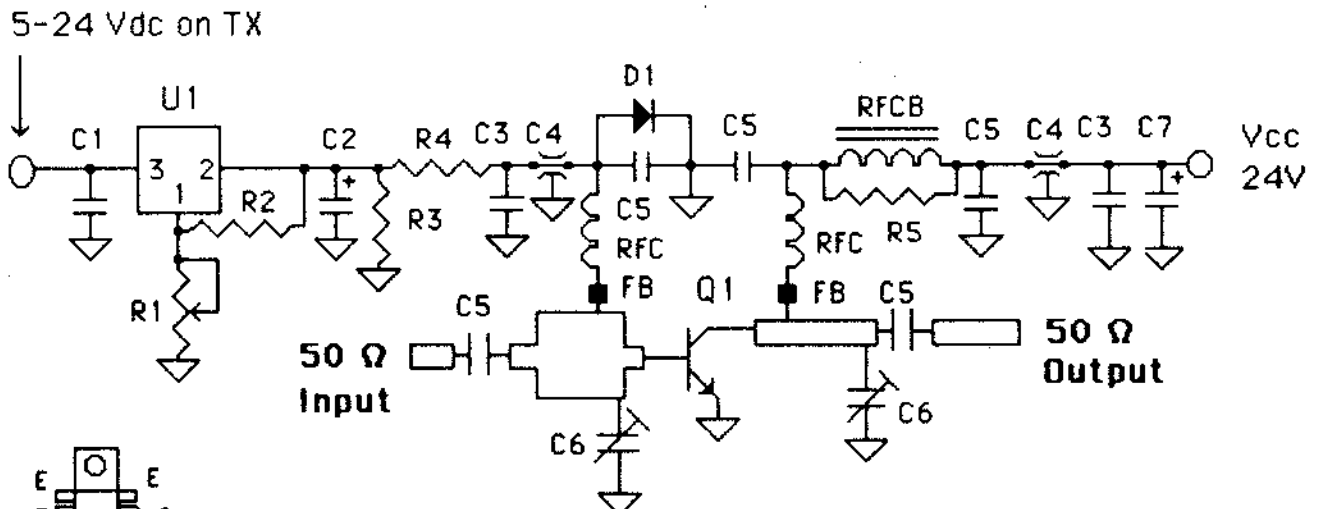
ALL CONTACTS BETWEEN THE CONTIGUOUS 48 STATES MUST BE ABOVE 50.125 MHz. Only contacts with stations outside the 48 States should take place below 50.125 MHz. This will help eliminate interference from our contest to DX operations.

from Terrestrial VHF

903 MHz Linear Amplifier

12-13 dB Gain @ 1dBc $I_{cQ} = 75 \text{ mA}$

Pout up to 20 Watts @ 1dBc



PC board material is 0.032" Teflon $\epsilon_r=2.55$
50 Ω lines are 0.080" wide, any length.

Q1 SGS-Thomson Microelectronics SD1423

- | | |
|---|---------------------------------|
| C1 22 ufd disc | RFC 6-8 turns #24, 0.1" ID |
| C2 1 ufd Tantalum | RFCB 2 turns #24 thru 2-FB43s |
| C3 .1 ufd disc | FB Ferrite bead FB-43 |
| C4 .001 ufd F.T. | R1 100 Ω mini pot. |
| C5 100 pf chip | R2 240 Ω 1/4 watt |
| C6 0.8 - 8.0 pf Johanson piston trimmer | R3 10 Ω 1 watt |
| C7 10 ufd/35 Vdc elec. | R4 15-20 Ω 1 watt |
| U1 LM317T regulator | R5 10 Ω 1/4 watt |
| | D1 1N4007 attached to Q1 flange |

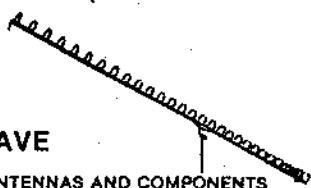
D. Mascaro, WA3JUF 1989/1992

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