

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE

BITS



MT. AIRY VHF RADIO CLUB, INC. PHILADELPHIA, PA. ARNS
 50.2, 145.2, 221.4, 432.03, 1296.03, Repeater - 222.98/224.58 (WR3ACD)
 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

VOLUME XVIII

OCTOBER, 1976

NUMBER 10

The Prez Sez

The "Prez Sez" is an open letter addressed to all members and friends and is offered as an insight into the many situations and positions that are presented to this office. Some of the current ones are:

The League is making a concerted effort to bring some of the CB'ers into the Amateur ranks and would like the various clubs to exert efforts in this direction. I think it is a very good idea and would suggest you bring some of your CB friends and their children to our open meetings. Maybe later on we could start or sponsor classes in code and theory.

The BIG Contest will be here in January and from the showings this past weekend in the September QSO Party, much work must be done on the individual stations. I know of three stations that need antenna work and there are probably more. We can set a weekend aside and have a "flying" antenna team visit the various stations before the weather closes in.

With the state of the art moving along so fast, how can the average Amateur not working in electronics, keep abreast or at least knowledgeable in the field. Maybe a club project such as a counter, keyer or something utilizing ICs could be started and worked into usage in our VHF stations.

Now that the Technicians are allowed in the CW portions of the lower bands, we note with "Club Pride" how many members are getting the CW under their belts and have upgraded into the Advanced ranks. Congratulations to you all.

October 3rd is the big Club Date (HAMARAMA) and sure would like to see all members give their Hour to the Club.

73,

Lee, K3MXM

* * *

Voted to Membership: WB3AFY, Socrates Martinez (Sam) XYL - Rosalba
 625 Kingston Road, Middle River, Md. 21220
 301-391-0533

Application for Membership: WA1NGR/WB2RVD - Ron Allen
 P.O. Box 285, Normandy Beach, N.J. 08739
 201-793-7643

* * *

FCC figures show that 9% more Novices Licenses were issued in June than in May. The total Novice population in America stood at 28,000 in the first week of August..

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

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SWAP SHOP ITEMS - no charge.

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

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W3SAO, Francis Brick

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VICE-PRES: W3HMU, Tony Souza
COR. SECY: WA3NGK, Harry Brown
REC. SECY: WA3NFV, Danny Mitten
TREASURER: K3GAS, Doc Cutler

DIRECTORS:

WA3AXV, Ron Whitsel (Ex-Officio)
K3IGX, Richard Boyle (2 years)
K3JJZ, Elliott Weisman (2 years)
W3HQT, William Olsen (1 year)
W3YXF, Joseph Rushton (1 year)

MONDAY NIGHT NETS:

		<u>NET CONTROL</u>
145.2 MHZ	7:30 PM	W2EIF
50.2 MHZ	8:30 PM	W3CL
221.4/224.58 MHZ	9:00 PM	K3GAS
432.03 MHZ	9:30 PM	K3IUV
1296.3 MHZ	10:00 PM	W2EIF

FRIDAY NIGHT ATV NET:

		<u>NET CONTROL</u>
439.25 MHZ	7:00 PM	WA3AXV

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CALENDAR OF COMING EVENTS
Syllabus by Lee, K3MXM

OCTOBER

The 10th Month of the year but the 8th month of the early Roman Calendar - from Octo meaning eight. The sign is Scorpio.

- 3 Sunday, All Day, HAMARAMA. Bucks County Drive-In Theater, Warrington, Pa. The truly one big club effort of the year. All club members are needed and one hour of your time would be most welcome to help spread the work among all. Contact the project Captain and offer your help:

Gate	W3HMU, Tony Souza
Parking	WA3AXV, Ron Whitsel
Selling	W3ZD, Dave Zimmerman
Talk-In	K3IGX, Dick Boyle
Tents	W3CL, Harry Stein
Prizes	K3IUUV, Bert Soltoff

- 4 YOM KIPPUR

- 9 The Greater Syracuse Hamfest, Syracuse Auction Building, 4 miles south on Rt. 11. Talk-In 31/91
The Lafayette Apple Festival is on the same day.

- 9 Erie, Pa. Hamfest and Flea Market. Kuhl Hose Co. Building, Rts 9 and I-90.

- 11 Columbus Day

- 14 Board of Directors Meeting, QTH, WA3AXV, Ron Whitsel, 209 Frog Hollow Rd. Churchville, Pa. If lost 355-5730. Directors and interested parties invited.

- 16 Boy Scout Jamboree On the Air. Full Week. See Sept. QST for frequencies.

- 21 General Club Meeting, Southampton Free Library, Street Road, Southampton, Pa. TOPIC: The WR3ABE 6 meter repeater system update by Mr. "FM" Ed Kushner, W3HKZ
The Mario Raffle, Doc's Silent Auction, Refreshments.
An open meeting to one and all.

- 25 Veteran's Day.

- 27 SJRA Meeting, Moonbounce Dxpedition does it again.

- 29 For you ole Timers, This day in 1929. The bottom fell out. Yes, the Stock Market Collapse...

NOVEMBER

- 6 Delaware Valley Chapter QCWA Dinner Meeting. Buck Hotel, Feasterville, Pa.

- 13,14 ARRL Hudson Division Convention. Playboy Resort and Country Club at Great Gorge McAfee, N.J. Events for all. One day Flea market. Contact, Al Piddington, WA2FAK. Phone: 516-261-3285.

- 25 Thanksgiving

- 26,27,28 Work the Statue of Liberty on all bands. Call is WL2USA.

* * *

OFFICIAL BULLETIN NR 608 FROM ARRL HEADQUARTERS NEWINGTON CT SEPTEMBER 16 1976 TO ALL RADIO AMATEURS BT: As a continuing membership service ARRL will soon provide an updated chart showing available 1 X 2 calls as of mid-September in the contiguous 48 states. This chart may be obtained by sending a self addressed envelope with 24 cents postage addressed to Call Signs, ARRL, 225 Main Street, Newington, Ct. 06111. AR

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. OSCAR ANTENNA: Cushcraft now has multi-polarized twist antennas available for both 2 meters and 432 Mc, along with a mounting boom and plate for use in dual 2 meter/432 installations mounted on a tilting rotator. Both antennas include a phasing harness for selectable linear or right/left circular polarization. Price A144-10T \$32.50 A432-20T \$45 A14T-MB \$13.95 (mounting mast). Cushcraft Corp. 621 Hayward St., Manchester, N.H. 03103

2. TWO METER FM PORTABLE T/R: Drake now has the successor to the very popular TR22 on the market. The TR 33C has a number of features not found in the old TR22. The receiver has been redone to lower the drain from 45ma to 30ma on squelch. One crystal is used for any channel, both receive and transmit, repeater or simplex. A front panel switch selects simplex, -600 offset, +600 offset and two optional positions for other repeater spacings, such as 1 Mhz now being used in some areas. The antenna is removable, with a telescoping full size screw-on unit supplied. A rubber duck to mate with this fitting is optional. When using an external DC supply, rather than the built-in Nicad supplied, a channel indicator light is on. This lamp draws 45 ma, which is the reason it is not used on internal batteries. Case size is a bit bigger than the TR22. Price \$250 class, R.L. Drake, Co. 540 Richard Street, Miamisburg, Ohio 45342

* * *

VHF/UHF REPORT

By Jo, W2EIF

The VHF/UHF activity has been very good thru August and to present (mid-September). 144 and 432 Mhz has shown the most activity since the ham population is highest on those bands. Six meters apparently is not too active at the present time because of the lack of E skip.

The contest weekend September 11-12 did not present good conditions until Sunday nite when the NE coast, N.C. to Maine was booming in on all bands up through 1296 Mhz. 144 and 432 Mhz was particularly active and 19-20 sections were easily available on both bands. The same would have been true of the other bands except that 220 and 1296 are not represented except in a few sections. I managed 10 sections on 220 which is below normal. K4QIF from near Norfolk was very strong on 1296 Mhz.

No activity was noted from Vermont on any band and very little from New Hampshire. W. Va. was well represented on 144 and 432 Mhz, and our old friend W8AEC was worked on both bands. Bill has been off the air for at least a year, glad he is back.

W1NU is presently operating portable VP9 in Bermuda and can be found at 144.090 Mhz transmitting the second 30 seconds of each minute. September 14 produced a duct opening from Bermuda to the NE coast and W1NU/VP9 worked a lot of the boys. In this area one had to be at about 550 feet above sea level to work him. If you were below that level nothing could be heard. The boys in N.N.J. up through New England were hearing him very strong.

Good Tropo conditions can be expected up through early November, so get on and contribute to the activity.

* * *

OFFICIAL BULLETIN NR 607 FROM ARRL HEADQUARTERS NEWINGTON CT SEPTEMBER 9 1976 TO ALL RADIO AMATEURS BT: The ARRL Membership DX QSL Service becomes operational November 1. At that time, League members will be able to make bulk mailings of cards to foreign amateurs via ARRL Headquarters. Effective with the October issue of QST, the imprinted mailing label becomes the ticket to the use of the outgoing bureau. Any volume of cards may be accepted if presorted and accompanied by your QST label for the issue. October 1976 or later. The complete story on both the new outgoing and the current incoming bureaus will appear in the October issue of QST. Please do not send cards for the Outgoing Bureau prior to November 1. AR

* * *

TID BITS

Happy 30th Wedding Anniversary to the Sid Weiners (W3GEW). Chalk up good wishes also for their sons 29th Birthday (K3NDA).

Photos Page 5 and 9 by Ron, WA3AXV, Processing by Ron, K3ZKO.

TID BITS CONTINUED

Enjoyed seeing our SJRA friends from across the river after personal contacts with them at their successful Hamfest on September 12th.

Condolences to Ed Tilton, W1HDQ, XYL Mildred Passed away.

Frankie Brick, W3SAO is back home now. Talked to him on the phone on Monday, Sept. 27th and he sure sounded like his old self. Said he was getting active on the air again..FB

Congratulations to Ron, WA3AXV who is now an Advanced Class Licensee. Extra class soon?

Jane Zimmerman, XYL W3ZD is now WB3DSK.

It was a pleasure to see Elio, W3RZU (a charter Pack-Rat) at the Sept. 16th Meeting. He brought his son Joe along (WN3DAD).

Good luck to Greg Adams, WA3UXM who is leaving us to join the U.S. Marines.

The following were nominated to serve the Delaware Valley Chapter, QCWA for a 2 year period: Chairman, W3KD. V.Chairman, W2FDE. Secy. W2HX. Treas. W2QLP.

Tony, W3HMU reports 3 states now worked on 2304 Mhz (Pa. N.J. N.Y.)

* * *

FIRST U.S. - BERMUDA TWO METER CONTACT was made by W1NU/VP9 and K1HTV Tuesday Evening Sept. 14th at 0100 Z! Alerted to a potential opening by the AMSAT Net, Vic and hopeful stateside two meter DXers moved to 144.090 CW and within moments the historic contact began. Vic next worked K1WHS, and before the evening ended 30 more stations, from Maine to Pennsylvania, at least one running only 100 watts to an 11 element beam, had made it across the Atlantic to Bermuds.

W1NU/VP9 Will Continue working 144.090 evenings through the end of September, looking for additional stateside contact.

De, HR Report

AWARDS



SPACE
NET
CONTEST

1976
JAN. VHF
SS

THE SEPTEMBER MEETING

By Harry, W3CL

It had rained all day and during the evening hours but over 70 members and guests turned out for our first indoor meeting of the season at the Southampton Free Library on Thursday, September 16, 1976.

The attraction was the Moonbounce Dxpedition program splendidly narrated by E1, K3JJZ with pertinent slides and floor assists from Tony, W3HMU, W3HQT, K3BPP, WA3NFV, WB3AOP, and the newest Pack-Rat WB3AFY.

E1 pointed out that the Moonbounce boys (and girls) were honored on the day of their return at the Pack Rat Picnic on August 8th so now it was their turn to pay homage to the state-side gang. HK1TL "T" shirts were presented to Bert, W3TNP and Ernie, W3KKN; they did the 20 meter liason work. WA3JUF, Dave received his for W3CCX/3 Moonbounce base station stint. Johnny Allen, W3DXU, the previously unidentified expedition benefactor received a big hand from the gang.

A beautiful medallion was presented to Rosalba (XYL of Sam WB3AFY) and in addition E1 planted a couple of kisses in typical Latin fashion. Rosalba had arrived in Barranquilla in advance of the Dxpedition and arranged for the living quarters at the site. In addition she cooked all the meals and made sure the boys stopped long enough to eat the food.

There was a coffee and danish break in the middle of the presentation - also a chance for the usual chit-chat and exchange of greetings with the visitors representing many of the area clubs.

The program was further enhanced by the presentation of the 1976 ARRL Jan. VHF SS Gavel to contest chairman, Tony, W3HMU. The sixteen gavels were displayed in their appropriate trophy cases - representing a lot of hard work by the membership.

Bill, W3HQT received his high scorer ARRL club award certificate - he won also the high man in the Atlantic Division.

The club won 1st place in the VHF Space Net Triple Anniversary Contest with WA3ZRE, junior Pack-Rat as high scorer. Earl also received his award for 1st place in Class III. W3CL, Harry presented handsome plaques to the winners in the name of Tony, K4AWS the spark-plug sponsor of the Space Net activities.

Doc's silent auction was in full swing. Mario's Raffle was the usual success - all in all it was quite an evening.

* * *

Mexico no longer issues temporary permits to allow CB (CRS) operation by Americans visiting Mexico. Flagrant abuses apparently caused Mexico to drop this cooperative policy. It is reported that CB - equiped vehicles are not being allowed to enter Mexico. Perhaps they have more guts than our public officials or don't have to worry about the political implications of spectrum allocations but then they don't have a "FIRST MAMA" sleeping in the White House...

NAB WANTS FCC to amend the Part 95 of the Rules to permit radio and TV stations to rebroadcast CB operators with traffic reports. De, HR Report

Contrary to popular belief there are plenty of simplex channels available on two meter FM. On 146 one can use .43 .46 .49 .52 .55 .58; on 147 you'll find .42 .45 .51 .54 .57 and on 145 there are .02 .05 .08 .11 .14 .17 .20 .23 .26 .29 .32 .35 .41 .44 .47 .50 .53 .56 .59 .62 .68 .71 .74 .77 .80 .83.

* * *

OFFICIAL BULLETIN NR 610 FROM ARRL HEADQUARTERS NEWINGTON CT SEPTEMBER 23 1976
TO ALL RADIO AMATEURS BT



During the next two months, until the middle of December, United Nations Amateur Station K2UN will be visited by diplomats of many foreign countries, concurrent with the the UN General Assembly Meeting. With a World Administrative Radio Conference coming up in 1979, it is important that we amateurs make the best possible impression, especially from an international viewpoint. It should help our image considerably if a particular effort was made to portray a favorable impression on the air during the next two months, so that any foreign dignitaries listening from K2UN will like what they hear. AR

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



AD
MANAGER
K3MWM

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 <p>1 year - \$10 2 years - \$17 3 years - \$20</p> <p>73 magazine for radio amateurs</p> <p>PETERBOROUGH, NEW HAMPSHIRE 03458</p>	

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All units with manuals. Write offer.

Contact: Richard Subin, K2EVW

711 Shore Rd., Northfield, N.J. 08225

FOR SALE: Heath Kit VHF 8 channel GR110

Hiband scanner.

Contact: Ben Gindin, K3ESL

Phone: 215-JE 5-4619

FOR SALE: Hamm. HX 50 SSB/AM exciter 80-10 M,

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Contact: William Benner, W3KM

Phone: 215-455-5754

FOR SALE: NC 183-D communication receiver with speaker and manual.

Contact: WA3RYK

Phone: 215-MI 9-0666

FOR SALE: HW 2021 (2 mtrs) with charger, auto patch encoder, carrying case, assembled, only 2 months old. Sacrifice \$250.00.

Contact: Hy Eckse1, WA3NDE

Phone: 215-OR 7-7986

FOR SALE: TR 6 - 6 mtr SSB transceiver

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Contact: Jim Mills, WA3BSZ

201 Aster Road

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WANTED: 2 Meter CW transmitter

Contact: Bolmar Aguilar, WB3AOP

Phone: 215-742-2359

WANTED: 2 Meter SSB rig.

Contact: John Tate, K3KTY

Phone: 215-OR 3-8840

WANTED: 2 Meter SSB rig.

Contact: John Tate, K3KTY

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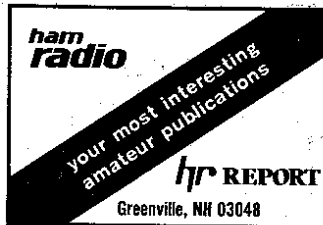
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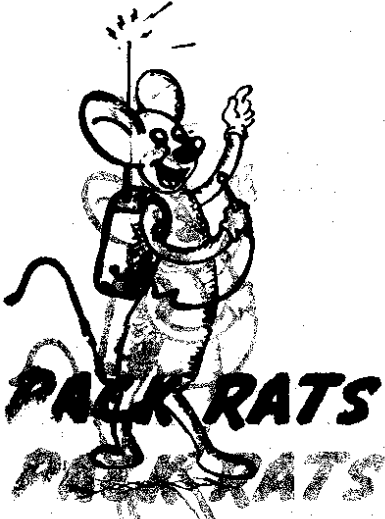
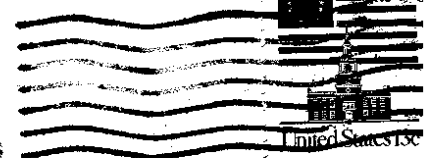
One of the more useful items of RTTY gear is the Transmitter-Distributor, T.D., or Tape Reader. The TD function is to read the perforations in the tape that were punched at some earlier time and contains the stored information that can be recovered quickly. The TD runs at the maximum speed of the system determined by the loop set up: 60,66,75,100 wpm. The speed change is accomplished by substituting one pinion and one driven gear. All RTTY machines function in a similar manner, and since the Model 14 T.D. is possibly one of the simplest machines to learn, we will consider it first.

The "main shaft" is the central power transfer device for all mechanical energy thru the machine from the motor via the pinion and driven gear. The main shaft is directly connected to a clutch system that is held by a mechanical stop. It disengages a second shaft from turning on the main shaft which is used to drive the brush assembly and a cam used for tape advance and tape reading. The mechanical stop consists of a small piece of metal that will run into the armature of an electromagnet when the electromagnet is not energized. This stop prevents the second shaft from turning at all times unless the magnet is energized.

In order for the TD to transmit there are several switches to be thrown. The TD has only a short duty cycle and should not be on all the time. Most hams install a single-pole single-throw switch to turn the motor off and is the first switch to be on. The remaining switches are in series to control the magnet. The second switch is the end of the tape contact switch which is under the tape bridge at the front and to the left of the track or tape guide on which the tape travels. This switch is closed by placing tape in the guide and closing the bridge. The third switch is the tight tape switch attached to the arm that comes from the right of the machine which when raised opens the circuit to prevent the tape from tearing. The last switch is the "start-stop" switch on the front of the machine. Several resistors can be connected in series with the magnet. For 110 VAC operation the resistors should be connected in series with the magnet. A trial with a piece of tape to close the end of tape switch and an ohmmeter can determine the proper connections. There may be one of two types of clutches in the TD, functionally the same. The first type is a felt-fibre clutch, the most common. It consists of a doughnut of felt material that should be kept wetted with oil; the only part of a RTTY machine saturated with oil! This rule applies to all fibre clutches and only to fibre clutches. The second type of clutch is the metal clutch consisting of metal plates.

Five "fingers" are located in the tape guide under the tape bridge which connect mechanically to small electrical switches that are in series with the five information segments on the distributor portion of the TD. As the shaft turns there is a cam to cause the five spring loaded fingers to push up. If they run into the paper, they stop and do not permit the electrical switch to make contact; but if they pass thru a hole and go all the way up thus permitting the electrical switch to make contact. The five contacts are either connected or not connected to the five information segments of the distributor and they stay that way for the length of time it takes for one complete rotation of the two brushes. The purpose of the switching system is so the loop current load is on the commutator and not on the finger switches. The information when it is scanned by the fingers is still in parallel form and the rotor converts it into serial form for the loop utilization. At the end of the five code reading segments there is the seventh segment or the stop segment where the fingers go down and the sprocket pulls (using the small holes) the tape to the next set of holes to be scanned. In the stop segment the electrical pulse is a mark or closed condition. The first segment is the start segment which is always a space followed by the five information segments and ends with the stop segment. The distributor section has an inner solid circle and an outer circle segmented into seven sections connected by the two rotating brushes. The start-stop magnet when energized causes the clutch to engage the main shaft and rotate the two brushes thru the seven segments. The rings are made from copper, and become tarnished causing bad contacts at times. The best way to clean these conductors is to use Tarn-x or other form of liquid polish. Do not use cream or paste polish since it is very hard to remove. Do not forget to turn off the loop before you clean the commutator or you might get a nasty surprise.

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