

# PACK RATS



## PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

# CHEESE

# BITS



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, 903.100, 1296.100 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 MARCH 1990 NUMBER 3  
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### THE PREZ SEZ

First off, I'd like to thank everyone that helped the club in the January contest. I'm not going to say any more about participation level and this is the starting point for our effort next year. If you need help with antennas or gear, please let me know... we want to help.

Don't forget to come out to Homebrew Night and bring your project no matter how big or small. We can all learn by looking at these items. Come early to the meeting place to get setup. I'll be there at 7:00! Let us know if you need some help carrying things in from your car. Don't forget to bring a friend!!

Our June contest chairman, WA3AXV, has informed me that we're going back to FN01. We need operators and rover crews so mark it on your calendar now. The June contest will be on the second weekend of June. Bands include everything from 6 meters through lasers. Get the word out to other clubs and operators that we'll be running serious narrow band operations on 3.4, 5.7, and 10 GHz.

Bill, W0RSJ was the winner of the Crying Towel this year. We hope Bill's computer is working better and that the varmints are staying away from 'AXV's place.

This note is directed toward the members of our club. Please drop me a line or land-line to input your suggestions for the club's health. We need communication so we can plan for the future of our organization.

Clean up those fishing rods, HI!

73 and listen for the weak ones!

Dave Hackford, N3CX

### VISITORS AT THE FEBRUARY 15 GENERAL MEETING

- |                                    |                                      |
|------------------------------------|--------------------------------------|
| W3BNQ - SAM SANTORO, BLUE BELL, PA | N3EXA - BRIAN TAYLOR, DOYLESTOWN, PA |
| N3FWV - JOHN KEDZIORA, JAMISON, PA | K3BRS - AL WHITING, LANHAM, MD       |
| W3AJS - ED KEENER, ORELAND, PA     |                                      |

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DEADLINE FOR ARTICLES AND SWAP SHOP IS THE 20TH DAY OF THE MONTH. NON-COMMERCIAL SWAP SHOP ITEMS - FREE OF CHARGE.

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TRUSTEE OF CLUB CALLSIGN - W3CCX

WA3AXV, RON WHITSEL  
(215) 355-5730

PACK RAT 220 FM REPEATER - W3CCX/RPTR  
222.98/224.58 MHz, CHURCHVILLE, PA

OFFICERS: 1989 - 1990

PRESIDENT: N3CX      DAVE HACKFORD  
VICE-PRES: WB3DNI      PAT CAWTHORNE  
REC. SECY: WA3AQA      WALT ZUMBACH  
TREASURER: WA3YUE      BRUCE LOSS  
COR. SECY: WB3JYO      PAUL DREXLER  
DIRECTORS: WA3AXV      RON WHITSEL (1Yr)  
                 K3GYS      GUS NICOLELLA (1Yr)  
                 WA3JUF      DAVE MASCARO (2Yrs)  
                 WA3NUF      PHIL MIGUELEZ (2Yrs)

MONDAY NIGHT NETS  
7:30 PM - 50.125  
8:00 PM - 144.150  
8:30 PM - 224.58/R  
8:30 PM - 220.125  
9:00 PM - 432.110  
9:30 PM - 1296.100  
10:00 PM - 903.100


NET CONTROL  
W3CL  
W2EIF  
K3ACR  
WC2K  
WA3AXV  
WA3NUF  
N3CX

VHF CONFERENCE CHAIRMAN:

KB3XG, JOHN SORTER  
(215) 340-0847

HAMARAMA CHAIRMAN:

W3ZD, DAVE ZIMMERMAN  
(215) 675-4539

THE AMERICAN RADIO RELAY LEAGUEOST

### HUGH A. TURNBULL, W3ABC


Director, Atlantic Division

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"Gisele"  
K3WAJ

G. B. WALLS

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

Graphic Design    Illustration    Production



**Lynne D. Whitsei**

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

## CALENDAR OF COMING EVENTS

Harry Brown, W3IIT

### MARCH

- 3,4 ARRL International DX Contest, SSB. See Dec 1989 QST, page 79 for rules.
- 3 Split Rock ARA and West Morris Wireless Society Hamfest at Dover Armory, Dover, NJ, Route 15 just south of I-80. Talk-in: 146.385/.985, 146.52, 223.860.
- 4 York Ham and Computer Winterfest at the Dover Fire Hall, York, Pa. Talk-in: 146.37/.97 and 147.93/.33.
- 8 Pack Rat Board of Directors meeting at the QTH of Bruce Loss, WA3YUE. Meeting starts at 8:00 PM. For directions, call (215) 947-4166.
- 10 Shore Points Amateur Radio Club 8th annual Springfest at Holy Spirit High School, Absecon, NJ. Doors open at 9AM rain or shine. Talk-in: 146.385/.985 and 146.52.
- 15 Mt. Airy VHF Radio Club March meeting at the Southampton Free Library, Street Road, Southampton, Pa. Annual HOMEBREW NIGHT. Bring your project even if it's not completed. Bring a friend to experience the handy-work of the Pack Rats.
- 17 St. Patrick's Day
- 24 Chestnut Ridge ARC Ham Radio Flea Market at Education Bldg of Saddle River Reform Church, Saddle River, NJ.
- 25 Delaware Valley ARA Hamcom '90 at the National Guard Armory, Lawrence Twp, NJ. Talk-in: 146.07/.67

### FINAL 1990 CONTEST REPORT

Bob Fischer, WB2YEH

The ice, snow, rain, and hopefully not too much smoke, have cleared and the contest is over for this year. A fine crew of hard working members were at the wrap-up session and all logs have now been checked, summarized, packed in a box, and sent to ARRL Headquarters. The Pack Rat team has scored a total of 1,613,838 points this year! Not bad, considering that we only had 48 members submitting logs this year. I wish to thank all the members of the contest committee, especially WB3JYO, W3CL, WA3JUF, and WA3YUE, along with all the team captains and individual members. All of your help and suggestions made my job as contest chairman easier and most enjoyable.

Don't forget - June is just around the corner!!

73, Bob, WA3YEH

The Pack Rats who participated in the January 1990 VHF Sweepstakes thank Bob for an excellent and complete job performed as Chairman.

Watch for CE0A, Easter Island, from March 9-19th. This expedition will emphasize 50 MHz and they'll be equipped with 100W and a 6-element beam. All we need is a little cooperation from the Sun.

PROPAGATION REPORT  
Paul Drexler, WB3JYO

This month's lack of propagation has made me scrape for anything worth writing about! The past month's solar activity has, on the average, been lower than during January. The month started out with a Solar Flux Index of 220, K index of 3, and dropped to a low of 120 during the course of the month. The SFI is however, starting to rise up at a snail's pace and perhaps in the next few weeks we'll see some renewed propagation; look for a high SFI and low K index for 50 MHz DX.

W3ZZ reports working K8WW/VP9 (Bermuda) via 50 MHz on February 19th. Gene noted that the propagation sounded like E-skip. As far as I know, there wasn't any other DX worked or heard during the day.

Howard, WA3EOQ reported working a short 144 MHz aurora on the evening of February 15 to IND, OH, and ILL. All good Packrats were at the meeting during the evening, so I and many others missed out on that opening. This brings to point however, that we should be reminded to watch the WWV numbers for propagation indicators - it might be a good idea to review WC2K's article of November '89 Cheesebits. In short, a SFI of 200+ accompanied by a K index of 2 or less almost always points to 50 MHz F2 DX. Even if the SFI is low, however, remember that a high K index - above 4 - indicates that aurora conditions are likely. The conditions which cause thunderstorms are closely related to those which produce E-layer refraction and thus E-skip. Don't give up on VHF operating because the WWV numbers are low! This is the time of the year we start to see weather conditions right for extended tropo.

K4CAW and WA4ZIA have started a new 1296 activity net which is called each Wednesday evening from 9-10PM local time on 1296.090 MHz. Al, K4CAW (FM06 NC) looks for check-ins to the north and Dexter handles stations from the south. As conditions improve, those equipped for the band should find this net challenging, fun, and informative. Dave, ex-J52US, is alive and well and now operating from 9L, Sierra Leone. He is awaiting his new 9L1US callsign and may have it by now. He is active on 6-meters using 100W to a 3-element beam. CU on the bands.

TID BITS

- **W0RSJ, Bill Murphy**, was the winner of the 1990 Pack Rat Crying Towel Award. Many a tear was shed by those in attendance at the February 15th meeting as Bill expounded on his with the law which made his name famous! Bill's rough ordeal in preparing for and operating the contest included problems with his logging computer, feedline connectors, and final amplifiers. Bill was able to overcome and cope with the multitude of obstacles enough to make a healthy contribution to the club contest effort.
- **The Crying Towel** was a very special specimen of artwork this year. The extra large tear sucker was illustrated with the radio equipped Rat approaching the pinnacle of a classic VHF/UHF contest tower. TNX to Naomi, YL/WB3JYO, for the fine creation!
- **Congratulations** to Mike (WB2RVX) and Janet (KA2NYF) Gullo on the birth of Melissa Nicole, January 28 and tipping the scales at 8 lbs 13 oz. Mom, baby, and Mike are doing great.
- **Pack Rat Ladies' Light 1990** will be held at the Warrington Motor Lodge on Saturday, June 2. Details available from Prez N3CX, chairman of the occasion.
- **WB2SZK, Randy Bynum**, writes to say hi to brother Rats. Sez that due to heavy work load and traveling schedule, he has not had time for much operating. Hope things settle down for you in time for the Spring tropo, Randy.
- **DUES ARE DUE...** Yes, if you have not paid your 1990 dues then you are in grave danger of being pestered by our ruthless money man, WA3YUE. The Trez sez, "pay up"!

SWAP SHOP

SELL: YAESU FT-107M xcvr w/ext. VFO, SP-107 SPKR, filters, YM-34 mic, \$450. Microlog AVR-2 computer w/monitor, \$400. Sinclair 1000 computer M330, 16K, \$50. Dentron MT-3000A ant tuner, \$125. MorGain dipole 10-80, \$35. 2-meter "Boomer" yagi, 5 el 6-meter yagi, 10' tower w/roof mount, thrust bearing, Ham II rotor, guy wire, 100' rotor cable, 200' coax - you take down, package deal, \$350.

CONTACT: Bill Nace, N3CGR  
Lansdale, Pa.  
(215) 368-1149

WANTED: Kenwood TS-180 xcvr  
CONTACT: Rick Connor, WC2K

SELL: 192 issues of Ham Radio Magazine, (1968-1984), most years complete, 12 issues missing, \$50. 216 issues of CQ Magazine, (1954-1975), missing 1959, 1961, 1968, \$50. 264 issues of QST Magazine, (1950-1975), missing 1952, 1955, 1963, 1967, 1969, \$75.

CONTACT: Harry Schools, KA3B  
Philadelphia, Pa.  
(215) 468-1512

SELL: 2-meter low pass filters, 2KW, .05 dB typical insertion loss, type 'N' connectors. Good for eliminating UHF mixing products at receiver/preamp, \$45.

CONTACT: Steve "Scotty" Scott, KI3W  
Lititz, Pa (717) 626-0991

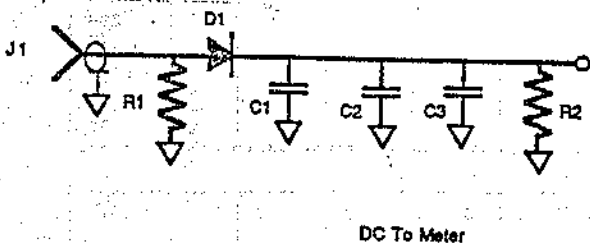
COMMERCIAL ADS

LOOP YAGIS: 902 MHz 33el \$89 kit, \$109 assembled and tested. 1296 MHz 45el \$89 kit, \$109 assembled and tested. 2304 MHz 45el \$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 RF power amps, 13VDC: 1296- 1W in 20W out \$265, 8W in 35W out \$315, 4W in 70W out \$695. GaAs FET preamps: 903 MHz .8dB NF \$90, 1296 .8dB NF \$90, 2304 1dB max NF \$140. SHF Systems no-tune transverter kits w/144 MHz I.F. now available for 903, 1296, 2304, 3456 MHz. Write or call for complete catalog. DOWNEAST MICROWAVE, W3HQT, Bill Olson, Box 2310 RR-1, Troy, Maine 04907. For information and orders please call (207) 948-3741.

RELATIVE POWER INDICATOR

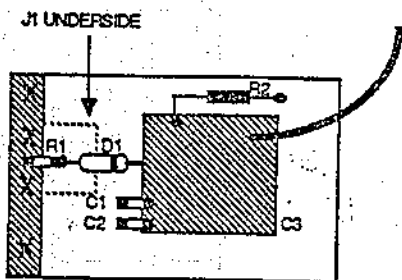
de NA20, Ron Lawson and RVHFG Journal

Here's a small relative power indicator that will respond down into the microwatt range. It is built on scrap double-sided G-10 about 1.5" X 2.5". One side is left in tact, the other has copper removed in the pattern shown. The copper connecting to the cold end of the 50 ohm resistor is grounded via a piece of copper foil. The input connector is soldered to the ground plane with the center pin far enough from the edge of the board to allow room for mounting the chip resistor. C3 is a one inch square of copper on the board and is located about 1/4" from the SMA so that the diode just fits between the two. The chip caps and R2 are grounded via 'Z' wires or rivets through the board. Connect a high impedance meter to the DC terminal and you're all set. Great for tweaking amps to resonance with low drive and no voltage applied.



PARTS LIST:

- C1 1000 pF chip (N2CEI)
- C2 150 pF chip (N2CEI)
- C3 1" square G-10
- D1 Schottky diode (WA2TMC)
- R1 50 ohm chip (N2CEI)
- R2 100K 1/4W
- J1 SMA female



X = wire jumper to underside of board solder both sides.

TYPICAL SENSITIVITY @ 1300 MHz:

dBm	VOLTS
0	0.22
-3	0.14
-6	0.08
-10	0.04
-20	0.004
-30	0.001

RESULTS OF THE 1990 JANUARY VHF CONTEST

"FOR BETTER IT IS TO DARE MIGHTY THINGS, TO WIN GLORIOUS TRIUMPHS, EVEN  
THOUGH CHECKERED BY FAILURE, THAN TO TAKE RANK WITH THOSE POOR SPIRITS  
WHO NEITHER ENJOY MUCH NOR SUFFER MUCH BECAUSE THEY LIVE IN THE GRAY  
TWILIGHT THAT KNOWS NOT VICTORY OR DEFEAT."

Mt. Airy VHF Radio Club Inc.  
"THE PACKRATS"  
January VHF Sweepstakes Contest  
1990

LOGS SUBMITTED  
48

TOTAL SCORE 1613838

CALL	CONTACTS AND GRID SQUARES FOR EACH BAND											GS	SCORE
	50	144	220	432	903	1296	2304	3456	10ghz	24ghz			
WA3NUF	122 19	222 26	78 15	96 17	16 4	46 11	19 2	1 1				95	104500
N3CX		232 26	105 16	83 18	25 8	42 8	22 3	4 2				81	87804
WB2YEH	80 11	200 17	86 11	72 13	24 5	34 5	21 3	4 2				67	68876
WB3JYO	92 16	180 20	66 15	54 12	19 5	33 7	18 2					77	66528
WA3YUE	137 16	210 20	87 14	72 10	16 2	25 2	13 2					66	61578
W0RSJ	79 12	157 22	54 11	71 13	16 3	25 6	12 3					70	52220
WA3JUF	48 8	141 14	77 13	56 9	17 5	35 7	14 3	1 1				60	46980
K3ESJ	179 24	236 23	52 2	83 12								61	41785
WB3DNI	36 5	211 25	43 2	77 10	17 2	32 4	18 2					50	41350
K3LOM	145 20	193 19	81 11	72 10								60	38640
W2EIF	77 14	127 13	71 14	51 8	9 2	22 3	6 2					56	34720
AK3O	78 13	156 15	56 7	53 6	13 2	18 2	14 2					47	32336
KF6AJ	109 16	189 19	41 11	45 11	3 1	5 3						61	30622
W311T	113 18	182 17	64 10	42 5								50	25350
K31UV	64 9	115 13	66 3	93 13		21 3						41	23821
W3HMU	91 15	95 16	51 2	55 7								40	15920
K3BPP	49 9	60 6	42 2	42 5		20 2	12 2					26	11778
K3DMA	67 8	130 7	59 4	43 3		16 2						24	11160
WA2OMY		134 16	47 2		15 2	25 2	4 3					25	10500
W3Y1R	82 12	81 11	20 2	33 4	8 2		2 1					32	10144
KB3XG	44 6	113 9	45 7	39 7								29	9425
W3CL	76 10	101 6	65 3	51 4								23	9407
N3BBI	254 37											37	9398
WA3AQA	55 7	147 12	58 3	27 2								24	8928
WB2VLA	31 6	83 11	44 2	35 4								23	6256
WA3IAC		107 5	46 2	42 5	12 2							14	4634
W3HFY	19 4	22 5	36 4	22 4	3 1	3 2						20	3620
W3CXU	23 3	51 5	31 3	6 2		14 3						16	3264
K3ACR	53 8	64 2	49 2									12	2580
KS2T	120 18		2 2									20	2480
WA31WT	24 3	30 5	21 3	14 2		6 2						15	2220
W3NSI	4 3	57 12	14 2	3 2								19	1805
K3PHY		142 3	55 2									5	1260
WB2JHG		40 10		24 3								13	1144
WB3HHO		84 2	37 2									4	632
WA3HIT		24 2	29 2									4	328
W3BRU		49 6										6	294
K3DLS/			43 2									2	172
K3VEQ		22 5										5	110
WA31MT	26 2											2	52
W3AJF			12 2									2	48
K3GYS					1 1	3 1						2	32
MULTI-OP STATIONS													
WC2K	298 46	570 48	158 32	185 34	42 16	52 13	21 3	3 2	3 2	2 2	198	428076	
W/N2SB, KE2OI, WB8ZAR, K3EOD, K3GYS, WB2YYA, WB2RVX													
WA3AXV	164 23	338 38	126 20	158 26	31 10	53 10	24 5	6 2			134	220564	
W/WB3KRW													
W3KKN	130 19	221 22	77 11	77 11		27 2	16 2				67	59965	
W/W3ZD													
WA3FOF	78 11	186 16	28 2								29	9280	
W/K3DLS, WB3GTP, K3HW, N3DG													
W3UBO	102 14	104 11		29 5							30	7920	
W/W3BRU													
W3GXB		134 11	52 3								14	3332	
W/K3EOD													

### SIX ON SIX MOBILE

Axel Russo, N8AXA, of Dayton, Ohio, worked six continents on 6-meters running QRP from his mobile between November 7 and December 8, 1989. He worked DL3ZM/YV5, KL7NO, JA9IPF, KG6DX, W6JKV/CT3, GM0EWX and other DX running 5 watts and a quarter wave vertical on the bumper! He worked 'em all between 50.074 and 50.154 MHz SSB and CW. Nice job, Axel! TNX W5YI.

### COMMERCIAL ACTIVITY ON 902-928

More commercial activity is appearing on 902-928 MHz but this time it's wireless LANs (Local Area Networks). These systems have legal secondary use of the band as a result of the low power Part 15 rules. The LAWN (Local Area Wireless Network) is an easy to install, easy to use, easy to move network for peripheral sharing, file transfer, and electronic mail, according to advertising brochures. A sales firm is promoting LAWN to office buildings, college campuses, and industrial complexes as a low cost portable alternative to traditional cabled networks. No where in the sales brochure does it mention that the frequency band is shared with higher power services such as amateur radio. Although the transmitters produce 20mW of RF and have a range of about 500 ft, high density of these devices may cause us some extra noise on the band, not to mention the effect of high power CW and SSB signals on the networks of these uninformed consumers. Tough luck!!

### VHF CONTESTER SEZ: "TNX PACK RATS"

Dear Mt. Airy VHF Radio Club members,

I would like to thank you for sponsoring the 5th Place Multioperator plaque for the June 1989 ARRL VHF QSO Party. The plaque awards that have become part of the June VHF Contest have added additional motivation for us to strive for higher ground in the competitive ranks. As a recipient of this award I now have a lasting symbol of achievement in this great event which I will always treasure. Sincerely, Ed Parsons, K1TR.

### TOWER TRAGEDY IN W0 LAND

Roy Webster, a veteran commercial tower erector, was killed on his 38th birthday in a fall from the 120 ft. level of the tower of KM0J. The tower was under construction at the time and during his descent, Webster grabbed an un-bolted strut which broke away from the structure. This was his first experience with an amateur installation. He was unable to obtain insurance due to his occupation and a fund has been arranged to assist his wife and three children. Donations may be sent to: Box 337, Wyandotte, Oklahoma 74370. As the weather becomes nice for antenna work, let's all be extra careful while working above the ground.

### NO-CODE ON THE WAY

"No-Code" is on the way in, Novice and Tech licenses are on the way out according to the proposal issued by the latest FCC NPRM. Under the FCC's PR Docket 90-55, the Communicator Class would be incorporated into a simplified licensing structure containing four ascending steps: Communicator, General, Advanced, and Extra. While no new Novice or Tech licenses would be issued, they would be grandfathered indefinitely, allowing renewals and modifications. This proposal differs substantially in philosophy from what the ARRL and other petitioners had envisioned. The Communicator Class would become the entry level license with privileges on 222 MHz and up. The FCC would require Communicator candidates to pass a written exam of 60 questions drawn from the current Novice and Tech pools as well as some new material. Additional privileges including operation on 6 and 2-meters as well as HF would therefore require a code test. TNX W5YI and WESTLINK.

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APRIL 1985	40 WATT LINEAR AMPLIFIER & SWITCHING SYSTEM	WA3JUF
MARCH 1985	CHEAP 1/2" HARDLINE CONNECTOR	W3HMU
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