

# PACK RATS'



## PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

# CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA  
50.125, 144.150, 220.125, 432.110, 1296.110 Mhz W3CCX - Repeater 222.98/224.58 Mhz  
Affiliated Club: AMERICAN RADIO RELAY LEAGUE  
Meetings: Third Thursday of each month at 8:00 P.M.  
Southampton Free Library, 947 E. Street Road  
Southampton, Pennsylvania 19866

ARNS

VOLUME XXVI

SEPTEMBER, 1986

NUMBER 9

### THE PREZ SEZ

First, I would like to apologize for missing last month's column. When I learn to address mail to get to the proper place, Harry will let you know.

The club had a good meeting at Dave's this year in spite of the rain and bad conditions. Turnout was a little light, however, there were enough present to have a productive meeting. Dave had plenty of "beverages" and the slide presentation of Spruce Knob was excellent, given by Rick Connor, WB2NPE. WA3AXV took the pictures.

September is fast approaching, and we must gear ourselves up for both the Hamarama and Conference. The plans are finalized for the Conference on the 4th at the Warrington Inn. I will not go into detail here on the Conference. (See report elsewhere this issue). Pat, WB3DNI, still needs plenty of help on just about all the various committees of Hamarama. If you have some part of the Hamarama you would like to volunteer for, give Pat a call soon. I expect to see all able bodied members out helping on the 5th of October. Remember, this is basically the yearly income for the various activities we promote.

Bob Cook, N2SB, has been selected to head the VHF Contest for 1987. I'm sure we will be hearing plenty from him in the months to come. That's about all for now, hope everyone had a good Summer, and I look forward to seeing everyone at the September meeting at the library.

73, Gary Hitchner, WA2OMY

\* \* \*

### MONDAY NITE PACK-RAT NET CHANGES

The low-end 220 Mhz SSB net now scheduled for 8:45 PM has been moved to 8:30 PM with Rick Connor, WB2NPE acting as net control assisting Jay, KS2T. WA2OMY, Gary Hitchner has volunteered to take over for Bert, K3IUV, alternating with Pete, K1PXE on 432.110 Mhz at 9 PM. Bert has been called away by work schedules this past year and will appreciate this change.

Pack Rats CHEESE BITS is a publication of THE MT. AIRY VHF RADIO CLUB, INC. Philadelphia, Pa. and is published monthly.

SUBSCRIPTION RATE - \$3.00 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 that proper credit is given.

SWAP SHOP ITEMS - NO CHARGE

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING: THE THIRD THURSDAY OF THE MONTH.

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MONDAY NIGHT NETS

7:30 PM - 50.125 MHZ  
8:00 PM - 144.150 MHZ  
8:30 PM - 222.98/224.58 MHZ  
8:45 PM - 220.125 MHZ  
9:00 PM - 432.110 MHZ  
9:30 PM - 1296.1 MHZ

NET CONTROL

W3CL  
W2EIF  
K3GAS  
KS2T  
K3IUU/K1PXE

PACK RAT REPEATER 222.98/224.58 MHZ/ W3CCX  
LOCATED IN CHURCHVILLE, PA.

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VICE-PRES: N2SB, BOB COOK  
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REC. SECY : WA3AQA, WALT ZUMBACH  
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DIRECTORS: WB2RVX, MIKE GULLO (EX-OFF)  
WB3DNI, PAT CAWTHORNE (2 Yrs)  
WB2VLA, DAVE POWER (2 Yrs)  
N3CX, DAVE HACKFORD (1 Yr)  
WA3JUF, DAVE MASCARO (1 Yr)



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**OST**

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CALENDAR OF COMING EVENTS

By Harry Brown, W3IIT

SEPTEMBER

- 6 International Region 1 VHF Contest
- 9-25 The Mid-Atlantic Amateur Radio Club is sponsoring a Novice course to be held at Cabrini College in Radnor, Pa. Total cost will be approx. \$20-\$25. To register, send name and address to MAARC, Box 352, Villanova, Pa. 19085
- 11 Board of Directors Meeting - QTH: WA3JUF, Ottsville, Pa.
- 12 EME Perigee
- 13-14 September VHF QSO Party. See Aug. QST Page 82 for rules.
- 14 SJRA Hamfest at Pennsauken High School Talk-in on 145.29, 146.52
- 18 Regular Meeting back at the Library. Program will be announced on the Nets.
- 20-21 DELAWARE EME EXPEDITION by K2UYH and K2TXB from FN28. Operation will be from the QTH of KB3Q using the 20 ft. portable dish of K2UYH.
- 20-21 York Hamfest at the York Fairgrounds on State Rt. 74, NW corner of the City. Talk-in on 37/97 and 93/33. For more information write to York Hamfest, Box W, Dover, Pa. 17315 or call: 717-528-8412
- 20 Maple Shade ARC Hamfest, Maple Shade High School, Coles Avenue. Talk-in on 224.62, 146.52
- 21 LIMARC Hamfair at New York Institute of Technology, Rte. 25A/Northern Blvd., Old Westbury, N.Y. Talk-in on 146.85.
- 27-28 First ARRL 10 Ghz Cumulative Contest starts at 1800 local time Fri. and ends 2100 local time Sat. Second weekend October 10-11. See June QST Pg. 84 for rules.
- 27 Elmira Amateur Radio Association 11th Annual International Hamfest at the Chemung County Fairgrounds, Elmira.
- 27-28 Delaware QSO Party. See September QST, Pg. 101 for rules.

\* \* \*

VISITORS AUGUST 21, 1986 MEETING

N2AII - Nancy (Hostess) Ewing Township, N.J.	YF - K3GAS - Loretta - Elkins Park, Pa.
YF - WA3JUF - Barbara - Ottsville, Pa.	
YF - WB2NPE - Janice - Tabernacle, N.J.	YF - W3CL - Sylvia - Glenside, Pa.

\* \* \*

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. VHF LINEAR AMPLIFIER: C.C.I.E. Mfg. has introduced a 2 meter grounded grid amplifier with an output of 650 watts on SSB or CW. The rating on RTTY and FM is reduced to 400 watts output. Drive level is 15 watts maximum on FM or RTTY and 25 watts maximum SSB or CW. The unit uses a type 3CX800A7 tube running in class AB2. Other features include an automatic delay circuit to allow tube warmup before drive is applied, front panel tuning controls, built in power supply, and a meter switched to read plate voltage and current and grid current. Price \$988 104 W. Vine St., Edgerton, Ohio 43517
2. MIRAGE/KLM 1260-1300 MHZ BEAM: The new LKM,1.2-44LBX is supplied factory assembled using yagi configuration with the elements mounted thru the boom. (insulated) Gain is rated at 18.2 DB and the boom length is 12'4" Bandwidth is 1260-1300 in order to cover the satellite frequency.
3. DUAL BAND HT: Yaesu is about to advertise their new FT 727R HT for 144 and 440 Mhz. Power output is 5 watts on either band. Additional features include 10 memories, crossband programming, memory or band scanning, digital readout of frequency, digital readout of battery voltage, priority, and low battery LED signal.
4. C64/128 PROGRAM BOOK FOR HAM RADIO: SAMS has introduced a new book titled Commodore C64 and C 128 Programs for Amateur Radio and Electronics. Forty two programs cover various aspects of amateur radio. Cost \$15.

\* \* \*

VHF REPORT BY Jay Miller,  
KS2T

August sure went by in a flash. Time flies when you are having fun like listening to RADAR pings, meteor shower pings and just plain static. Some things did happen but I must backtrack to July. Rick/WB2NPE reports that on 5 July morning, 432 and 1296 were in good shape working N8DJB and K8WW. On 15 July on 2 meters, there was an E opening towards La. Oklahoma and a few other states out that way. Now to 5 August, starting at about 2230 UT lasting around 2 1/2 hours, another E on 2 meters to Texas, Arkansas and Mississippi and surrounding states. On the 7th of August, 1296 was good up to Nova Scotia and down to North Carolina. On 2304, WB2NPE and others worked WLJR and W1RIL both in FN42. Rick's QTH to them was 257 and 245 miles respectively. Both WLJR and RIL were running 1/2 watt. Anyone without 902, 1296 and 2304 (like me) and thinking about getting on, go ahead and do it now. Before you know it January will be here; "damn". On the 12th of August during the Perseids on 220, Rick worked Mississippi, Missouri and Illinois. 2 meters was also good for those working the Perseids. I thought that hurricane Charley would give us some good propagation, but heard nothing out of the ordinary from FN20VA. Anyone for more activity on 220 SSB besides 902 and up?!

\* \* \*

A NOTE FROM THE 4-LANDERS VHF/UHF GROUP

The 4-landers VHF/UHF Group will again multi-op the September VHF QSO Party from Mt. Toxaway in SW North Carolina (EM85). Call sign will be WS4F. Operations are planned for the bands 50Mhz thru 10GHz. Your contacts are solicited and will be greatly appreciated. 220 Mhz stations located Northeast of the site please note: Due to a proximity overload problem with a nearby Channel 13 transmitter in that direction, the optimum contact time will be between 1:30 AM and 5:30 AM EDST, when the TV transmitter will be shutdown. WS4F will concentrate its 220 Mhz effort to the Northeast during this time period Saturday night.

73, Jim, N3AHI

### SWAP SHOP

FOR SALE: K3MXM Estate: 5V. pwr/splys \$3@, Transistor tester \$3; MTR (Microns) \$2; Stereo headphones \$4; A.C. Distribution box \$4; Adding machine w/tape \$4; 8MM movie projector & camera \$10; Mag mnt ant \$5; Lafayette 12V pwr sply \$5; Battery tester \$2; Micronta digital probe \$8; Digital clock \$4; Millivac DC voltmeter \$3; Elco VTVM \$8; Dumont voltage calib \$2; Federal sig. gen. \$5; Philco 5" scope (as is) \$3; Desk clamp-on lamps \$3; Mercury #1101 tube checker \$5; Box of coax cable \$3; Accurate tester for transistor radios \$4; 12V pwr sply \$4; Table model teletype & rolls of paper \$5; underwood typewriter \$5; Kantronics Universal Terminal unit -UTV XT - \$200; 39" workbench w/perf backboard \$5; telephone plugs & sockets, resistors, capacitors, hardware, parts cabinets, meters; many computer magazines & electronic books.

CONTACT: K3GAS, Doc Cutler  
Phone: 215-635-1078

FOR SALE: 2 - Midland model 13-309 - 220 Mhz FM rigs xtaled for the Pack-Rat, Trevoise and Lancaster repeaters plus 223.5 Mhz simplex. Asking \$125 each.

CONTACT: Jack Power, W2AXU  
102 Upper Ferry Road  
Trenton, N.J. 08628  
Phone: 609-882-8811

FOR SALE: Military rcvr R392 - 0.5 to 32 Mhz Digital readout - w/pwr sply \$100.

CONTACT: Ron, K3ZKO  
Phone: 215-379-5338

FOR SALE: Lo band HF amp. homebrew pair 3-500 w/pwr sply and rack panel on wheels \$250. Bud series inclined panel cabinet rack on wheels. Model 60-2730 - \$75. Clegg - 220 Mhz FM rig w/many xtal pairs excellent condition \$125.

CONTACT: Dave Hackford, N3CX  
Phone: 215-483-2030 or 215-679-7293

FOR SALE: TS520S Kenwood Xcvr, MFJ940 ant. tuner, MFJ250 dummy-load w/manuals \$400.

CONTACT: Rex Ahlstrom  
Phone: 215-657-2496 - evenings

\* \* \*

### COMMERCIAL AD

Loop Yagis: 902 Mhz and 1296 Mhz 45 element \$70; 2304 Mhz \$62.50. Also available assembled and tested. Power dividers, stacking frames available. Linear amplifiers; 1296 Mhz. 1 watt in 18 watts out \$230; 2304: 1 watt in, 10 watts out \$300. Write for more information to: Down East Microwave, Bill Olson, W3HQT, Box 1655A, RFD 1, Burnham, ME 04922. (207) 948-3741.

\* \* \*

### TID BITS

Sunspot No. for May 1986 = 13.1 - Smoothed No. for November 1985 = 17.0.

This is the Pack-Rats 30th Year. The following original members are still with us: W3CL, W3KKN, W3KM, and W3RZU.

WA3HVL, and K3QQ have been dropped from membership

We were glad to see K3IGX, Dick Boyle (Came in from Arizona) and KF6AJ, Steve Simons (Came in from CT way) at our June meeting.

Helen Brick, our First Editor, is still very busy with the Phila. Red Cross after 23 years as a volunteer.

Jim Ward, WA3AAJ volunteers as the Western Region Manager of Retired?Pack Rats. Hi. He will be visiting East the latter part of July.

John, K3KTY is covering the State of Florida as a Pack-Rat goodwill ambassador.

W3ABC, Hugh Turnbull received "Grand Old Man" Award at the recent Rochester Hamfest. Congrats Hugh - you well deserve the honor!!

It was nice working Pack Rat N3AHI from Georgia during the QSO party. First time I was called Old Timer on the air. Guess your'e right Jim ....

We heard from Pack Rat Doug, WB3KES who has been living in Florida. Our good wishes to your new family.

## VHF CONFERENCE AGENDA

The plans for the 1986 Conference on October 4th are being finalized. There will be a hospitality suite for early arrivals on Friday night at the Warrington Motor Lodge. A brief summary of speakers and topics are as follows:

- 0900 Sid Lieberman, WA2FXB: E Skip update
- 0945 Dick Frey, WA2AAU: SHF receiving systems
- 1100 Mike Owen, W9IP: Meteor Scatter
- 1215 Lunch
- 1330 Dave Mascaro, WA3JUF and Dave Hackford, N3CX: 902, antennas, propagation and equipment
- 1430 Steve Powlishe, K1FO: 432 Long Yagi Design and 902 antenna data
- 1545 End of Conference. Cocktails at the Hospitality Suite
- 1930 Buffet Dinner in the Conference Room. Get your reservations in early!

This schedule is a bit relaxed from years past to allow time for questions and time to return from lunch. There should be something for everybody at this years Conference, so I expect to see you on the 4th. A program will be available in a few weeks with more details.

Gary Hitchner, WA20MY  
1986 Chairman

\* \* \*

## THE FOUNDATION FOR AMATEUR RADIO NEWS RELEASE AUGUST 16, 1986

The FOUNDATION FOR AMATEUR RADIO is pleased to announce the 1986 winners of the nineteen (19) scholarships which it administers.

- John W. Gore Memorial Scholarship - \$900 James H. Baker, KI4YN, Axelandria, VA
- Richard G. Chichester Memorial Scholarship - \$900 Richard F. Westenberg, N9DKR, Springfield, IL
- Edwin S. Van Deusen Memorial Scholarship - \$350 David P. Tancrell, KB4GIA - Palm Bay, FL
- QCWA Memorial Scholarships - \$600 each: Michael Kazigian, KA2MRK - Park Ridge, NJ
- Leslie Ann Redman, KA9PCV - Highland Park, IL; Michael I. Silverglate, KR9Q - Sheboygan, WI; David J. Swiatlowski, KA2KLM - Camillus, NY; Diane E. Willem, KE8DJ - Elyria, OH; Tony C. Wood, Jr., KB4DNE - Tuscumbia, AL.
- QCWA Robert S. Cresap Memorial Scholarship - \$500 Douglas E. Swiatlowski, KA2KMT - Camillus, NY
- Radio Club of America Scholarship - \$500 Francis P. Horan, KA3CJR - Drexel Hill, PA
- Edmund B. Redington Memorial Scholarship - \$500 Joy M. Davis, KE8EG - St. Louis, MI
- Young Ladies' Radio League Scholarship - \$500 Carol A. Dunlap, KA1NCX - Southwick, MA
- Amateur Radio News Service Scholarship - \$750 Michael Krensavage, KA3CUP - Marietta, GA
- Columbia Amateur Radio Association Scholarship - \$750 Bernard F. Collins, KA3FGV - Baltimore, MD
- Baltimore Amateur Radio Association Scholarships - \$500 ea. Christine Gray, KA3NAR - Elkton, MD; Eric J. Smith, KA3KJO - Silver Spring, MD.

(CONTINUED ON PAGE 7 )

THE FOUNDATION FOR AMATEUR RADIO NEWS RELEASE AUGUST 16, 1986  
CONTINUED

Dade Radio Club Tropical Hamboree Scholarships - \$500 each  
David R. German, N4FAD - Sarasota, FL; Todd E. Wiggins, KB4BDK, Marianna, FL.

These scholarships were open to all Radio Amateurs meeting the qualifications and residence requirements of the various sponsors. The FOUNDATION is a non-profit organization representing fifty clubs in Maryland, the District of Columbia and Northern Virginia. It is devoted exclusively to the scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service.

Announcement for the 1987 awards will appear in the April or May issues of the major Amateur Radio publications.

\* \* \*

FROM ARRL LETTER 8/15/86  
AO-10 RETURNS TO SERVICE

After two months off the air because of a serious computer malfunction, AMSAT-OSCAR 10 has been returned to service. After two weeks on line, transponder use has returned to near normal levels.

With the return of transponder operations, let's review good operating practice. Users should carefully control their uplink power to assure their downlink is comparable to the beacon. In fact, being told that one's signal is very strong, could likely be construed as an insult by a seasoned AO-10 operator! As a general guide, AMSAT advises that if you can't hear the beacon well, you need to work on your receive system. And if you can't hear the beacon at all, you need to QRT until you make needed repairs!

The overall satellite condition is stable and, for all external appearances, things have returned to normal. However, ZL1AOX and DJ4ZC continue to work behind the scenes to maintain the radiation damaged IHU (Integrated Housekeeping Unit) memory. No one familiar with the circumstances believes we have seen the last of the problems which crashed the IHU on May 17th. Rather, most hope AO-10's useful life can be extended until Phase 3C is on station in mid 1987. To accomplish this end, controllers continue to juggle available memory resources in the face of a dynamic situation in the IHU.

Users can aid this effort by observing recommended power levels to avoid unduly draining the batteries.

10-GHZ CONTEST

ARRL 10-GHZ Cumulative Contest enthusiasts are reminded that the contest will be held on September 26-27 and October 10-11. Contest periods begin at 1800 local on Friday and end at 2100 local on Saturday. Be sure to send your registration information to HQ.

AMATEUR 902-928 MHZ  
LIMITATIONS CLARIFIED, PULSE  
EMISSIONS PERMITTED

The Commission has clarified certain frequency privileges and power limitations on the use of the 902-928 Mhz frequency band by amateur operators.

The action partially granted a petition for reconsideration filed by David B. Popkin, W2CC.

Specifically, the FCC amended Section 98.67(i) of the rules. While no amateur station transmissions are permitted on 902-928 Mhz within 150 miles of the White Sands Missile Range, reduced power transmissions (at 50 watts peak envelope output power) are permitted between 150 and 200 miles from the boundaries of White Sands Missile Range. The FCC also amended Sections 97.7(g) (8) and (9) to clarify that the secondary status of Amateur Radio does not bear any relation to certain geographic areas of prohibited operation on the 902-928 Mhz band.

(continued on Page 8 )

These rules become effective 0001 UTC October 4, 1986. October QST's "Happenings" column will carry the specific rule changes.

ARRL POTPOURRI

Affiliated Club Program Manager Leo Kluger, WB2TRN, has resigned from the ARRL HQ staff to become an assistant editor of NASA Tech Briefs in New York City. His replacement is Lee Hayford, AH2W, who has been Assistant DXCC Manager.

\* \* \*

FROM THE WESTLINK REPORT 8/22/86

JAS-1 SUCCESSFULLY LAUNCHED. Amateur radio has a new star orbiting the sky, and this time it proudly bears the label "Made in Japan". The newest OSCAR that the Japan Amateur Radio League has called JAS-1 and has since renamed "Fuji," was launched into orbit using a Japanese built H-1 launch vehicle from the Tanegashima Space Center off the coast of South Kyushu on August 12 at 2045 UTC. A little over an hour later, the amateur radio satellite was deployed and immediately began transmitting its telemetry. It was detected at the moment of deployment by an AMSAT observation team which had been deployed to Santiago, Chile.

Thousands of hams and SWLs listened in on the event on a worldwide radio and telephone teleconference network, as the 435 Mhz beacon came to life more than 1,000 miles above them in space. Within 25 minutes, amateurs in Europe were hearing the beacon directly from the new satellite. The orbits favoring N. America began about 100 minutes later with hams in the eastern portion of the US easily acquiring the beacon signal.

The new Fuji satellite contains two separate Mode J transponders. The first, and currently the only available one, is the traditional Mode JA analog transponder, with an uplink between 145.900 and 146.000 Mhz and downlink from 435.900 to 435.800 Mhz inverting. That means a signal uplinked on USB will appear on the downlink as LSB, etc. Also, this is a low duty cycle transponder; the use of FM and other high duty cycle modes is strongly discouraged.

In operation, the sum of the uplink and downlink frequencies always equals 581.800 Mhz--exclusive of doppler shift. For example, if you uplink to Fuji on 145.920 Mhz, the downlink will be 435.880 Mhz. The satellite's beacon is on 435.795 Mhz and sends telemetry at 20 wpm.

Mode JD is a new digital mode for packet radio use and it will be activated at a later date. This transponder will function as a mailbox in the sky permitting amateurs to uplink packet messages to Fuji which will be stored and held for delivery elsewhere in the world on a delayed time basis. The data format used is HDLC, with AX.25 Level 2, Version 2 protocol. Fuji will provide 4 digital uplink channels and one downlink, and will require the use of Manchester-coded FM at 1200 baud. (See Aug. 73 Magazine page 58: "Birds N Bauds" for a complete description of and the operating parameters for the Mode JD transponder and for ground station requirements.)

Although Japan has contributed to many of the OSCAR series of satellites, Fuji is the first all Japanese amateur bird. Another interesting space vehicle accompanied the JAS-1 into orbit. The primary payload on board the H-1 was the Experimental Geodetic Payload, or "EGP." This is a 7 foot diameter sphere, studded with hundreds of individual reflectors and should be easily visible from the ground, even to the naked eye, given a clear sky and the right time of day. The best viewing time for EGP is between a quarter hour and 2 hours after local sunset or before sunrise. EGP will appear as a bright star, but will take up to 18 minutes to cross the sky overhead. It may appear as bright as a magnitude 2 star if conditions are right.

AMSAT News Service bulletins will provide updated tracking information on both the Fuji/OSCAR and the EGP. Further info. is available from AMSAT at (301) 589-6062.

Tns. JARL, JAMSAT, AMSAT-US, WA2LQQ, NK6K.

De, WA6ITF



The First Multiband Microwave Beacon Comes Online From North Carolina Mountains at 4777' AMSL in EM85md

One reason I've almost dropped out of sight in the past six months has been a very important project for microwave activity in the southeast. On June 1st 1986 I placed into operation the first known multiband phase locked beacon in the US. The beacon is capable of operation on the following frequencies:

432.0715 MHz	1 Watt EIRP OMNI
1296.2145 MHz	2 Watts EIRP OMNI
2304.3575 MHz	100 mw EIRP beamed SW
3456.572 MHz	not operational ,plan 10mw to 4' dish
5760.9295 MHz	8 Watts EIRP beamed SW
10,369.716 MHz	not operational, plan .4W EIRP beam SW

All beacons are CW (A1) identified " de K4MSK/BCN EM85md EM85md "

The beacons are phase-locked to a 108.01788 MHz ovenized crystal oscillator. Drift will be +/- 3ppm 0-60 degrees C and per year. We will touch up the tuning as necessary to maintain a frequency near 432.0715 MHz as the prime frequency. Since I do an unequal power division and then triple to get the 1296 beacon, all one has to do is transmit on the 432 beacon's frequency zero beat and look for your third harmonic on 1296. The beacon will be exactly on that frequency. This allows you to precisely locate where it should be even if its below your noise floor at that particular time. This should cut down on the tuning and allow CW filters to be more effectively used to "dig" for the signals in a narrowed "search zone".

I have the 10 GHz phase locked loop working but occasionally it would lose lock so I didn't take it up on the mountain with the initial system installation. 3456 MHz did not get hooked up because the antenna wasn't ready. Other planned improvements are more power for 2304 and 3456, at which time I may go omnidirectional if I can get a strong enough signal into Atlanta on a frequent basis.

902 MHz is also a possibility as I could readily add a 760 MHz synthesized LO that I have. By mixing this with the 144 MHz keyed signal (used on 5760 and 2304 parts of the beacon) I would come out exactly on 904.000. I have plenty of ways to get power on that frequency so expect it to be added to the contingent of beacons at some point later this year.

We didn't forget 220 either. The Fourland VHF Contest Group placed a wide coverage repeater on 224.72 MHz. The closest one on that frequency is Falls Church Virginia near Washington DC so we run 65 watts to a 9 dB gain antenna, GaAsFET preamp, etc. This gives mobile coverage from Atlanta to Charlotte and West to Oak Ridge TN. The repeater is of course atop 4777' Mt.Toxaway also. In fact the beacon is sitting right atop the repeater's rack.

No beacon is necessary on 144 as K4MSK himself performs that function nicely with four KLM 144-16LBXs and the Henry 8877 amp. On his worst day John can hit Washington DC to Orlando to Indiana to New Orleans. When conditions are good, lookout.

Charles Osborne, WD4MBK

(Tnx vy Chas) July Cheese-Bits



# THE AMERICAN RADIO RELAY LEAGUE, INC.

ASSISTANT SECTION MANAGER

**QST**  
OFFICIAL JOURNAL

May 22, 1986

Mt. Airy VHF Radio Club  
c/o Harry Stein W3CL  
2087 Parkdale Avenue  
Glenside, PA 19038

Dear Pack Rats,

On behalf of the Eastern Pennsylvania Section ARRL leadership, I want to congratulate you on your overwhelming victory in the Affiliated Club competition of the 1986 ARRL VHF Sweepstakes, as shown in the June, 1986, issue of QST.

I also note that WA3AXV was the leading single op in the Atlantic Division and would pass along commendations on that accomplishment, too.

Isn't it wonderful to see that a number of Eastern Pennsylvania Section clubs participated in the contest? I feel good when I see our clubs challenging themselves to achieve, whether it's in a contest or some other area of Amateur activity.

Thank you for welcoming me to your ARRL Night meeting. Because my own background is from a general-interest Amateur club, it was very enlightening to get to know a bit more about the viewpoints in a specialty club like Pack Rats.

I am sorry to report that this wretched antenna ordinance has been introduced in West Conshohocken. I have alerted Gene Pressler W3ZXV, and we are looking for Amateurs living in that jurisdiction. We are also continuing to try to get something done by the county planners who created the model for these unacceptable township ordinances.

Thank you for being one of our outstanding Affiliated Clubs, and good luck in the (next) contest!

73,

Kay Craigie KC3LM  
ASM EPA  
Acting for the SM

(Editors' note: Tnx Kay - come and visit with us soon again)

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

## DOWN EAST MICROWAVE

BOX 1655A - RFD #1  
BURNHAM, ME 04922

Microwave Antennas and Amplifiers  
by W3HQT

902 1296 2304 3456 MHz.

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