

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY V.H.F. RADIO CLUB, INC., PHILA., PA.
(50.2, 145.2, 221.4, 432.03 & 1296.3 Mc)

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

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

VOLUME XV

JANUARY, 1973

NUMBER 1

THE PREZ SEZ

All of the best to everyone in the New Year. This is the time for reflection, speculation, and resolution. Reflecting on some of the accomplishments of the Pack Rats in 1972, one finds the following: A gavel in January; some new homebrew ideas in February; a rollicking Ladies Nite in May; a third place score in June; outdoor meetings in July, August, and September; a Hamarama in October; a moonbounce project started in December; and inter mixed with all of these, many good outside speakers and a fun picnic. Looking back on all of this it is pretty hard to get bored, or disinterested in ones hobby.

Speculating on the future we find the January Contest as well as an update on all of the above, 1976, moonbounce contacts, new speakers, an F.M. repeater, exciting technical articles, etc.????

It is all up to us. If we resolve to just become a little more involved, work a little harder, and most of all have a lot more fun. The Pack Rats can certainly be proud of their past record and look enthusiastically towards the future.

Have a Happy and Prosperous New Year,

73

K3BPP, Walt

NOTICE TO ALL MEMBERS: CONTEST LOGS ARE TO BE IN THE HANDS OF THE COMMITTEE (COORDINATORS AND/OR ALTERNATES) BEFORE JAN. 20, 1973. THE ENTIRE COMMITTEE WILL MEET AT THE QTH OF W3ZD, DAVE ZIMMERMAN, CENTENNIAL RD., JOHNSTOWN ON SATURDAY, JAN. 20TH STARTING AT 10:00 A.M. LUNCH WILL BE SERVED.

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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* * * * *

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

Swap Shop Items - No Charge

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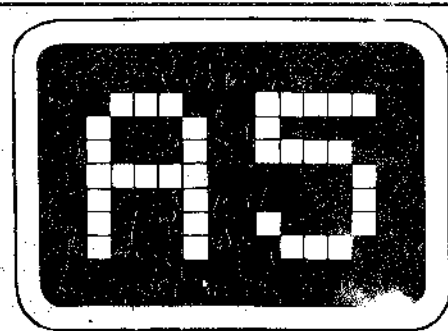
DIRECTORS' MEETINGS ARE HELD ON THE SECOND WEDNESDAY OF EACH MONTH AT DESIGNATED LOCATIONS.

MONDAY NIGHT NETS: NET CONTROL

145.2 - 7:30 P.M. W2EIF
50.2 - 8:30 P.M. W3CL/W3GEW
221.4 - 9:00 P.M. K3GAS
432.03 - 9:30 P.M. K3IUU
1296.3 - 10:00 P.M. K1SFF/3

FRIDAY NIGHT NET: NET CONTROL

439.250 ATV NET - K3ZKO/WA3AXV
19:00 Hrs.



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CALENDAR OF COMING EVENTS, SYLLABUS BY LEE, K3MXX

JANUARY

- 1 HAPPY NEW YEAR
Dues are due and payable. Send your \$8.00 check to Doc Cutler, 7815 New Second St., Phila., Pa. 19117 or pay in person at the club meeting.
- 5 Space Net resumes on 50.2 MHz at 8:00 P.M.
- 6-7 VHF SS See you there.
- 10 Board of Directors Meeting at QTH of K3BPP.
- 17 General Club Meeting - West Oak Lane Jewish Community Center, 8:00 P.M. Open meeting to one and all. Refreshments. Crying Towel Session - Of all those should-of's and chould-of's which will be aired and viewed amid much laughter and sobs much to the delight of the assembled ones come on out and tell us, each and everyone of all the many disasters, which befell yours was the most horendous one!!!
- 20 VHF SS recap meeting at QTH, W3ZD. See notice on page 1.
- 27-28 ARRL Simulated Emergency Test (SET)

FEBRUARY

- 3-4 Space Net Contest by WB2MTU - This one honors Appollo 14.
- 21 General Club Meeting - Home Brew Night. Get busy on those projects now and be in the running for those awards.

On December 11th the Philadelphia Area Repeater Association held a general business meeting at the G.E. complex, King of Prussia, Pa. Constitution changes were voted on, general repeater business was discussed and the officers and directors for 1973 were elected as follows:

President	K3JPB, Bill Winters
Vice. Pres.	W3GJC, Bill Cusick
Treasurer	WA3GAA, John Chapman
Recording Secretary	WA3TEM, Marsha Stein (Cheese-Bits Typist)
Corresponding Secretary	WA3MDP, Dick Teasdale
Directors: Northwest	W3CQC, W3DYQ
Northeast	K3ZFD, K3ZPH
Southwest	W3VN, K3ECV
Southeast	W2BHK, K2QIJ

SOME OBSERVATIONS ON THE MISUSE OF OSCAR VI
BY RON, WA3AXV

The leagues recent announcement regarding the use of OSCAR VI for contacts and sections in the January VHF Sweepstakes was met with much confusion and disbelief by many members and friends of our club (The Pack Rats). This seemingly arbitrary decision violates several contest rules which we have all come to believe necessary for a meaningful VHF Contest. It is in good spirit that we offer the following comments and suggestions concerning this matter.

The use of repeaters for contacts and/or sections has been traditionally banned from
CONTINUED

SOME OBSERVATIONS ON THE MISUSE OF OSCAR VI CONTINUED

ARRL sponsored contests. Obviously OSCAR VI is a repeater. Why then should there be dispensation for this repeater while all other repeaters remain illegal? Does this not establish an indefensible argument for the use of all repeaters in contests? There is little difference between a satellite repeater, a repeater in a high flying aircraft, or merely a land based mountain top installation. Where do you draw the line? Further, OSCAR VI is not just a VHF repeater, but also has its output on 10 meters. This shakes the very foundation upon which VHF contests are built.

It hardly seems fair to the serious VHF amateur who has developed his station equipment and operating prowess-- to the point of being capable of working Illinois on 6 meter scatter or Michigan on 2 meters direct to be now out classed by 50 watts and a ground plane antenna. Does this not stifle all incentive to further the state-of-the-art of VHF communication techniques?

It is true that OSCAR VI is not just an ordinary repeater and is a great technological achievement for amateur radio. But, does its use belong as part of VHF contest? We think not. It seems that perhaps on ancillary contest, running concurrently with the January contest, would be a better utilization of the OSCAR VI service.

PACK RAT REPEATER AUTHORIZED

The Board of Directors at the December 13th meeting authorized the go-ahead for a 220 MHz Pack-Rat Repeater project. A committee was appointed including W2AXU, WA3AXV, W3HKZ and chaired by W3CL.

The site location for the repeater station is the QTH of Ron Whitsel, WA3AXV, located in Churchville, Pa. This is an ideal plateau (360 ft. alt.) located Northeast of the Philadelphia line. Ron has started to accumulate information to file for a repeater license.

Plans include the integration of our present 221.4 MHz AM intercom operation with the future frequency selection for the repeater in the 222 MHz - 225 MHz portion of the 220 band.

It is expected that we will shift to FM from our home base stations utilizing most of our present equipment. A solid-state FM modulator is being designed and will be mass produced on a club project basis.

TID BITS

A reminder - check your license renewal date. Plans are under way to set up an automatic "license renewal alert" for the membership.

Al, K3ECD and Jim, K3OBY we are happy to report have been taken off the sick list.

Bert, K3IUV, came home from the Houston Space Center after a stint of duty in connection with the Appollo 17 "TV from the Moon" operation.

George, W3HK and XYL Gracie, WA3BJQ spent the Christmas Holidays with the bashful beach combers, K3WEU/6Y5H, Paul and Rella in Jamaica.

Lewis Clement, Ex, K3AA, residing in Pompano Beach, Florida, is now K4UV (Ultra Violet). Looking for contacts via sheds on 20 meters up this way.

VHF/UHF REPORT BY JO, W2EIF

6 METERS: The 6 meter (50 MHz) band has been picking up in activity during December. This is due no doubt to (1) the approaching January VHF Contest and (2) the occurrence of some nice openings. The band has been open several times and a particularly good opening was observed on Sunday, December 17th. This opening lasted from about 9:30 A.M. to about 7:00 P.M. WA2TSZ on Long Island worked K7VDZ in Wyoming. The 50 MHz band was also open Monday and Tuesday, December 18 and 19 from about 4 P.M. to well into the evening each day. Particularly noted was WALEXN, Maine and VE1KO, and VE1PL in New Brunswick. The usual stations from the south around the compass up to Minnesota were noted.

2 METERS: The 145 MHz band has been holding up well in activity particularly at the low frequency end with SSB. W8DGF, K8UQA, K8III and K8MMM will be operating during the contest and can usually be worked from this area at any time around 144.110. The VE3 stations from Toronto have been rather inactive for the last six months but they are expected to be on for the contest.

220 AND 432: These bands have not shown much activity during the Fall months although several good QSO's have been accomplished with WA2LTM and K2RIW in NNJ and NYCLI respectively, and as usual K1PXE can be worked on either band. There are also at least four stations in Delaware on 220 and 432 that will be on for the contest.

73 and good luck in the contest!

NEW PRODUCTS OF INTEREST TO HAMS BY LYN, W3NSI

1. TEMPO 220 TR: This unit was written up about 6 or 8 months ago, however, delays in production have resulted in the unit only now becoming available. Some changes have been made in the front panel layout, and the receiver now tunes the 220-225 Mc band in two segments, giving better bandsread. Power output on the transmitter remains the same 4 W FM 1 1/2 W AM. Price is up about \$40 to \$220. More info from Henry Radio, 11240 W. Olympic Blvd, Los Angeles, California 90064.

2. TEMPO FMV 2: This FM transmitter receiver unit is a new addition to the line and at \$199 for a 10 watt output rig, it would appear to be the cheapest in that power range. There is a front panel meter for reading S units on receiver and output on the transmitter. Automatic frequency control can be switched in from the front panel (receiver), and provision is made for 11 channels. One other feature is a switch on the panel that connects the meter to read input volts from the car etc, battery line. Price \$199, Address above.

3. HEATHKIT SCANNING MONITOR: The new GR 110 is the first of several units to be introduced by Heath to answer the need of hams now operating VHF FM. Word was that a Trans. Rec. was due, but this monitor has hit the market first. It has 8 channels which may be scanned automatically or by manual control. When a signal is received in the automatic mode, the scanning action stops at that channel until the signal goes off. One interesting feature of this set is the use of a priority channel. Whenever a signal comes on the priority channel, the set will return to that frequency at once, even if another signal had been locked on at the time the priority channel became active. Rather than use a light for each channel as it was scanned, Heath has a digital channel readout to indicate which frequency is then being received. The receiver will cover any 9 Mc range between 145 and 175 Mc and can be operated on 115 Vac or 12VDC. Price \$120. Heathkit Co., Benton Harbor, Michigan 49022

NOTE-Those hams who, like me, were foolish enough to subscribe to RPT magazine may be interested to know that they are not the only ones taken in by this deal. A \$6-26 issue subscription turned out to be good for one issue-Aug.1, 1972, with no hint that the magazine was going under. Letters sent to the magazine are returned marked "moved left no address", letters to the Editor and Publisher-Mike Van Den Branden WA8UTB are not answered at all, generating a number of reports to the BBB and Post Office Dept. charging Mail Fraud.

"MORE ON THE OLD MAN" BY CARL, K3DLS
(CONCLUSION)

Tom, W3IA, gave the novice exam to many of my scouts, as well as to many many lads in the area. As the novices listened on Tom's receiver and tried to hand copy Tom would just sit back and tell them what was said and also tell them what the other two fellows one lower and the other higher in pitch would be saying.

Tom many years ago was "Philadelphia" on a CW emergency net when the south was hard hit by a hurricane. A southern city requested certain drugs and supplies. In one half hour Tom called a local drug firm and sent back the time of arrival of the supplies to within thirty miles of the city. Also, another city had a bad flood and put out a call for extra police. The Philadelphia Mayor wanted to talk to the other Mayor but the long lines were out. Tom while at work said he might be able to tie them together and when given the chance he did through a local ham he knew to be operating. Philadelphia sent 100 policemen and the Mayor was very thankful but could not realize why Tom could not do it when ever he wanted to. Tom's answer was that the other fellow had to go to work once in a while. Pages 64-69 of March 1955 QST lists the story of Hurricane Hazel of 1954 for which he got an Edison Radio Amateur Award. Page 74 of QST for January 1956 has the bit for the ARRL Public Service Award for 1955 Hurricane work. In November, 1962, Tom was appointed EC for Philadelphia.

Tom got more equipment that did not work and fixed it and because it worked it just had to go. He either gave it away or swapped it for something else that did not work. If you had a problem and Tom did not know the answer, in a day or two he would give you an article or circuit from one of the many old radio magazines that he read and reread.

Thornley Mitchell Coin, born October 20, 1897, died September 1, 1972, lived a full life of close to 75 years. W3IA is another silent key for the Pack Rats and amateur radio but I know I lost a real good friend and the best Ham I have ever known.

Editors Note: Carl had dedicated himself to Tom and Sara the past few years as their guide and wheels -- the "good samaritan"!!

This item from "Communication and Navigation Engineering" submitted by Ed, W3HKZ, who makes the following observation: "Amateur Radio is the only Radio Service that has less users than in 1966".

JAPAN AND ENGLAND HAVE PHONE-ONLY
HAM LICENSES

By C.W. Tazewell

Japan has almost as many licensed radio amateurs as the United States due to their phone-only license category. A total of 256,655 hams has been reported to the I.A.R.U. Region 1 News. The U.S. has about 285,000 licensed amateurs. The Japanese phone-only license permits operation on all high frequency bands (except 14 MHz) and all VHF bands with a maximum power of 10 watts. The phone-only licensee does not have to take a formal examination, and has just to complete a 40-hour course. This license is held by 86% of the hams.

In England the number of licensed amateurs has almost doubled in the last ten years as a result of their new phone-only license. There are now more than 20,400 licenses compared to 10,500 ten years ago, with about 3000 being in the new Class B category. Class B stations in England are limited to VHF bands and phone, and comprise 17% of the hams. The Ministry of Posts and Telecommunications is considering a further relaxation of regulations to provide an easier new novice license. It has been estimated that 100,000 additional persons would then become licensed radio amateurs, which would be a five-times increase. The U.S. FCC amateur and CB chief, A Prose Walker, W4BW, has stated that a no-code license for operation on VHF and higher bands is being considered.

NICKEL CADMIUM BATTERIES

By Bob Shriner, WA0UZO

(From de Grid Leak, Pueblo, Colo Via Ham-Hum)

As more and more walkie-talkies appear on the ham bands, especially 2 meter FM, the need for a rechargeable battery becomes quite apparent.

The normal walkie-talkie will use a set of 8 AA penlite cells and at a cost of about 15¢ each or \$1.20 per set. It doesn't take long to realize there must be better way.

The answer is the nickel cadmium rechargeable batteries.

First let us discuss the drawbacks. Of primary importance is cost. These AA size will cost about \$1.25 each or roughly 20 times the cost of regular dry cells. Next is the fact that they only put out 1.2 volts instead of the 1.5 volts of a dry cell. This means that you must use 10 of these cells to equal the voltage of a dry cell pack of 8.

The life of a single charge in the rechargeable battery is very comparable to the dry cells and any difference would be due to the condition of the cells.

O.K. Now what about recharging? These rechargeable cells can be recharged 1,000s of times provided that they are properly charged. On the other hand, they can be ruined in the first charging cycle.

In order to recharge these batteries, 3 different methods can be used:

1. Controlled voltage.
2. Controlled amperage.
3. Control both voltage and amperage.

In the controlled voltage method the charging current is automatically regulated by the battery and the high current at the start of the charge will not damage the battery under normal conditions, but if the battery is in a serious state of discharge a heating and/or gassing problem could arise.

The constant amperage method of charging is quite good; however, the rate will vary depending upon type of battery. In using this method of charging a careful watch should be kept on the batteries and when the charge is complete a sharp rise in voltage will be noted. The batteries must be removed from the charger at this time as they will start to gas and will be ruined in a short period of time.

The best method is to control both voltage and amperage. In this method the batteries can be put on charge and left there until needed at which time they can be placed in service and you will know that you have a fully charged battery.

A battery charger for nickel cadmium batteries can be easily built by the average amateur and successful nickel cadmium recharging can be done if the following notes are observed.

1. Charging is most efficient at battery temperature of between 40 degrees F and 80 degrees F, never to exceed 100 degrees F.
2. Two or more batteries having the same rated voltage regardless of capacity may be charged in parallel on a constant voltage charger, if the charger has the proper current capabilities.
3. Do not connect two or more batteries in series when using the constant amperage method unless the batteries are of the same type and capacity and in the same state of discharge.
4. The charging voltage must be 10% above the rated voltage of the battery.

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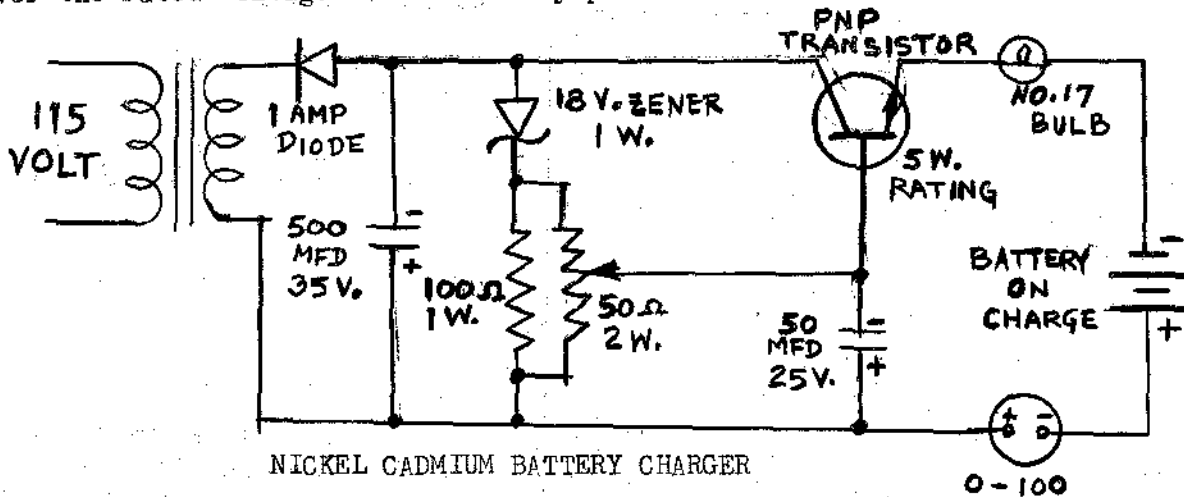
NICKEL CADMIUM BATTERIES CONTINUED

5. The charging current must never exceed 25% of the rated ampere-hour rating of the battery. 10% is a slower charging rate but a safer figure. Less than 10% will take too long to charge the battery.

6. The charge efficiency is the ratio of ampere-hour available on discharge to the ampere hours returned to the battery during charge. This ratio is always less than 1; therefore, excess charge must always be returned to the battery after discharge to restore rated capacity. A figure of 125% may be used depending upon cell type and condition.

The schematic of the charge shown has proven to be very satisfactory.

The only adjustment necessary is R1 which should be adjusted to give an output voltage of 10% over the rated voltage of the battery pack.



TLD BITS CONTINUED

Contacts have been made recently on 2 meter FM with a couple of ex Pack-Rats - Sammy, K3ABK and Coop, K3ANV.

Welcome back for the Holidays from Okinawa to ex Pack-Rat Warren Parker, W3CKP and XYL Marion.

Silent keys - we sadly note the passing of ex Pack-Rat Peter De Center, K3EMA and an old Delaware County friend W3AJ0, Kermit Crowell.

Glad to see Herm, K3GOZ up and about after a seige of illness and surgery. Keep up the good work.

The Pack-Rat Moon Bounce project is off and running under the direction of Chuck, WA3LNH. They are looking for additional member participation.

Correction to directory up-date - change call letters K3AA/4 to K4UV. WA3HVL to WN3TTV.

"Like to get rid of your extra or unused 220 gear and help increase 220 activity in the Midwest? Remember, your old gear could get you a new state on 220! Write to - Great Lakes 220 MHZ News, P.O. Box 145, Okemos, Mich. 48864. Free ads for 220 MHZ gear." (Nice to see the following for a change at the Dec. 20th meeting - K30PC, W3PST, W3SMK, W3ELX, K3VEQ).

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ITEM:

For those using 6 meter FM LD 50 mobile units utilizing 7000 series tubes - A & G Radio in Elkins Park, Pa. carries most numbers.

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6 meter Saturn Halo with matching transformer and coaxial cable completely assembled ready to use. Had a one to one SWR with Communicator III. Includes bumper mount bracket, and ant. coil spring. Special fender coax mount for PL259 connector. (Original cost \$8.00)

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CONTACT:

K3MPZ, Ralph Hairsine 1408 Wedgewood Road Wilmington, Delaware 19805

Shakespear mobile 6 meter whip with loading coil. Power inverter (Workmore, Sarasota, Fla) Converts DC to operate AC unit - 125 watts intermittent - 100 watts constant.

CONTACT: Herm, K3GOZ for a reasonable deal. HO 4-6555



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FROM HAM-HUM (Omaha Nebr.)
MOTOROLA MODEL NUMBERS

More and more hams are enjoying 2 meter FM and many are using or thinking of using low priced Motorola used equipment. The following info may help clarify the meaning of the model nomenclature.

T43CMT-1130A

1st character (T)(Housing)	2nd character (4)(RFout)	3rd character (3)(Freq.)
B=Base	0=Rec. only	0=Below 25 MHz
D=Dash mount	1=less than 75W	1=25 - 54 "
H=Portable (max. portability)	2=.75 - 3.9W	2=72 - 76 "
M=Monitor rec.	3=4-15W	3=144 - 174 "
P=Portable	4=16-40W	4=450 - 470 "
R=Railroad	5=41-69W	
T=Trunk mount	6=70-100W	
U=Universal mount	7=101-134W	
4th character (C) (Rec)	5th character (M) (Xmtr)	6th character (T) (Power)
A=Sensicon "A"	A=30 - 60W "A" transmitter	B=117V.AC
B=Unified chassis (450M)	B=Unified chassis (450)	C=Battery (dry)
C=Mocom	C=Lo+UHF Portable	D=Dynomotor
D=Portable	E=High band portable	M=Transistorizes w/int.bat
G=Sensicon "G"	G=Mobile + AC utility "G" xmtr	N=No power supply
H=Motrac	H=Motrac	T=Fully transistorized
L=Motran	L=Motran	V=Vibrator
	M=Dispatcher	
7th character (1) (Squelch)	8th character (1) (Chan.Sp)	9th character (3) (#of freqs)
1=Carrier	0=Wide band	0=1 trans & rec
3=Dual (PL)	1=Split channel	3=2 " " "
		7=4 " " "
10th character (0) (Power)		
0=12 volts		
1=6/12 volts		
4=6 volts		

Services of WWV de W3VVS From Nov. Philmont Blurb

- WWV broadcasts continuously on six shortwave frequencies. Seven services are offered.
1. STANDARD RADIO FREQUENCIES of 2.5, 5.0, 10.0, 15.0, 20.0, and 25.0 MHz are the carrier frequencies for the other six services.
 2. STANDARD AUDIO FREQUENCIES of 440 Hz, 500 Hz, and 600 Hz are broadcast on each carrier at scheduled intervals.
 3. STANDARD MUSICAL PITCH, A above middle C, is provided by the standard audio frequency, 440 Hz.
 4. STANDARD TIME INTERVALS are marked by seconds pulses, a 1000 Hz tone every minute, and a 1500 Hz tone every hour. Time intervals are also broadcast in the form of a binary time code on a 100 Hz subcarrier.
 5. TIME SIGNALS include voice announcements of Greenwich Mean Time every minute.
 6. UNIVERSAL TIME (UTI) CORRECTIONS are transmitted in coded form every minute.
 7. OFFICIAL ANNOUNCEMENTS are broadcast at scheduled times for agencies of the U.S. Government. Presently, the announcements include radio propagation forecasts, geo-physical alerts, and marine storm information.

Cheese Bits
2087 Parkdale Ave.
Glenside, Pa. 19038



W3KKN, Ernest Kenas
2823 Old Welsh Rd.
Willow Grove, Pa. 19090



PACK RATS

MT. AIRY VHF RADIO CLUB, INC.

MEETING NOTICE

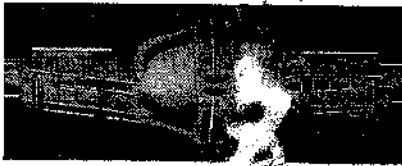
FIRST CLASS

(215) OL 9-5900

AMATEUR RADIO IS OUR BUSINESS

"Ham" Buerger, Inc.

80 N. YORK ROAD WILLOW GROVE, PENN 19090



HAM M.JR. TR44

REGULAR HAM NET 69.95 SPECIAL HAM NET WITH 100 FT. 8 WIRE CABLE

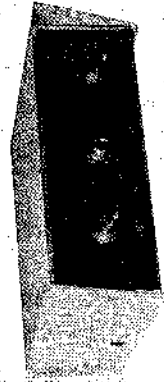
\$69.95
PLUS POSTAGE WT. 20 LBS.
PA. HAMS ADD 4.29 TAX



MODEL AJT AUDIO-JET

IF YOU OWN A RECEIVER OR TRANSCIVER THAT YOU WOULD LIKE TO INCREASE THE SELECTIVITY IN THE CW MODE AND REDUCE THE GENERAL QRM, YOU NEED THIS EASY TO INSTALL DEVICE. AUDIO SELECTIVITY VARIABLE FROM 100 CPS TO 8000 CPS CONTINUOUSLY. CONNECTS TO 4 OHM OUTPUT AND INPUT. THIS IS THE FINEST AUDIO FILTER IN THIS PRICE CLASS.

PLUS POSTAGE SHIP. WT. 2 LBS.
PENNA. HAMS ADD .50 SALES TAX
HAM NET **\$9.95**

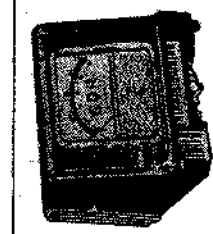


MODEL PP PHONE PATCH

TRANSFORMER COUPLED NO PRINTED CIRCUIT. LOW HUM LEVEL. GOOD HIGH LEVEL AUDIO. PRESS TO TALK. CUSTOM MADE FOR YOUR TRANSMITTER NO MIC, CONNECTORS TO CHANGE SIMPLE TO CONNECT. SPECIFY TRANSMITTER OR TRANSCIVER.

PLUS POSTAGE WT. 3 LBS.
PA. HAMS ADD .90 TAX

Amateur Price..... **\$14.95**



\$109.95;

PLUS POSTAGE WT. 32 LBS.
PA. HAMS ADD 5.60 TAX

CDR MODEL HAM M

REGULAR HAM NET-129.95
SPECIAL HAM NET WITH 100 FT. 8 WIRE CABLE