

# PACK RATS'



## PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

# CHEESE BITS



SCANNED TO PDF BY BERT, K3IUV.

MT. AIRY VHF RADIO CLUB., "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 NOVEMBER 1990 NUMBER 11  
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### THE PREZ SEZ

I want to thank Steve White, WA3IAO, for his informative talk last meeting on PRB-1 and some of the tower legal cases that have set standards for amateur installations. It looks like the amateurs have a real good friend in PRB-1.

We have two membership applications that will be voted on at the November meeting. Come out and meet our newest club prospects John Kedziora, N3FWV, and Geoff Krauss, WA2GFP/3. Some of you might know Geoff - he writes a column for the QEX publication on VHF through microwave technologies.

The Conference and Hamarama were each a huge success. Special thanks to John, KB2XG, and Dave, W3ZD, who organized and managed the events. The Hamarama required extra work this year in handling the big crowd, and all club members who contributed their time to work at the site are to be commended. A report by W3ZD, in which the workers are listed, is included in this issue. The Pack Rats have once again promoted the weak-signal interests in VHF/UHF/SHF, influencing those who attended the conference from within and outside of our area. The proceeds from Hamarama will allow us to function throughout the year and get involved in some new projects as the membership desires. Thanks again to the dedicated members who made it all happen.

I remind you all to contact me or others in the club if you need help with antenna projects or equipment adjustments. I hope to have the 3.4 GHz beacon running by the end of November. It will operate on 3456.140 MHz as soon as I complete the antenna.

The January VHF contest is coming up fast. Take advantage of the warmer November days to get the antennas in shape. We must rebound from our low number (Medium Class) level of participation. The Pack Rats are definitely a World Class VHF club. Let's all get on the bands for the 1991 competition!

That's it for now... hope to see you at the November meeting or maybe in the November Sweepstakes, Hi!

73, and listen for the weak ones,  
 Dave Hackford, N3CX

**NOVEMBER MEETING PROGRAM:** Pack Rat Hal Weinstein, K3HW, will present a talk on submarine communications, use of mechanical and atomic energy on subs, and life on submarines.

Pack Rats CHEESE BITS is a publication of the Mt. AIRY VHF RADIO CLUB, INC. Philadelphia, Pa. and is published monthly. SUBSCRIPTION RATE - \$7.00 PER YEAR

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


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## CALENDAR OF COMING EVENTS

By Harry Brown, W3IIT

### NOVEMBER

- 3-4 ARRL International EME Competition, 2nd weekend. See Sept. QST, page 78 for rules.
- 3-5 ARRL November Sweepstakes, CW. See Oct. QST, page 93 for rules.
- 4 Predicted peak of the Taurids meteor shower at 0619 UTC.
- 6 Election Day
- 8 Pack Rat Board Of Directors Meeting at the QTH of Dave Hackford, N3CX. Call 215-679-7293 (h) or 215-483-2030 (w) for directions. All interested club members invited.
- 11 Shore Area Ham and Computer Fest will be held at the Allaire Airport in Wall Township, NJ. Talk-in on 145.11/144.51 and 146.52.
- 11 Veteran's Day
- 15 Regular meeting of the Mt. Airy VHF Radio Club at the Southampton Free Library on Street Road in Southampton, Pa. Meeting starts at 8PM.
- 17 Predicted peak of the Leonids meteor shower at 1547 UTC
- 17-19 ARRL November Sweepstakes, Phone. See Oct. QST, page 93 for rules.
- 22 Thanksgiving
- 24-25 CQ World-Wide DX Contest, CW. See Sept. QST, page 81 for rules.

### LEAGUE READIES FOR 220 HEARING

In preparation for its November 16 day in court the ARRL has filed a "Reply Brief for Petitioner" with the U.S. District Court of Appeals, D.C. Circuit, in the matter of awarding 220-222 MHz to commercial interests. "Now that respondents (the FCC) brief has been filed, the most fundamental failings of the proceedings can be quickly capsuled", the League told the court.

The Reply Brief asserted FCC has "from start to finish" wrongly assessed Amateur use of the 220-222 MHz segment (by incorrectly applying repeater use data to that segment); that FCC did not recognize the special needs of high-speed packet in the segment; and that the Commission reversed its policy of mandating increased efficiency in spectrum use without discussing reasons. "The Commission acted", the League's brief concluded, "arbitrarily and unreasonably in replacing amateurs with land mobile users. The action of the FCC in reallocating spectrum rather than mandating increased efficiency for land mobile users demonstrates as much. The reallocation of the 220-222 MHz band should be set aside, and the matter remanded to the FCC." TNX "ARRL LETTER"

The Pack Rat Monday evening 220.125 net participants have been discussing the cold possibility that a move up the band may be required. The general feeling amongst the check-in stations is that if and when we are forced to relocate the SSB/CW operations, we will have to move quickly and firmly. There will be a rush for band space involving the packet radio and repeater link services which would also be displaced. Can your 220 low-end station make the 2 MHz move? Will your receiver survive the adjacent wide-band FM activity? Better check it out.

## PROPAGATION REPORT

By Paul Drexler, WB3JYO

Although the solar flux has managed to creep up somewhat this month, the index remains just a little too low for 6 meter F2 propagation. Similar to this time last year, Europeans are working Africa, West Coast is working the Pacific, but except for a brief South American opening, 50 MHz has been quiet in the Philadelphia area. That short opening occurred on the morning of the Pack Rat Conference... happens every time! The 10 meter band has been open from early AM to about midnight, so 6 could break open any time soon.

Get ready for the arrival of the F2 on 6; there'll be plenty of new countries to work! The June issue of the KA3B 6 Meter Report notes that a number of European countries now have 50 MHz privileges for the first time ever. These include S. Corsica (TK), Denmark (OZ), Luxemburg (OX), Italy (I), Belgium (ON), Switzerland (HB9), Austria (OE), Faroe Is. (OY), and Geneva (4U1ITU). Privileges are pending for several other countries as well.

Tropo propagation on the higher bands has been about average for the month of October. On Monday evening, October 22, and during the Pack Rat 1296 net, WA3AXV snagged K4CAW/FM26. Ron reports that 'CAW was S6 from his portable site on the North Carolina coast.

Why not warm up that amplifier and give a few calls? CU on the bands.

## 1990 HAMARAMA REPORT

Dave Zimmerman, W3ZD, Chairman

Hamarama 90, held at the Bucks County Drive-In Theater on Route 611 on October 7 and sponsored by the "Pack Rats" was once again a huge success. We were blessed with a perfect day - one of the best that I remember, and probably one of the major reasons for a record crowd.

The success of the event was entirely due to the efforts of a large number of club members who put in some very long hours at the various jobs. The following members contributed to the Hamarama:

W3AJF	N3AOG	N3BBI	N3CX	WB3DNI	K3EOD	K3ESJ	N3EVV	WA3FOF	W3GXB
W3HMU	W3HQT	K3HW	WA3IAC	W3IIT	K3IUV	WA3IWT	WA3JUF	WB3JYO	WC2K
W3KKN	WA3NUF	WA3OMY	K3PHY	WB2VLA	KB3XG	WB2YEH	WA3YUE	and	W3ZD

Also, Nate Power, son of WB2VLA, and Angie Steer, daughter of WA3IAC, were both very helpful throughout the day. Thanks also to non-members K3UKW and KA2VUE who pitched-in to help things run smoothly.

I am sure the entire membership will join me in expressing our appreciation to the above individuals for a job well-done. There were more people working, and doing an exceedingly fine job than I ever remember. I am very proud to be a part of an organization that can turn to pitch in the way that the above group did.

One final thought: it is certainly apparent that my plea for volunteers to each work an hour or two was not realistic. There are just not enough active members to operate the Hamarama at its present size without a lot more hours of work from each person. The job is just too big. Many of the above group worked at his job for six or more hours. It is a shame that some of the very prominent members of the Pack Rats were missing for whatever reason. The guys listed took up the slack however, and for this I am very thankful.

Every effort was made to give credit here to the workers, but errors do occur, so please let me know if I missed anyone.

SWAP SHOP

Amateur Service Departments (Compiled by Pete Kemp, K2LZ):

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Icom parts	(206) 454-8155	Kerwood service	(213) 639-7140
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HELP WANTED: Engineers, Technicians, and Technical Support. Several openings in the following areas: UHF Circuit Design, Digital Signal Processing, Datacommunications Systems (like packet), and change control. If you would like to put your Ham skills to work for you full time, in a professional atmosphere, then call Woody Peitzer, AK2F, at HEPCO Inc. (201)-992-8660 between 7:30 to 5:30 PM.

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Please complete and mail to: Dave, N3CX, Box 138 RD#2, Pennsburg, Pa., 18073

### LETTER FROM MARCIA EPSTEIN

Dear Pack Rats,

I am writing to tell you that my mother, Marie Mc Cutcheon, died September 23rd, 1990. My father was Bill Mc Cutcheon, K3HWZ. I thank you for sending Mother the Cheese Bits which she enjoyed reading as it was a good way to recall the wonderful days she and Dad spent while they lived in Feasterville, Pa.

At the memorial service we held for Marie all the family recalled the great times we had at the Pack Rat picnics (about 1960 to 1965). The grandchildren talked about the games and we remembered the wonderful food, and a fun bunch of people. These are good memories for all.

Thanks again and kind regards to all the Pack Rats.

Sincerely,  
Marcia E. Epstein

### JANUARY VHF CONTEST ANNOUNCEMENT

The 1991 ARRL January VHF Sweepstakes contest will occur on the weekend of January 19, 20, 21, 1991. It is an important Pack Rat tradition to not only participate as a club, but to win the Unlimited Category gavel. Last year, we as a club conceded that coveted award to our old rivals, the Rochester VHF Group. We lost not by total score, but by number of entries. Are you ready to play for the Pack Rats this year? Remember, you must have attended at least 2 club meetings since January 1990 in order to qualify your score with the club. There is time remaining to make your quota.

1991 VHF Contest Chairman is Bob Fischer, WB2YEH. Contest questionnaires will hit the streets this week; **please complete and return.** They will play an important role this year in planning to make best use of our resources. Would you like to be a roving station? Can you expand your station to multiop? How about guest-operating or joining a multiop station. Every able operator and each and every station should be pressed into service for the event.

### 50 & 902 MHZ NEXT UNDER SEIGE

50-54 and 902-928 MHz both could be the next ham bands to come under the reallocation axe. Broadcasters worldwide are seeking dedicated spectrum for the introduction of Digital Audio Broadcast radio. Radio Netherlands' Media Network program reported on September 13th that this was the hot topic of a discussion at a recent meeting of the National Association of Broadcasters in Boston.

According to reporter Lew Josephs, the NAB and most broadcasters favor a terrestrial-based system for digital broadcasting, but some have also shown interest in the possibility of a nationwide direct satellite delivery service.

Radio Satellite Corporation and Satellite CD Radio have already filed proposals for a satellite-based service before the FCC. Both systems are designed to be received directly by the listener in any location: home, car, or portable. A design for an automobile system is already on the drawing board. It uses the so-called "Squareial" antenna developed for Rupert Murdoch's "Sky Channel" European Direct Broadcast Satellite pay television service.

Whether satellite or terrestrial-based, broadcast interests are after dedicated spectrum. WARC '92 will have to address the question of where to place such a service and there are currently three spectral parcels under scrutiny. These are: a portion of the current UHF television spectrum, the 902-928 MHz shared amateur allocation and the 50-54 MHz amateur allocation. With television broadcasters coveting UHF for the introduction of high definition television broadcasting, it appears likely that the two amateur allocations will be likely targets for a reallocation attempt at WARC. TNX WESTLINK REPORT

## A 50 MHz LOCAL OSCILLATOR

A companion 22 MHz LO chain is presented for the 50 MHz transverter. The circuit provides a clean, stable LO having greater than 100mW (+20 dBm) power output - enough to feed two high level mixers by using a power splitter.

The oscillator chain consists of a 2N5179 common base oscillator and 2N5179 buffer, followed by a 2N3866 amplifier stage and lowpass filter. Crystal X1 is a fundamental mode 22.000 MHz, series resonant crystal having 0.001% tolerance. An HC-18/U type crystal was used for small size. An 8 volt, 100 mA voltage regulator is used to supply a "stiff" voltage to the oscillator. Capacitors may be ceramic or silvered mica types.

Although construction is straightforward, care must be taken to keep all lead lengths to a reasonable minimum. I built the LO using the "dead bug" technique on a PC board serving as a common ground point. It is recommended that the LO be housed in its own enclosure or perhaps in an enclosure with the receive mixer. Simply tune the variable capacitor in the oscillator for start-up and tune the output variable for greatest power output. A power meter or spectrum analyzer may be used to measure the LO's power output.

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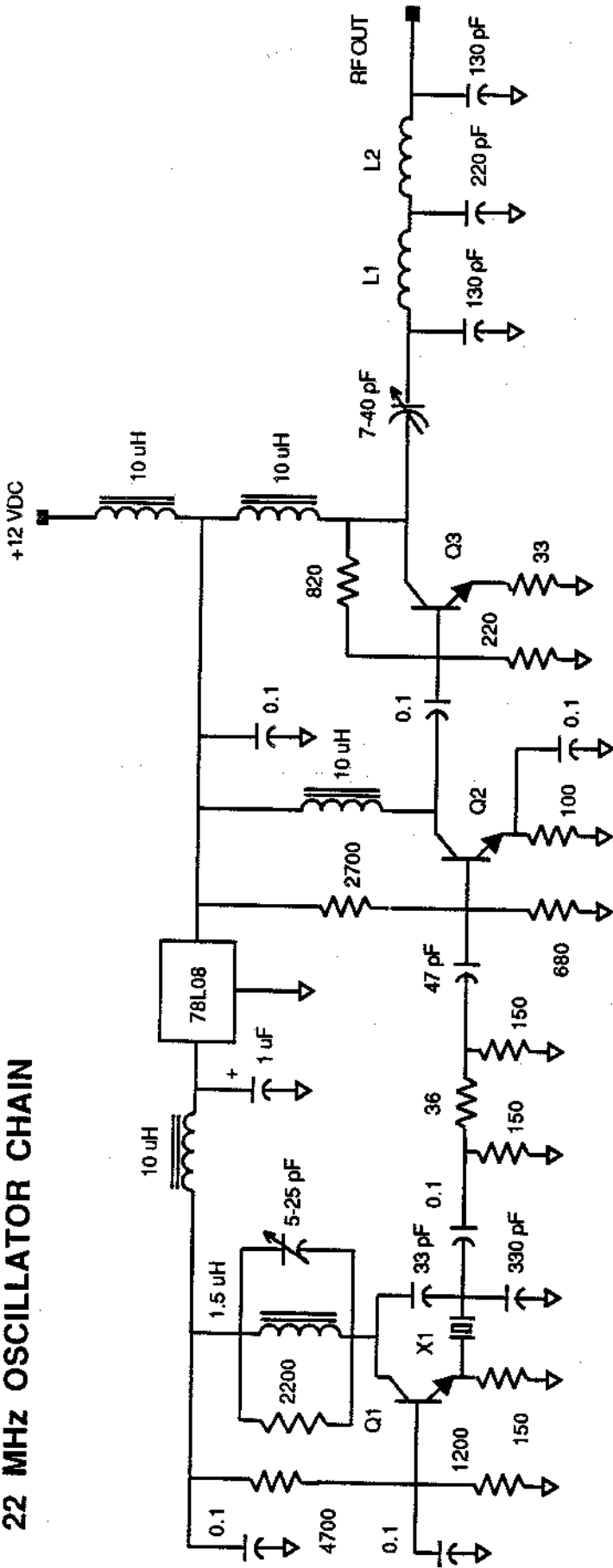
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