

PACK RATS'



CHEESE BITS



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

MT. AIRY V.H.F. RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA (ARNS)
(50.2, 145.2, 221.4, 432.03 & 1296.3 Mhz) Repeater 222.98/224.58

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

MEETINGS: THIRD THURSDAY OF EACH MONTH AT 8:00 P.M.

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SOUTHAMPTON, PENNSYLVANIA

VOLUME XVII

MARCH 1975

NUMBER 3

THE PREZ SEZ

Whoever said "nobody ever builds anymore" sure was never at a Pack Rat Homebrew night meeting. This past months meeting featured many homebrew projects that were truly outstanding (See Pictures elsewhere in this issue). The projects ranged from state of the art high power VHF-UHF power amplifiers to the latest construction techniques using solid state devices. This diversity of projects certainly indicates the wide range of interests and high level of talent possessed by members of the club. Also some of our members showed talents and hobbies outside of amateur radio that were most interesting. If you failed to attend this meeting you really missed a good one. Shown at Home Brew Night were some of the devices that are part of the clubs Moon Bounce Project. Moon Bounce, or more formally EME (Earth-Moon-Earth) is a relatively new facet of amateur radio that is becoming popular among the advanced VHF-UHF experimenters. The technique of using the Moon as a passive reflector for radio signals provides fascinating possibilities for long range communication on VHF-UHF frequencies. A small group of members have been working for well over a year, slowly and methodically assembling a Moon Bounce station for use at 432 MHz. This group, spearheaded by K3BPP, W3HMU and W3HQT with help from WA3JUF, WA3NGK, W3ZD, WA3AXV and others I am sure, had their hard work rewarded by making several EME contacts over the period February 21 thru 23. Be sure to read the article in this months issue detailing the event. The people who worked so hard and long on this project deserve a lot of credit. Some radio amateurs work for years without any success and our group did it the first time out. Beginners luck!? I don't think so. This was a carefully planned project which led to the first EME station in the State of Pennsylvania to become active on 432 MHz. This months meeting will tell the story of the Moon Bounce project complete with slides and expert commentary by the people who were there. We also hope to have some information on individual efforts made by our members on 144 MHz the same weekend. Plans are well underway for the Pack Rat Banquet to be held on April 26th at the Buck Hotel. John Tate, K3KTY is in charge of this event and solicits your support. Details to follow later. This months cypher: AMLB LB GF IFFGPW AZGP XP SFZGRPQ BLNGTIB FOO AMP HFFG!

Solution to last month's cryptogram: Now is the time to check our towers lest the rust devour.
This is no looney tune we bounced⁷³ signals off the moon!
Rgn, WA3AXV

OFFICIAL BULLETIN NR 521 FROM ARRL HEADQUARTERS NEWINGTON CT FEB 6 1975 TO ALL RADIO AMATEURS BT:
The ARRL Board of Directors is making a careful study of Docket 20282, FCC's restructuring proposals. An important part of the process is a survey of all ARRL members, full and associate. Questionnaires will be mailed to members in March and should be promptly returned to headquarters for processing. The information developed by the survey will then be furnished to the directors well in advance of the May 15 Board meeting, at which the League's official position on the docket will be formed. The FCC Notice of Proposed Rulemaking, an editorial and a chart showing the effect of the docket on present licensees appear in the February issue of QST. AR

PACK RATS' CHEESE BITS IS A PUBLICATION OF THE MT. AIRY V.H.F. RADIO CLUB, INC. PHILADELPHIA, PA. AND IS PUBLISHED MONTHLY.

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WE OPERATE ON AN EXCHANGE BASIS WITH OTHER PUBLICATIONS AND ANYTHING THAT IS PRINTED IN CHEESE BITS MAY BE REPRINTED, UNLESS SO STATED, AS LONG AS THE PROPER CREDIT IS GIVEN.

SWAP SHOP ITEMS - NO CHARGE

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

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DIRECTORS' MEETINGS ARE HELD ON THE SECOND WEDNESDAY OF EACH MONTH AT DESIGNATED LOCATIONS.

<u>MONDAY NIGHT NETS:</u>		<u>NET CONTROL</u>
145.2	7:30 P.M.	W2EIF
50.2	8:30 P.M.	W3CL/K3ACR
221.4	9:00 P.M.	K3GAS
432.03	9:30 P.M.	K3IUV
1296.3	10:00 P.M.	W3HMU

<u>FRIDAY NIGHT ATV NET:</u>		<u>NET CONTROL</u>
439.250	7:00 P.M.	K3ZKO/WA3AXV

PACK-RAT REPEATER - WR3ACD -
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APPOINTMENTS

DOCKET NO. 20282 STUDY COMMITTEE
W3KKN - CHAIRMAN
MEMBERS - W3CL, W3FOD, WA3NFV, WA3AXV,
W3HMU, K3IUV

TO GET YOUR FREE COPY OF THE MUCH DIS-
CUSSED DOCKET #20282 WRITE:
FEC - WASHINGTON, D.C. 20554

JUNE 1975 VHF QSC PARTY CHAIRMAN -
W3HQT, BILL CLSON

ARRL'S "INSURANCE GUIDE" (CD-82) HAS BEEN RECENTLY REVISED TO PROVIDE MUCH VALUABLE UP-TO-DATE INFORMATION TO HAMS. IF YOU HAVE HAM GEAR OF CONSIDERABLE VALUE, IT ADVISED A "RIDER" TO YOUR MAIN POLICY (AT A COST OF AROUND 2% -5% OF THE STATED VALUE) AND A SEPARATE "FLOATER" FOR YOUR TOWERS AND ANTIENNAS. GROUP POLICIES FOR CLUB ACTIVITIES ARE DISCUSSED. IT PAYS FOR SURE. WRITE FOR ARRL'S CD-82 TODAY.

de Auto Call

CALENDAR OF COMING EVENTS

Syllabus by Lee, K3MXM

MARCH

- 12 Board of Directors Meeting. Location to be announced on the nets. Directors and interested parties cordially invited.
- 15/16 ARRL DX Contest - CW.
- 20 General Club Meeting - Southampton Free Library 8:00 P.M. Moonbounce Symposium - Results of club effort during the WA6LET week-end. Slides of the raising of the "Big Dish". Tape recordings of contacts. Doc's Silent Auction - The Mario Raffle. Open meeting to club members and friends. Refreshments.
- 22 QCWA - Delaware Valley Chapter - Spring Dinner Meeting - Buck Hotel, Feasterville, Pa. Speaker, Lou Moreau W3WRE - Editor of YL Column in QST.
- 22/23 First Eastern VHF/UHF Conference. University of New Hampshire - Durham, New Hampshire. Our own Chuck Benavides, WALKIR, is on the organizing committee. Full information and a flier can be obtained by writing him at 103 Peabody Drive, Stowe, Mass. 01775. W3CL has registration forms.

APRIL

- 9 Board of Directors Meeting.
- 17 General Club Meeting - Nat Schnoll, W2PN, will be our guest speaker giving his illustrated and demonstrative talk on Oscar 6 and Oscar 7. A most interesting subject and should be of interest to all hams and radio enthusiasts throughout the Delaware Valley. Those of you in colleges and high schools please pass the word around as this is an open meeting to all and we do expect a real large turn-out.
- 26 17th Annual Pack-Rat Banquet - Buck Hotel, Feasterville, Pa. Choice of Filet Mignon or Sea Food Combo. Watch your mail for special announcements. Chairman - John Tate, K3KTY. Mark this Saturday Night Date on the Calendar N-O-W.

25/27 Dayton Hamfest.

MAY

- 15 General Club Meeting - ARRL NITE - Guest Speaker, Lew McCoy, W1ICP, Editor-Novice and Beginner Column QST.
- 17 Saturday - All Day - Warminster ARC Flea Market. William Tennant High School Parking Lot. Street Road, Warminster, Pa.

VISITORS - MEETING, FEBRUARY 20, 1975

Gary Dallas (Waiting for his call).	K3JJO, Wally
WA3FAA, Howard	WA3NDE, Hy
WA3DTA, George	K3WMB, Paul

CHANGE OF ADDRESS

K3WEU/6Y5 - Paul R. Behrman, Huntley - P.O. Box 11, Brown's Town, St. Ann, Jamaica, West Indies

NEW MEMBERS

WA3NDE - Hymen Echsel - Hy 9801 Haldeman Ave. (Apt. B201) Phila., Pa. 19115 215-OR 7-7986
K3VYG - Alan - Gordon C. Vogt - Gordon 423 Linden Avenue, Glenside, Pa. 19038 215- TU 4-2781

R.F. Hill A.R.C. Annual Auction on March 27th at the V.F.W. Lodge.

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

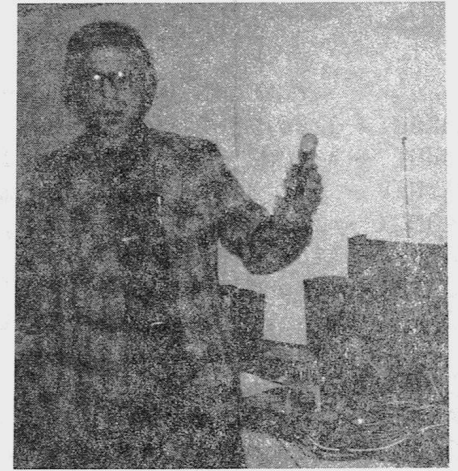
1. Matcher-Reflected Power Meter: The Gold Line Co. has just introduced a very interesting piece of gear for the VHF ham. The GLC 1088 can be installed between the transmitter and antenna to effect a match and avoid any damage to equipment. In use, the GLC 1088 can be adjusted so that a two meter rig can be connected to a 220 antenna. It is also possible to use a 2 meter antenna with a 220 mc transmitter. This could save some mid-winter antenna work. The unit has a small front panel meter which makes the tune-up very simple. With the antenna connected to the output coax fitting, and the transmitter on the input so239, the tune and load controls are adjusted for minimum reading. A sensitivity control can be used to keep the meter reading on scale as these adjustments are made. A sample unit was borrowed from Trevoze Electronics for test and evaluation. The small size of the unit, 3 x 4 x 5, allows it to be placed just about anywhere on the operating table. It was not possible to check the circuit inside the case as it is riveted together. One problem did turn up during testing. The knobs seemed to peak at odd places on the assumed 0-100 scales, and, it was discovered that the knobs had been put on the shafts in random positions. This was corrected by finding the mid point between two peak points in the adjustment procedure, and then tightening the set screw on the knob at this setting. One other problem that could be faced by the operator of a transistor rig equipped with a protective circuit for the output transistor, would be keeping the transmitter on the air long enough to get a reading on the meter of the matching unit. This happened during the tests using a CL220 Tempo. In order to get the adjustment completed, it was necessary to hook up a tube type rig first for initial tests and then it was possible to switch to the CL220. Units are on display at Trevoze Electronics. Price \$34.95.

2. FM 25 watt Power Amplifier for HT Units: Specialty Communications Systems has provided this column with literature on their new "Pedestrian Power" unit. This is a power amp package which when connected to a 1-2 watt transmitter will boost the output to 25 watts. A battery is included as is a charger. The "works" are carried in a leather case with a shoulder strap. A rubber duckie flexible antenna is also part of the package. The battery provides about 45 minutes of talk time. Price \$180. 4519 Narragansett Ave. San Diego, California 92107

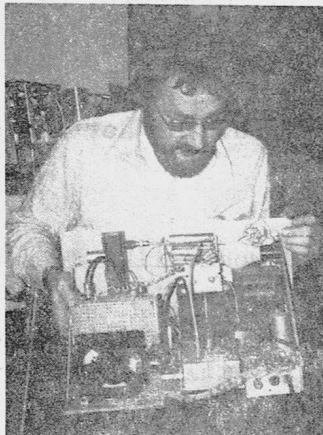
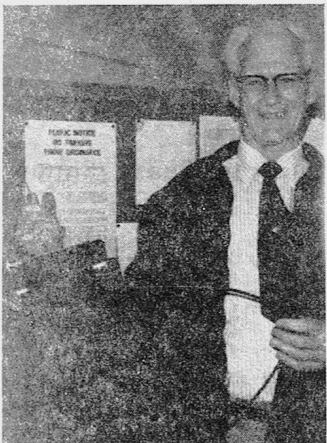
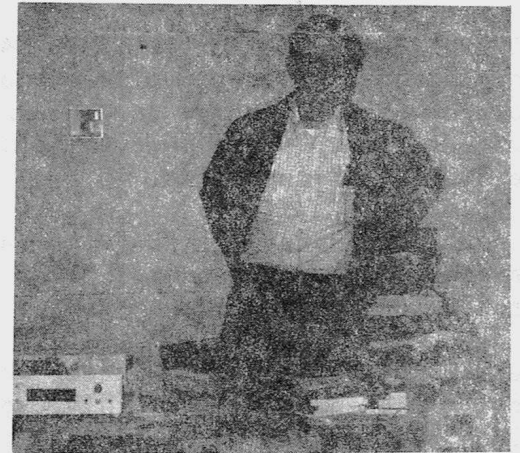
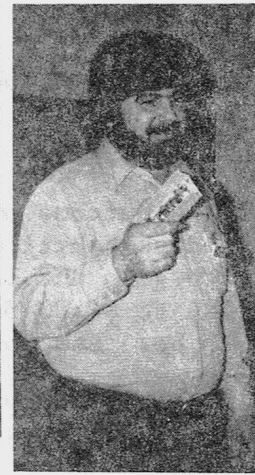
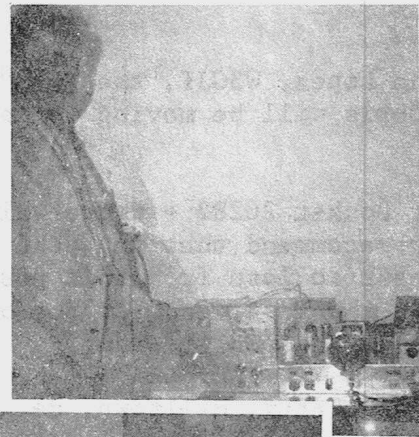
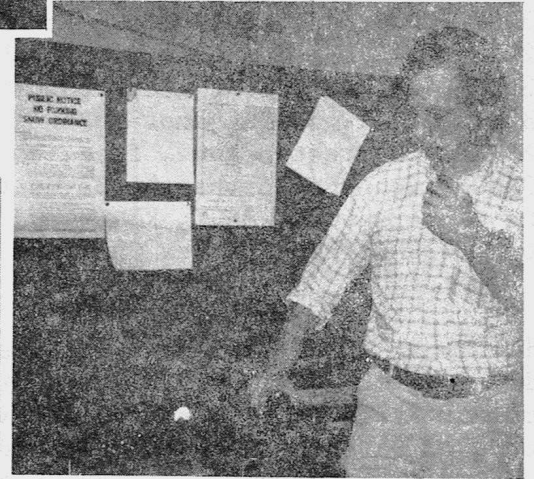
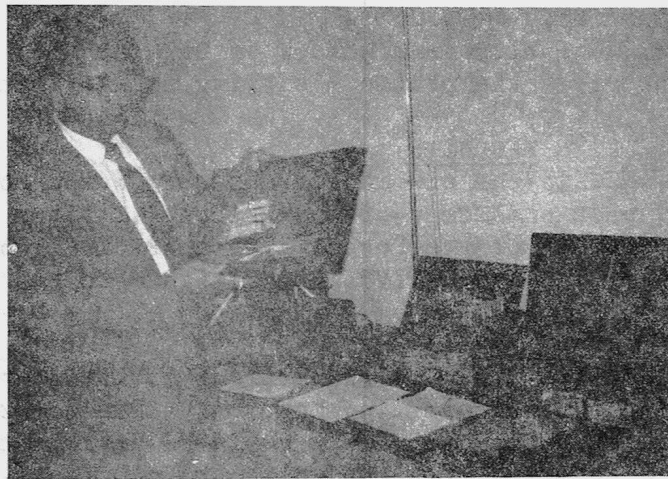
VHF/UHF REPORT

By Jo, W2EIF

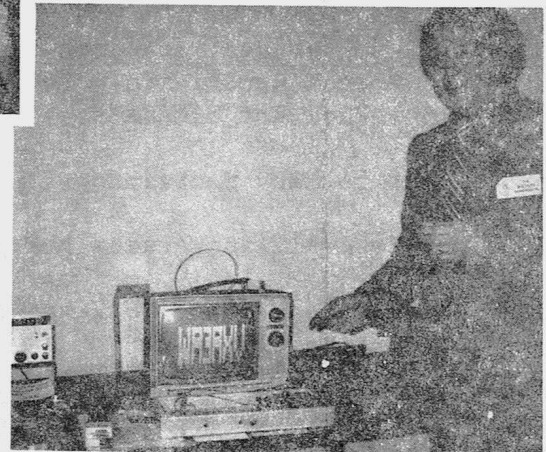
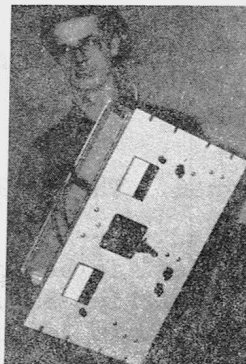
The activity on the VHF/UHF bands remains at a low level. Some of this inactivity was due to feverish preparations by a number of operators to build a Moon Bounce system and get it operational by February 22/23. As we all know, you cannot yak on the air and build at the same time. WA6LET came on the air as promised both on 144 and 432 MHz, and many of us got the chance to try to contact the California station. The Mt. Airy VHF Radio Club using the call W3CCX/3 set up a 20 foot dish and was successful at 432 MHz. (See their story elsewhere in this issue) As for the rest of us including W2EIF, K3ZSG, WA3OOD, W3CXU and K3MWV there was some disappointment in that none of us were able to work WA6LET on 2 meters. However, all of us heard the California station. W2EIF, K3ZSG/WA3OOD and W3CXU were set up with big beam arrays which were tiltable, while K3MWV was limited to a vertical 2 meter whip and an 11 element vertically polarized non-tiltable antenna. W2EIF, K3ZSG and W3CXU using the big beams, horizontally polarized received signals on both days of the schedule but always very weak and in and out of the noise. K3MWV using a vertical 2 meter antenna was able to get good copy at the start of the Saturday schedule. The signal improved to provide a tape record when he shifted to the 11 element vertically polarized beam pointed South East. W3CXU, late in the Saturday schedule, could not hear a thing on his big horizontally polarized array. So he went out back and picked up his old 28 foot long John and stacked it up on a tree and a fence, vertically polarized, and pointed it at the Moon. He was rewarded by an S4 signal but did not work WA6LET. To sum it up: A lot was learned by all particularly that Faraday rotation is something to contend with! To be successful for EME contacts, it appears that first and foremost, the antenna system should be controllable in Azimuth, Elevation and Polarization and have a gain of 20 Db minimum. Second - The Feed system should be low loss with a low noise receiving setup. Third - The transmitter should be all you can get going up to and preferably the legal limit. Don't forget the next meeting on March 20th will be Moon Bounce nite where you will hear all the details and ask questions. Good Luck.



HOMEBREW 75



5.



HOME BREW 75

(LEGEND FOR PICTURES ON PAGE 5 READING FROM LEFT TO RIGHT) --

K3ZSG - 1296/2300 MHz coffee can feed.
W3HQT - 3-500Z 50 MHz amplifier.
WA3NFV - 432 Xmtr - 2 meter mobile unit mod.
WA3NGK - 2 meter hi power amplifier.
K3IUUV - link conversion to 220 MHz FM.
K3JJZ - 3 band mobile control head.
W3NSI - Speaker amplifier, time receiver, 220 MHz converter, crystal checker, prescaler, function generator.
K3MWV - 220 MHz transceiver, 439 ATV preamp. 432 conv.
WA3AQA - SCR switching power supply.
K3GAS - 6&2 conv. 40 & 80 meter receiver, speaker amp. R511 conv.
WA3JUF - 432 Preamp.
K3JJO - Solid state devices - thermometer, clock, keyer, counter.
W2EIF - 220 MHz magnetic mount mobile ant.
K3BPP - 432 MHz feed ("Electronic Birdcage") for moonbounce dish, 432 SSB, 2 meter Amp.
WB2SZK - 2 KW 50 MHz amp.
WA3AXV - Character gen., freq. counter.
W3HMU - (on another page) 432 Hi power amp.
The winners were W3NSI, K3MWV and K3JJO (Wally is a member of Delmont)
Tony W3HMU the Homebrew Chairman provided the prizes - sipping whiskey with glasses yet!

TID BITS

Bill Tynam W3KMV of Silver Springs, Md. is the new manager of QST "World above 50 MHz" column. Bill is a long-time VHF enthusiast, past president of the National Capital VHF Society, and APL Amateur Radio Club; he is an active member of the Potomac Valley Radio Club and of the AMSAT Board of Directors. W3KMV succeeds Bill Smith, W5TVB, who resigned to run for Director in the West Gulf Division. de Auto Call

TOWER LADDER PROBLEM: SOLVED -- A note from the U.S. Department of Labor states that ladders will not be required on radio towers used for personal applications. The new rules apply only to towers which will have to be climbed by employees. This could be interpreted as applying to amateur towers where someone is paid to climb it. The rules are not final as yet. de HOTLINE (73 Magazine)

A special and fond good bye to an old friend - John Lopez, W3GJF, the "HAM" in Buerger, Inc. is retiring as of March 31, 1975 and he and wife Doris will be moving to Knoxville, Tenn. The Pack-Rats wish you the best.

Lee's Observations - No matter what the outcome of Docket 20282 - there will be changes made, some good - some bad and from this typist desk heartily recommend that you take and pass the Advanced Class License for you have the most to gain and least to lose from this position. The License fees have been reduced as of March 1st to \$4.00 for the test, and for you bargain hunters this is less than 1/2 the price it used to be. See you at 2nd and Chestnut.

Dates to Remember and mark down- June 14/15 - VHF QSO Party, Hilltown, Pa.
August 10 - Pack Rat Picnic - Ft. Washington State Park.
October 5 - Pack Rat HAMARAMA.

Condolences to Mary Huntzinger,XYL of W3FQD on the recent death of her mother, Mrs. Pearl Shupp.

WA3HIT/8, Paul Rilling greets the gang.


W3ZRQ, Al Breiner, SCM E. Pa. has resigned. The Pack-Rats would like to see W3HK, George Van Dyke run for the office.

A new VHF magazine called the "High Bander" is being published monthly starting with the March issue - \$3.00 per year. Subscribers submitting an article will receive a years subscription free. Contact: WA4WZQ, David L. Smith, Route 1, Box 353, Valdese, N.C. 28690

MT. AIRY V.H.F. RADIO CLUB, INC.



ADS

<p>NE 7-8929</p> <p>GEORGE S. VAN DYKE, JR., P.E. CONSULTING ENGINEER</p> <p>W3HK</p> <p>4607 CONVENT LANE PHILA., PA. 19114</p>	 <p>AMERICAN RADIO RELAY LEAGUE, Inc. HARRY A. McCONAGHY, W3SW/W3EPC DIRECTOR, ATLANTIC DIVISION, ARRL</p> <p>"Connie-Mac"</p>	
<p>609-429-0087</p> <p>BRADDOCK ASSOCIATES MANUFACTURERS' REPRESENTATIVE</p> <p>EDWARD BRADDOCK MEMBER: I.E.E.E. W2RAY</p> <p>POST OFFICE BOX 305 HADDONFIELD, N. J. 08033</p>	<p>(215) 747-5052</p> <p>W3CL</p> <p>HARRY B. STEIN ASSOCIATES COMMUNICATIONS CONSULTANTS</p> <p>HARRY B. STEIN</p> <p>2097 PARKDALE AVE. GLENESIDE, PA. 19038</p>	
<div style="border: 1px solid black; padding: 5px;"> <p>ham radio your most interesting amateur publications</p> <p>HP REPORT</p> <p>Greenville, NH 03048</p> </div>	<p><u>A request from your AD Manager</u></p> <p>PATRONIZE OUR ADVERTISERS Tell them you saw their ad in CHEESEBITS. Leave your QSL card with them. CHEESEBITS is one of the best read local radio club papers. Circulation - 300</p>	<div style="background-color: black; color: white; padding: 10px; text-align: center;"> <h1>73</h1> </div> <p>1 year - \$8 3 years - \$16</p> <p>magazine for radio amateurs</p> <p>PETERBOROUGH, NEW HAMPSHIRE 03458</p>

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2C43 & 1 new 2C46, make offer or trade.
CONTACT: WA3LAJ, Don Keller, Jr.
c/o Lloyd Derr
RD #1, Pennsburg, Pa. 18073
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Ampro sound projector - 16MM with 1 xrated film
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CONTACT: Doc Cutler, K3GAS
7815 New 2nd Street
Elkins Park, Pa. 19117
Phone: 215-ME 5-1078

FOR SALE:

220 MHz R-48 Receiver. Wanted--2 meter or 220 MHz
FM unit.
CONTACT: John Tate, K3KTY
520 Larkspur St., Phila., Pa. 19116
Phone: 215-OR 3-8840

FOR SALE: BC-348Q w/110v. pwr. supply-good
condition. Wanted: VHF converters for NC300
receiver.

CONTACT: Frank Yates, 17 Burning Tree Lane
Lawrenceville, N.J.
Phone: 609-896-9705

FOR SALE: Genave GTX-2 for 2 mtr FM-four
xtals and mike, \$140.00

CONTACT: Joe Rushton, W3YXF
107 Rosewood Drive, Lansdale, Pa.
19446

Phone: 215-855-7799

FOR SALE: Eico 324 signal generator \$20.00
Heathkit VTM, IM11, \$15.00; Various types of
blowers, \$2.00 ea.

CONTACT: Don Derosa, 205 W. Champlost Ave.
Phila., Pa. 19120

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WANTED: Ranger II - have a hammerlund
HQ170 for trade.

CONTACT: Jim Beaver, W3AHZ
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PACK RAT MOONBOUNCE
By Tony Souza, W3HMU

A long standing desire of the Pack Rats was fulfilled Friday night, February 21, 1975, when the Pack Rat Moonbounce station became operational. It has been a long time since the first organizational meeting at the home of Chuck Benavides, WA3LNH (now WA1KIR) in the winter of 1973 when the 432 MHz band was agreed to as the best band for the project. Much work was required since almost no equipment was available of moonbounce quality or capability. The donation of a twenty-foot stressed dish by Allen, K2UYH provided a shot in the arm but still the high power transmitter and low noise pre-amps required were only dreams. Little by little progress was made. Two high powered amplifiers were built and tested by W3HMU and K3BPP. A few low noise pre-amps were built and tested - most worked only fair and gave problems of oscillation or cross-modulation. Modern filter designs and pre-amp circuits were tried with eventual success. Although the bits and pieces were taking shape, the pressure of contests and other club activities took priority due to the urgency of their schedules. An injection of fresh enthusiasm in the person of Bill, W3HQT got things rolling. Bill decided this past fall that the time had come to start assembly of the dish and that his backyard could be the location for the W3CCX moonbounce station. After some time off for the January Contest word came from California of the plans for moonbounce tests using the Stanford Research 150 foot dish. This gave us the final push. It was decided to be ready to operate during the tests scheduled for the weekend of February 22 and 23. The twenty-foot dish was re-assembled and covered with new chicken wire during the coldest part of the winter. Several times the dish crew worked in the rain because rainy weather meant mild temperatures. The chicken wire covering was completed Saturday, February 15 by head chicken wire plucker W3HQT assisted by W3HMU and K3BPP. Notable contributions to the dish construction were made by WA3NGK and WA3JUF. February 16 was dish mounting day. The mount had been positioned in the ground behind the barn in early January before the ground froze. A brute force technique reminiscent of past June contest operations was used to place the dish on its mount. The dish was lifted into position by "dish chief" W3HQT and K3BPP, WA3NGK, WA3AXV, WA3JUF, W3HMU and K3ZSG providing additional muscle. During this operation, K3ZSG found that his Vietnam boots were no match for the combination of snow and sheep droppings in the barnyard. The dish sure looked impressive when we stepped back to see the results of our labor! The week of the 17th of February saw completion of the details of the major station equipment some of which were presented at Pack Rat Home Brew Night, Thursday, February 20. Friday night the station was assembled into the new room W3HQT had built into one corner of his barn. Although an attempt was made to calibrate the receiving set up on sun noise before sunset on Friday the attempt was foiled by cantankerous BNC connectors which caused problems that were not resolved until after sunset. The weather was good although the temperature dropped quickly after sunset with a clear sky and the moon in full view. The moonbounce station was on the air by 11 p.m. and testing was begun to see if we could hear our own echoes off the moon. After only a few test transmissions Al, K2UYH called to tell us he was hearing our echoes quite well and to look about 1KHz below our frequency for the echoes which were shifted due to Doppler effect. With this information we then heard our own echoes -- quite weak but definitely there! To have heard our echoes on the first night was more success than we had dreamed possible. We then copied portion of a moonbounce QSO between K2UYH and W0OQT. WA6LET was copied Q5 at about 2 a.m. calling CQ, but not responding to calls. About 3 a.m. Saturday morning the crew ran out of steam and shut down operations. Saturday afternoon was perfect for antenna and receiver tests and adjustments. Initially 4db of sun noise were measured indicating something wrong. The problem turned out to be a mis-tuned input filter. Seven db of sun noise were measured after adjusting the filter. Antenna patterns were studied using a signal source and some improvements made to the mount alignment and antenna supports. Two bore sights were mounted and adjusted so that when the antenna was peaked on the sun, the sun was centered in the sights. Setting circles (basically protractors used in measuring antenna orientation) were mounted on the antenna frame and calibrated on the rising moon by bore-sighting the moon and adjusting the setting circles to the values of azimuth and elevation in the moon table sent to us by K2UYH. Using these setting circles it is possible to point the antenna at the moon when the moon is not visible. Moonbounce operations were begun around 6 p.m. on Saturday evening with good echoes being received. WA6LET was heard calling CQ around 7:15 and was worked with 559 signal exchanges both ways. The crew then broke for a victory cup of Red Zinger. Further echo tests and a CQ brought a phone call from W0YZS and K0TLM of Kansas City, Mo. who were hearing us off the moon and wanted a schedule. Both stations were worked on schedule around 10:30 p.m. After listening around for awhile the station was secured at midnight. Sunday evening was extremely foggy with occasional light rain. Not very good

(CONTINUED ON PAGE 10)

PACK RAT MOONBOUNCE CONTINUED

weather to be outdoors. W3HQT and K3BPP who were working on the moonbounce shack decided to try for echoes using the elevation and azimuth calibration circles mentioned earlier. They were soon joined by the writer. The dish was pointed at the non-visible moon according to the moon tables, and, lo and behold, back came echoes! We then listened in on the moonbounce schedules between W1SL and W4NUS. W1SL was pretty good copy and W4NUS was detectable. After the sked we called W1SL via the moon. Not hearing any return we decided to call him on the telephone and arrange a schedule. Tom was some time in coming to the phone because he had heard our call off the moon and was buisily calling us back! A schedule was quickly arranged and W1SL was working in due course. Our first weekend on moonbounce had netted four QSOs and three states worked. Certainly a most satisfying weekend for the above-mentioned group who had worked so hard and long.

The following is a run down on the equipment used at the W3CCX moonbounce station. The equipment is arranged in order of signal passage when listening to echoes.

TRANSMITTER

Brass Hand Key or	
CQ de W3CCX/3 code wheel	home brew K3UJD
432 MHz exciter 100W	home brew W3HQT
Power amplifier 8938	home brew W3HMU
7/8" air dielectric coax	connectors from W3NGK
	(Saved the Day)

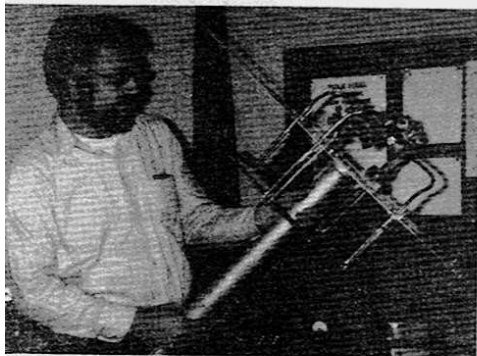
RECEIVER

FMT 4575 pre-amp 1.7db NF	home brew (W1JAA design)
1/2" foam-flex co-ax	Pack Rat special purchase
2N5652 pump 3db NF	home brew (W1JAA design)
Pack Rat 432 converter	
Drake 2B receiver	

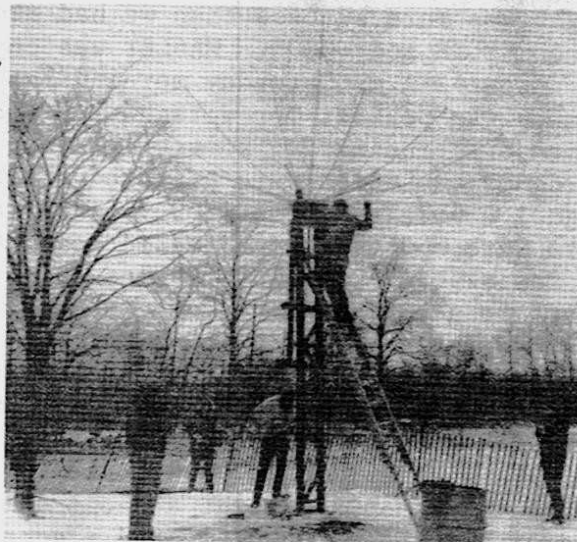
ANTENNA

20-foot diameter stressed dish on AZ-el mount ----- home brew (K2UYH design)
 Two sets of dual dipoles over a ground plane, one set horizontally polarized, one set vertically polarized, selectable ----- home brew, K3BPP

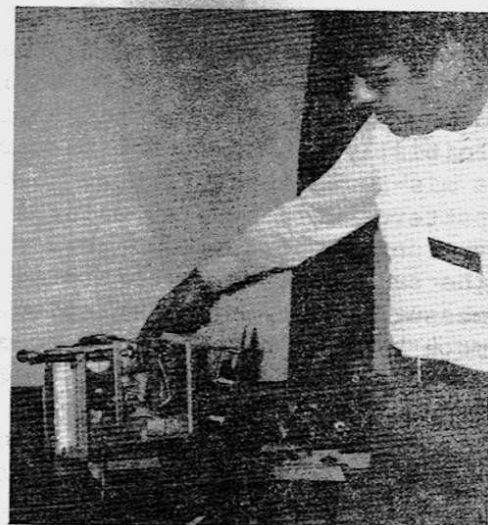
Antenna Crew- Left to Right
 WA3NGK, WA3JUF, K3ZSG, W3HQT,
 K3BPP, W3HMU. →



(K3BPP) THE FEED



THE DISH (WA3AXV-Photographer)



THE AMPLIFIER (W3HMU)

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Part #8 "Very Important People"

For the benefit of the newer members, and to stir up the memory of older members, a list of Presidents and Vice-Presidents who made our club what it is today.

<u>PRESIDENTS</u>			<u>VICE-PRESIDENTS</u>		
1956	*W3IBH	Charles Clements	1956-57	W3ZEY	Russell Widger
1956-57	W3FSC	Oscar Jacoby	1957-58	W3FOZ	Charles Koelsh
1957-58	W3OZP	William Miller	1958-59	*W3JSD	John Houser
1958-60	W3CL	Harry Stein	1959-60	W3HKZ	Edward Kushner
1960-61	W3HKZ	Edward Kushner	1960-61	*K3HWZ	William McCutcheon
1961-62	W2AXU	John Power	1961-62	K3IUU	Bertram Soltoff
1962-63	K3IUU	Bertram Soltoff	1962-63	W3LHF	David Zimmerman (W3ZD)
1963-64	*K3HWZ	William McCutcheon	1963-64	K3GAS	Doc Cutler
1964-66	K3GAS	Doc Cutler	1964-66	W2EIF	Jo Kilgore
1966-67	W2EIF	Jo Kilgore	1966-67	W3LHF	David Zimmerman (W3ZD)
1967-68	W3LHF	David Zimmerman(W3ZD)	1967-68	K3HSS	Charles Lustick
1968-69	K3HSS	Charles Lustick	1968-69	W3MFY	Preston Funk
1969-70	W3KKN	Ernest Kenas	1969-70	K3JJZ	Elliot Weisman
1970-71	K3JJZ	Elliot Weisman	1970-71	W3CJU	Donald Hampton
1971-72	W3CJU	Donald Hampton	1971-72	K3BPP	Walter Bohlman
1972-73	K3BPP	Walter Bohlman	1972-73	W3FQD	Richard Huntzinger
1973-74	W3FQD	Richard Huntzinger	1973-74	WA3AXV	Ronald Whitsel
1974-75	WA3AXV	Ronald Whitsel	1974-75	W3HMU	Anthony Souza

*DECEASED

W3CL & K3GAS were the only ones to serve two terms as President.

CORRESPONDING SECRETARIES

1956-61	W3SAO	Francis Brick
1961-64	W2EIF	Jo Kilgore
1964-74	W3SAO	Francis Brick
1974-75	K3KTY	John Tate (Resigned)
1974-75	WA3NGK	Harry Brown (Appointed by President)

RECORDING SECRETARIES

1959-60	*K3CIV	Ralph Hersh
1960-64	*W3ZRR	Raymond Whitehead
1964-65	W3HAB	Monroe Powell
1965-66	K3OBY	James Bowman
1966-67	K3WEU	Paul Behrman
1967-70	K3ZPN	Lloyd Shoenig (WA2KOI)
1971-73	WA3BIV	Carl Barish (WA2MWB)
1973-	WA3DJF	Carl Mattiace

*DECEASED

(TO BE CONTINUED)

W3SAO, Frankie Club Historian

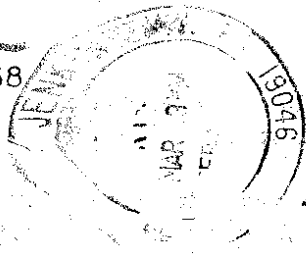
To The Mt. Airy V.H.F. Radio Club:

Dear Members:

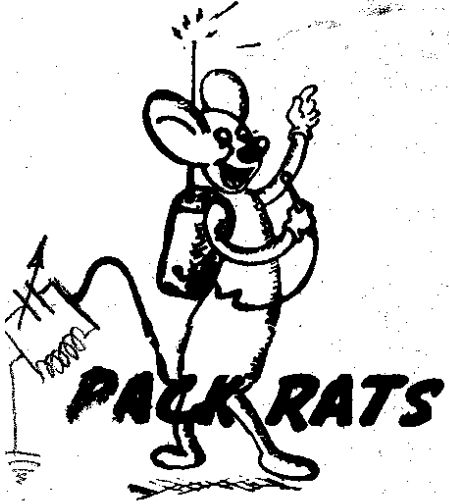
The flowers were beautiful and I wish to thank you for all the kindnesses extended to Ray. He loved the "Pack Rats". I feel very sad when I look at the "Silent Key".

Sincerely, Eleanor

Cheese Bits
2087 Parkdale Ave.
Glenside, Pa. 19038



W3FQD Dick Huntzinger
130 Fairhill Drive
Churchville, Pa. 18966



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