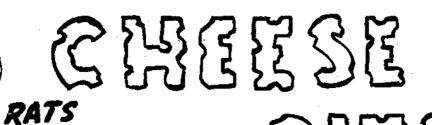
PACK RATS





CLUB CALL: W3CCX

MT. ARY VHF RADIO CLUB, INC.

MT. AIRY VHF RADIO CLUB INC., "THE PACK RATS", PHILADELPHIA, PENNSYLVANIA W3CCX NET FREQUENCIES: 50.125, 144.150, 220.125, 224.58/222.98, 432.110, 903.110, 1296.110 MHz AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE ARNS

Meetings: Third Thursday of each month at 8:00 PM Southampton Free Library, 947 E. Street Road Southampton, Pennsylvania 19866

VOLUME XXXII

FEBRUARY 1990

NUMBER 2

THE PREZ SEZ

I hope everyone has recovered from the contest and was able to attend the rap-up meeting at the QTH of Bob, WB2YEH. Thank you, Bob, for your hospitality and leadership as 1990 January Contest Chairman.

It was passed to me through the grapevine that WC2K will be speaking at the 1990

Dayton Hamfest. We wish Rick good luck with his presentation.

The next club adventure will be the June VHF QSO Party expedition. We need additional members to get involved, so please contact Ron, WA3AXV, our June Contest Chairman.

WE NEED YOUR HELP!!

I hope that everyone is working on their construction projects for our annual Homebrew Night, coming up in March. Please invite a guest along!

Was glad to see some Pack Rat activity on 3456 MHz. during the contest. WA2OMY, WC2K, WA3NUF, WA3AXV, WA3JUF, and I all had signals on the band and most of us worked each other. WØRSJ is equipped and will be active on the band as soon as the antenna is up. 'AXV, WC2K, and 'YEH ran their new CW/SSB no-tune transverters with much success. 'OMY and I ran our homebrew gear, and 'NUF and 'JUF each used rover boxes to work Ron. Signals were good on all paths.

See you all at the Crying Towel meeting on the 15th.

73 and Listen for the weak ones!

Dave Hackford, N3CX

Pack Rats CHEESE BITS is a publication of THE MT. AIRY VHF RADIO, INC. Philadelphia, PA. and is published monthly. SUBSCRIPTION RATE - \$5.00 PER YEAR

We operate on an exchange basis with other publications. Anything that is printed in CHEESE BITS may be reprinted, unless otherwise stated, and proper credit is given. DEADLINE FOR ARTICLES IS THE MEMBERSHIP MEETING: THE THIRD THURSDAY OF THE MONTH SWAP SHOP ITEMS - NO CHARGE

SUBSCRIPTION MANAGER:

K3GAS, DOC CUTLER

7815 New Second Street Elkins Park, PA 19117 215-635-1078

EDITOR:

W3CL, HARRY B STEIN

2087 Parkdale Ave. Glenside, PA 19038 215-887-5052

ASSISTANT

WC2k, RICK COMNOR EDITOR:

609-268-0736

PRINTER: WB2VLA, DAVID POWER

609-882-1040

JANICE CONNOR TYPIST:

AWARDS CHAIRMAN: WZEIF, JOSEPH KILGORE

609-783-9478

W3CL, HARRY B. STEIN CLUB HISTORIAN:

TRUSTEE OF THE CLUB CALL - W3CCX

WA3AXV, RONALD WHITSEL

215-355-5730

PACK RAT REPEATER 222.98/224.58 MHz - W3CCX

LOCATED IN CHURCHVILLE, PA.

OFFICERS: 1989 - 1990

PRESIDENT: N3CX, DAVE HACKFORD VICE-PRES: WB3DNI, PAT CAWTHORNE COR. SECY: WB3JYO, PAUL DREXLER REC. SECY: WA3AQA, WALT ZUMBACH

TREASURER: WA3YUE, BRUCE LOSS

DIRECTORS:

WA3AXV, RON WHITSEL (1 Yr) K3GYS, GUS NICOLELLA (1 Yr) WA3JUF, DAVE MASCARO (2 Yrs) WA3NUF, PHIL MIGUELEZ (2 Yrs)

VHF CONFERENCE CHAIRMAN:

KB3XG, JOHN SORTOR 215-340-0847

HAMARAMA CHAIRMAN:

WB3DNI, PAT CAWTHORNE 215-672-5289

MONDAY NIGHT NETS NET CONTROL 7:30 PM - 50.125 MHz W3CL8:00 PM - 144.150 MHz W2EIF 8:30 PM - 220:125 MHz WC2K 8:30 PM - 224.58 MHzK3GAS 9:00 PM - 432.110 MHz WA3AXV 9:30 PM - 1296.1 MHz WA3NUF



THE AMERICAN RADIO RELAY LEAGUE

OST

HUGH A. TURNBULL, W3ABC

Director, Atlantic Division

6903 RHODE ISLAND AVE. COLLEGE PARK, MD. 20740

(301) 927-1797



Pennylvania Institute of Technology ENGINEERING

PAUL D. MERCADO

Chairperson, Drafting Design Department

215,565,7900

Rose Valley-Notre Dame Campus 800 Manchester Ave., Media, Pa. 19063-4098

1-302-478-2757

AMATEUR and ADVANCED

"Gisele"

K3WAJ

COMMUNICATIONS

G. B. WALLS

3208 CONCORD PIKE (RT. 202) WILMINGTON, DEL. 19803

Graphic Design Illustration Production



Lynne D. Whitsel

209 Frog Hollow Road Churchville, PA 18966 215 355-5730

By Harry Brown, W3IIT

FEBRUARY

- 3 January Contest wrap-up session at the QTH of Bob Fisher, WB2YEH, Pennsauken, NJ. Get your logs and checksheets to your contest team captain or directly to General Fisher so they can be checked and submitted on time. Call Bob (609) 665-8488 for directions.
- 8 Pack Rat board of directors meeting at the QTH of Harry Brown, W3IIT, at 8:00 PM. Call (215) 584-4846 for directions.
- 9 Birth of Brendan Behan, Dublin 1923
- 11 LIMARC Hamfest at Electricians Hall, 41 Pineland Rd., Melville, NY. Talk-in on 146.25/.85.
- 12 Lincoln's Birthday
- 14 St. Valentine's Day. Remember your sweetie.
- 15 Pack Rat general membership meeting at the Southampton Free Library, Street Road, Southampton, Pa. The theme of the evening will be our annual "Crying Towel" session. The best story of went wrong during or in preparation for the January contest wins the coveted Crying Towel. All friends and interested parties are welcomed to come enjoy the evening with us. Bring plenty of tissue!
- 19 Washington's Birthday
- 28 Ash Wednesday

TID BITS

George Van Dyke, W3HK, is recuperating from a quadruple heart by-pass. George is reportedly doing well and should soon be active again on the nets.

The Pack Rats convey their sympathy to Pete Motyll, K1PXE and family. Pete lost his dad after an extended illness.

Bob Fox, W3GXB, has been under-the-weather, although as of the contest weekend was feeling better and in fact was active for a few hours. Get well soon, Bob.

Dave Zimmerman, W3ZD, is Hamarama '90 chairman and is looking for help and new location suggestions.

See February QST, page 52, for the VUAC 13cm band plan.

PROPAGATION REPORT Paul Drexler, WB3JYO

Propagation during the winter months is characteristically lower than what we've recently experienced, with much lower solar flux numbers and few if any E openings above 50 MHz. Although propagation for this time of year is still above average due to increased solar activity, things have settled down somewhat. The solar flux is down from the previous few months, and is at 150 at the time of this report. Nevertheless, there have been a few good openings.

On December 31, 6-meters opened to the South at 1330Z with S5 signals from an HCl. By 1400, a number of other South American stations were worked by several Philadelphia VHFers. N3BBI reports working at 1423Z V290A (Antigua), and hearing J73 (Dominica), VP2EHF (Anguilla), and V31PC (Belize). At 1530, Mike worked TI2HL (Costa Rica) and several French stations before the band gave out.

On January 2, N3BBI reports working YV4AB (Venezuela) from his mobile! On the 10th at 1500Z, the VP5 and HC5 beacons were heard along with HC5K. Six has opened to the West Coast several times during the past month, but most openings have been short duration.

By now most everyone has stopped complaining about the poor conditions of the January contest. Mother Nature reminded the East Coast of who's ultimately in charge of a contest weekend, as the W1's, 2's, and 3's contended with ice-gripped arrays and rotators. New England activity was particularly down; they may have been in there, but they were not putting a signal out of their area. Sunday afternoon brought a break-through as west coast stations representing at least six grids were in on 6-meters at around 1900Z. At around that time, the Delaware Valley weather cleared up slightly and the VHF/UHF bands came alive for a short time. The WCZK multi crew scrambled to catch up on the long-haul contacts that they were missing. WA3AXV ran into some surprise conditions as he found and worked W1RIL (FN42) and WA1MBA (FN32) up to 2304 MHz. N3CX apparently experienced the brief break as it passed through his QTH earlier Sunday. Dave worked VE3LNX (FN03) on 1296!

By 0100Z Sunday evening, the ice had returned and slammed the door on any final hour contest activity. CU on the bands, listen for the weak ones!

WHARC, KCHLM ELECTED TO LEAGUE POSTS

Hugh Turnbull, W3ABC, has been elected to another term as Atlantic Division Director, a position he has held since 1982. Turbull is a member of the Board's Executive Committee, has been Chairman of the Board's RFI Task Group since 1980, and is the ARRL representative to several professional committees dealing with technical standards in RF equipment.

Kay Craigie, KC3LM, has been elected to her first term as ARRL Vice Director of the Atlantic Division. She has been Section Manager of Eastern Pennsylvania. since 1986.

The Mt Airy VHF Radio Club extends congratulations to our representatives, but sends a message of great need for support and representation in the weak signal VHF/UHF/SHF activities which the Pack Rats pursue.

SWAP SHOP

SELL: Heath SB-200 amplifier with new extra set of tubes. Recently reconditioned with choke coils, plate coils, relay, meter, band switch. Excellent shape. Will sell tubes separately.

CONTACT: Chas Royer, K3BCV Allentown, Pa.

(215) 432-2805

<u>SELL:</u> 2 Meter amplifier - 2 4CX350A's with power supply \$250.00 or trade for 1296 transverter.

CONTACT: Chuck Steer, WA3IAC Philadelphia, Pa. (215) 335-0637

WANTED: 3CX3000-A7 Eimac tube - any condition, will even take dud. Any

leads on source appreciated.

CONTACT: Fred Munzermayer, KB2BF

Blackwood, NJ (609) 228-4580

SELL: Eimac 5CX1500A, like new.

Eimac 8877, socket, chimney, all
new. Kenwood BS-5 bandscan unit,
panadapter unit for SM-220 monitor
scope, new in box. Hasselblad 500EL,
single lens reflex, electric film
advance body, 70 back, 70mm film
back, 45 degree prism finder, Zeiss
50mm F/4 distagon lens, all like new.
CONTACT: Gus Nicolella, K3GYS

Crowfoot, NJ

(609) 767-3628 (h) (609) 424-1012 (w)

SELL: Epson QX-10 Computer with dual 5.25" drives and matching Epson monochrome monitor. Includes plenty of software. No offer refused.

CONTACT: Harold Schnabel Furlong, Pa (215) 794-5222

COMMERCIAL ADS

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 "Super Looper" \$99 kit, \$124 assembled and tested. 2304 MHz 45 element \$75 kit, \$89 assembled and tested. Also available: element and hardware kits for 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: 902 MHz .8dB NF \$90, 1296 MHz .8dB NF \$90, 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. DOWNEAST MICROWAVE, Bill Olson, W3HQT, Box 2310 RR-1, Troy, Maine 94907. For information and orders telephone: (207) 948-3741.

COAXIAL DIRECTIONAL COUPLER model PRDX 4420 A20, new, 500W, 50 ohm, calibrated at frequencies in 5 microwave bands, spec sheet, \$35. New power supplies, regulated 12.8 VDC @ 2A \$37.50; 12.8 VDC @ 7A \$82.50. FERTIK'S ELECTRONICS, 5400 Ella St., Philadelphia, Pa., 19120, (215) 455-2121

SAN DIEGO MICROWAVE GROUP, an amateur organization, supplies a list of 10 GHz items available. 30 MHz IF strip w/pwr supply and modulator for use with Gunn osc/det, includes PCB and TDA-7000 FM RX chip \$10. Project book covers IF systems xcvrs, antennas, test gear, 119 pages plus artwork \$15. CW EPROM IDer, includes chip w/your call, like "DE N3CX/B", etched board, \$12.00. Impatt cavity 10 GHz oscillator w/WG-16 filter, 30mW - \$30.00. 50-100mW Gunn devices \$10ea. SAN DIEGO MICROWAVE GROUP, c/o Chuck, WB6IGP, 6345 Badger Lake, San Diego, Calif. 92119. HAM RADIO MAGAZINE is the leader in Amateur Radio state-of-the-art! Projects for every interest. Don't miss another exciting issue! HR Magazine, Greenville, New Hampshire, 03048. (603) 877-1441.

DAYTON VHF/UHF PROGRAM

The Six Meter International Radio Klub, (SMIRK), will play a big part in the VHF/UHF program at the 1990 Dayton HamVention. An update on worldwide 50 MHz activity will be covered at the Saturday morning forum session. Other popular VHF/UHF topics will also be covered (more details will follow).

Antenna gain measurements and preamp noise figure measurements will again be a part of the VHF/UHF program. Both events have become a gathering place for discussing such topics as record breaking QSO's and best antenna gain. And the big names in amateur radio are well represented.

The noise figure measurements will be held of Friday evening at the Ham-Vention site, next to the FM B*A*S*H area (where food, drink, and entertainment are available). The antenna gain measurements will again take place on Sunday morning at Meadowdale High School (3/4 mile from the hamvention - with continuous shuttle bus service provided).

Is anyone planning a VHF/UHF gathering for Saturday evening in the Dayton area? If so, make sure it gets publicized during the Friday evening noise figure session and during the forum on Saturday.

Prizes will be awarded for top antenna and receiver winners. Tests will cover bands 144 through 1296 MHz. Top prizes last year were 8874 tubes! The HamVention dates this year are: April 27, 28, 29, 1990. TNX WASOGS.

FCC PROPOSES HIKERS' LOCATOR IN 220 MHz

The FCC on Tuesday, December 12, proposed the establishment of a Personal Emergency Locator Transmitter Service (PELTS), that would provide individuals in remote ares with a means of alerting others of an emergency situation and to help search and rescue personnel locate those in distress. The Commission pointed out that a growing number of persons are participating in outdoor activities resulting in an increased number of situations requiring immediate emergency assistance. The system is designed to assist rescue workers in locating lost or injured hikers, campers, skiers, etc.

The FCC says it has two objectives in establishing PELTS. The first is to provide for an areawide, centrally coordinated radio communications system for use by the general public in reducing response time in emergency situations. The second objective is to reduce the illegal use of Emergency Position Indicating Radio Beacons and Emergency Locator Transmitters. These systems are emergency radio beacons used to assist search and rescue units in locating downed aircraft and vessels in distress.

PELTS would consist of a base station and associated portable units. Only governmental agencies of private search and rescue organizations would be eligible for base station licensing, to assure that use will be limited to distress and assistance communications, but portables would not be restricted. The FCC proposes to use 50 KHz of the reallocated 220-222 MHz band for PELTS in five frequency pairs.

The ARRL will seek a stay of this Docket and PR Docket 89-552, FCC's proposed service rules for land mobile operation on 220-222 MHz, if the rulemaking process reaches the Report and Order stage before the US Court of Appeals for the DC Circuit has made a decision on the ARRL request for review of FCC's reallocation decision in Docket 87-14.

A LOOK AT VHF/UHF MULTIOP CONTESTING

A recent issue of the ARRL's <u>National Contest Journal</u>, (NCJ), takes a look at multiop competition in the VHF/UHF contests. Here are some excerpts from the "VHF-UHF Contesting" column which is written each month by well-known VHFers W9IP/2, W3EP/1, and K9AKS:

All-band ARRL contest rules have been structured so as to encourage the use of higher frequencies, especially the bands above 432 MHz. In this way, VHF/UHF contests help to stimulate developments in equipment and antennas on previously little-used frequencies and thereby develop these new frontiers. In 1981, activity on 1296 was fairly widespread, with 58 stations submitting logs on that band in the September contest. This number increased to 100 in the 1988 contest. A typical big operation (single or multiop) in 1981 used five bands, usually 50, 144, 220, 432, and 1296 MHz. Only six stations used more than five bands in September '81, whereas 44 stations, spread over much of the continent, used more than five bands in 1988; three stations used at least ten bands. Clearly, the VHF/UHF contests have encouraged the use of new bands - a welcome development. But at least two problems have developed from this proliferation that need attention.

Multiop contesting has become big business, especially because of the necessity to operate on more than six or seven bands to be truly competitive. Doing so requires a considerable amount of equipment and manpower. Several groups do this very well and are to be congratulated for their accomplishments. One consequence of this trend has been the emergence of a few very big operations in recent years that makes it nearly impossible for smaller multiop groups to compete effectively in most regions. In some parts of the country, the density of VHF/UHF operators is insufficient to put together a competitive effort. For other potential groups, the required amount of equipment, towers, and antennas presents problems that sheer will and skill cannot overcome. Many groups have simply given up trying to participate in the multiop category because the demands of competition are simply out of reach. The number of multiop stations in the June and September contests declined significantly during the 1980's. The introduction of grid square multipliers helped to rekindle the June contest mid-decade, however the September multi entries continue to fall.

YEAR	TOTAL MULTI'S	JUNE	SEPTEMBER
1980	2Ø9	126	83
1981	205	127	78
1982	199	120	79
1983	180	110	70*
1984	157	9Ø	67
1985	158	98*	60
1986	166	101	65
1987	165	102	63
1988	158	110	48

^{*} Grid squares introduced as multipliers

One solution to this problem might be to divide multiop competition into two sub groups: an unlimited class and a limited class. The new limited class would be

(continued)

MULTIOP CONTESTING (continued)

created, allowing three or four contesters to get together and have a realistic chance of winning their region. The distinction between the classes could simply be based on the number of bands used. Three possibilities are suggested for the proposed limited class:

1. Restrict the limited class to 3 bands of choice for the competing station. The three bands of choice would most often be 50, 144, and 432, but in some areas, 220 or 1296 might be successfully substituted for 50 in the September and January contests.

2. Hold the limited class to four bands which seems to be a tangible operation

for most small multi's and may produce more activity and fun.

3. Allow the limited multiop stations to operate any number of bands they choose, but each may claim only its best three bands for score. This would encourage widest use of many different bands and promote activity, but still give stations with limited equipment and personnel resources a competitive chance of winning.

The new class may be particularly attractive to stations which compete with QRP and/or portable (battery) power.

A fourth approach might be to limit the June VHF QSO party to 6 bands 50 - 1296. [not interested in this option! -ed] Six meters usually dominates the June contest anyway. The January and September contests would still include bands above 1296.

In order to exploit to the fullest UHF and microwave bands, some of the big multi's have developed a system in which they encourage or even outfit mobile "rover" stations. The problem arises when rovers, especially those who operate on bands above 1296, are dedicated to their own multiop stations, providing few if any contacts with other stations. The ARRL Contest Advisory Committee is considering the creation of a new rover class of operation. This would allow rover stations to accumulate points, even though they travel through several grids, and compete against other rovers. Another proposal would allow only credit for new multipliers and not QSO points, after the first contact with a roving station. Another suggestion has been to count one point for every QSO, regardless of band.

The Pack Rats have traditionally assembled a Herculean effort in the Summer contests and certainly are not in need of the help of a "handicap" category. But all of us who participate each year should realize that the numbers of stations on the air for contest weekends is declining. Perhaps some thought with these proposals is necessary for the survival of contest fun and participation. If you like one or more of the discussed proposals or have some of your own, you are encouraged to send your ideas to: W3EP/1, Emil Pollak, RR3 Box 70 (Route 207), Lebanon, Ct. 06249. As for this year, the Pack Rats will continue their pursuit of winning, as June Contest Chairman Ron, WA3AXV, prepares an assault plan for a 1990 Mt. Airy VHF Club multiop effort from FN01, Clearfield, Pennsylvania. Hope that you plan to participate! TNX NCJ Magazine and W9IP, W3EP, K9AKS.

DOWN **E**AST MICROWAVE

MICROWAVE ANTENNAS AND COMPONENTS

BILL OLSON W3HQT

BOX 2310 RR1 TROY, ME 04987 (207) 948-3741

Amateur Radio's Technical Journal PO BOX 931 FARMINGDALE, NY 11737

\$25 one year \$53 three years

NE 7-8329

GEORGE S. VAN DYKE, JR., P.E.

W3HK

4807 CONVENTIANE PHILA., PA. 19114

High-Tech Electronics

5 So. Easton Rd. Glenside, PA 19038 (215) 886-5100



ELECTRONIC PARTS DISTRIBUTOR FOR:

RADIO • TV • VCR • COMPUTER
AUDIO-VIDEO • PHONE ACCESSORIES

WHOLESALE

RETAIL

ARLENE SULTHAUS

BILL SULTHAUS

(302) 328-7728 ORDER LINE 800-441-7008



Delaware Amateur Supply

"AMATEUR SALES AND SERVICE"

PAUL WASQPX KATHY KASIYO

71 MEADOW ROAD NEW CASTLE, DELAWARE 19720

(215) 659-5900 DAY (215) 343-2449 NIGHT

INDUSTRIAL COMMERCIAL RESIDENTIAL

WARRINGTON ALARM CO.

LOCKSMITH . BURGLAR . FIRE

BOB HERSHMAN

417 DAVISVILLE ROAD WILLOW GROVE, PENNA. 19090-3493

215-342-5982

WASHIT

Paul and Betty Rilling

INCOME DIVERSIFICATION

5830 Weymouth Street -Phila., Pa.19120

The Ham Radio Publishing Group

Greenville, NH 03048 (603) 878-1441

HAM RADIO - the Technical Ham's Magazine. Ask for a free sample copy or our Book Catalog.

CALL DOC CUTLER (K3GAS) FOR YOUR ELECTRONIC NEEDS

NEW, RECONDITIONED, OR AS IS.

LOW PRICES

by appointment _____215-635-1078

BARISH SALES **ASSOCIATES** Carl Barish

11661 S.E. First St

P.O. Box 4247 • Bellevue, Washington 98009 (208) 646-9900

Telephone Products for the Industry

ESTINATIONS INC.

HARRIET SOLTOFF TRAVEL CONSULTANT

616 SOUTH THIRD STREET PHILADELPHIA, PA. 19147 RES. 18 15) 947-4483

BROWSDIG - THURS. 7" .. 9"

Day-Nite (215) 455-2121

FERTIK'S ELECTRONICS

Components & Equipment

LEON FERTIK

5400 ELLA STREET PHEADECPHIA, PA. 19170



52 Stonework Drive Belle Mead, New Jersey 08502 (201) 874-6013 Telex 5106014312 (PX Shack) Fasylink 62930060

IVARS LAUZUMS





(609) 694-1717

G & G Communications, Inc.

ROBERT COOK Shop Manager

RT. 4 BOX 124 FRANKLINVILLE, NJ 08322

(302) 328-7728 ORDER LINE 800-441-7008



Delaware Amateur Supply

"AMATEUR SALES AND SERVICE"

71 MEADOW ROAD NEW CASTLE, DELAWARE 19720

(215) 745-6173 (302) 575-7630



COMPU-SIMPLE COMPUTER APPLICATIONS FOR SMALL BUSINESS

ELLIOTT T. WEISMAN Consultant

P.O. BOX 7161 WILMINGTON, DELAWARE 19803





RCA

MOST OTHER MAJOR LINES.

Jenkintown & Glenside Electric Co.

MAJOR APPLIANCES . TV

220 YORK ROAD

LES GEISSEL

JENKINTOWN, PA. TUrner 4-0375 - 4-1050 WA 7-4325

AMERICAN RADIO RELAY LEAGUE EASTERN PENNSYLVANIA SECTION

> KAY CRAIGIE KC3LM SECTION MANAGER

> > 128 Berkeley Road Devon, PA 19333 (215) 688-5045

