

# PACK RATS'



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CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

# CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA ARNS  
 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, 847 E. Street Road  
 Southampton, Pennsylvania 19866

VOLUME XXVI

JANUARY, 1985

NUMBER 1

## THE PREZ SEZ

Now that the holiday season is behind us, we now look to the January Sweepstakes Contest. At the December meeting Rick, WB2NPE and Bob, N2SB explained how to work a grid square contest and have made the details a lot easier for those who have never worked one. As Rick has stated, we will need everyone's effort as the small scores added together will make the difference and help us win number 25. So jump in and give your grid square and most of all have FUN.

Other events this year, of course, are the January Crying Towel and February Home Brew Night. Let's see some new and exciting home projects for February's meeting. Mike, WB2RVX our Vice President, has come up with some exciting programs for our other months.

THANKS to all of you who have come out to the club meetings. Remember, the club is strong because of your continued support. In closing, I am listing those who attended the December meeting. I hope I have listed all those who attended and apologize if I have missed anyone. If you were not at our December meeting, I hope you will come in January and enjoy the Crying Towel.

Best of luck in the January VHF SS and a Happy New Year To All.

73, Dave, WB2VLA

WB2VLA	W3IIT	K3GAS	W3CL	W2EIF	K3IUU
WB2NPE	WA3FOF	W3NSI	WA3AQA	K3VYG	W3ZD
N2SB	WB3CTP	K3DLS	W3KKN	WB3IGR	K3ACR
AK30	N2ASC	NF2L	WA3AAJ	WA3NUF	W2AXU
W3AJS	WB8ZAR	WA3YUE	WA3AXV	WB3IND	N3CX
WA2OMY	WA3JUF	WA3YDZ	K3QQ	KA3MGB	W3KM
K3PHY	K3MXM	K3GYS	K3JJZ		WB3DNI
KA2JKI	WB2GEZ	WB3JYO			

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SWAP SHOP ITEMS - NO CHARGE

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

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W3CL, HARRY B. STEIN

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

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WB3IND, GEORGE McMAHON (2 Yrs)

WA2OMY, GARY HITCHNER (1 Yr)

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NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. KENWOOD 144 AND 432 MULTI-MODE TR: The new Kenwood TS 711A for two meters is a much improved version of the old TS 700 SP which went off the market about three years ago. Like the 700 the 711 has a built in AC supply for fixed station use and can also be used mobile on 13.9 VDC. The new unit matches the TS 430 HF rig in size and appearance and also uses some of the same optional accessories such as mics, external speakers, and mobile mount. Transmitter output is rated at 25 watts and can be varied with a power control on the front panel. All modes except AM are available. Some of the highlights of the 711 include dual digital VFOs, multi function digital display, 40 memory channels that store freq, mode, offset, and tone, programmable scan, memory scan, selectable tuning rate, speech processor, and all mode squelch. DCS - digital code squelch is a feature that allows the operator to program a digital code into the 711 that will cause it to respond only to transmissions that include that 5 digit code. Other trans. will not open the squelch. A ham call may also be programmed into the 711 and this will also be sent along with the 5 digit code. When equipped with the optional CD 10 call sign display, the 711 will show the call sign of the other station using the DCS system. An operator that has left the rig on while absent, can check the call sign display memory, which can record up to 20 signs, to see if he had been called and by whom. (if they are using the DCS system) This is a lot bigger rig than the Kenwood TR 9130 mobile and is of greatest interest to the fixed station operator. The weight - 15 pounds is about the same as the old 700 but it is wider than the old rig. All of the above information applies also to the 432 version the 811A. The next question is, will this rig sell well considering the fact that it is possible to buy a Yaesu 726R and add the 432 module for about \$300 more than a one band rig. Price \$800.

2. KENWOOD QUAD-BANDER: The TS 670 covers the 6-10-15-40 meter bands. These are the popular mobile bands considering antenna size and power of mobile units. This unit is an upgrading of the TS 660 quadbander of several years back. The 660 never sold very well, mainly due to a high price (\$700) and low power output (10 watts). The new 670 has these same faults and is a lot bigger. The 670 drops the 12 meter band in favor of 40 meters but still runs only 10 watts out, although the case size is the same as the 100 watt output TS 430. The GC 10 can be installed inside the case to add general coverage (500 Khz - 30 Mhz) to the receiver section. As with the 711 and 811 above, the 670 uses many of the same options as the TS 430, including the mobile mount and FM module. While the TS 430 lists for \$200 more than the 670, the latter is a better buy considering 9 band coverage with 10 times the power output. (unless one really wants 6 meter coverage). Price \$700.

\* \* \*

VISITORS - DEC. 20, 1984 MEETING

W3AJS - Ed Keener, Oreland, Pa.  
WB3DNI - Pat Cawthone, Warminster, Pa.  
WA3YDZ - Dave Hartrum, Springfield, Pa.

PHONE NUMBER ADDITION

K3HW - Howard Weinstein  
609-596-3304

VOTED TO MEMBERSHIP

WB3DNI - Patrick Cawthorne  
268 Bloomfield Rd.  
Warminster, Pa. 18974  
215-672-5289

WA3YDZ - David Hartrum  
315 Butler Rd.  
Springfield, Pa. 19064  
215-328-0336

\* \* \*

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Doc Cutler, K3GAS

CALENDAR OF COMING EVENTS  
Syllabus by Lee, K3MXM

JANUARY

- 1           HAPPY NEW YEAR - ONE AND ALL  
Make new resolutions - and write them down this time...Whee - a New Year ---  
good to have another chance...
- 5-6         ARRL QSO PARTY - CW
- 5           Computer Show, George Washington Motor Lodge, Willow Grove, Pa.
- 10          Board of Directors Meeting - QTH, WAZOMY - Gary Hitchner, Jr. 39 West Mt. Kirk Ave.  
Norristown, Pa. Phone: 539-6409 or via 220 P.R. Repeater. Directors and interested  
parties always welcome.
- 12-13       THE CONTEST ARRL January VHF Sweepstakes. Good Luck to All. What is your grid  
Square?
- 14          "The Today Show" debuted on NBC 1952 - Remember Mr. Fred J. Muggs.
- 15          Martin Luther King's Birthday
- 13          The Eighth Annual Richmond, Va. Frostfest - Virginia State Fairgrounds.
- 17          First Million Dollar Robbery - Brinks Holdup - 1950
- 17          U.S. Government bought the Virgin Islands 1917. Amazing people had an interest  
in a whole Island of...
- 17          General Club Meeting - Southampton Free Library - 8 P.M. Topic: "CRYING TOWEL"  
The Mario Raffle, Frankie's Silent Auction, Refreshments.
- 19-20       ARRL QSO Party - Phone
- 19          Happy Birthday - Robert E. Lee
- 22          Allied Troops landed in Anzio 1944
- 26          15 Meter World SSB Championship
- 26          George F. Green patented in 1875 an item which we are all too well familiar -  
the electric dental drill. (K3GAS, WB2RVX, K2EVW, please note!!)
- 27          20 Meter World SSB Championship
- 31          "Scotch Tape" first went on sale in 1928

DUES ARE DUE!!!

Have you been listening in every Sunday Morning to the Pack-Rat Low Band Net  
8 A.M. on 3827 Khz.

and remember if you get sick with the Virus, it is an Old Latin word which  
Doctors use and means "your guess is as good as mine"...

EXACTO ETCH  
By D. Mascaro, WA3JUF

Now anyone can reproduce a microstrip printed circuit board without using the photo sensitive boards and negatives.

This is like exacto knife construction, but easier and faster. Since the copper is etched away, its a lot neater than the cut away method. I have been using this technique for years. An exacto knife is used to cut away scotch tape that is used as the resist material.

1. Cut the pc board to size and clean.
2. Draw the pc artwork on the board with a pencil.
3. Cover the pc board with the scotch tape making sure there are no bubbles. The tape is of the 4" wide variety and is available at stationary stores.
4. Now cut along the pencil lines either free hand or with a ruler.
5. Remove the tape from the board where you want the copper to be etched.
6. Press down on the remaining tape to insure a good etch.
7. Etch the board in Ferric Chloride. This can be done rather fast by putting the pc board and Ferric Chloride in a plastic bottle with a lid and agitating the bottle in a bucket of hot water.
8. Remove the tape and clean with steel wool.
9. Tin plate the board with solder and a flat bladed soldering tip. Use liquid flux to flow the solder evenly and thin.

This method saves time because you don't have to wait for the resist to dry and you don't have to expose and develop the board. This tape does not come off in the etching solution, in fact it's hard to peel off afterwards.

\* \* \*

FROM ARRL LETTER DATED 12/20/84

STI 220 PETITION: In another 220 development, the petition of Sideband Technolog-  
Inc. (STI), for reallocation of 216 to 220 MHz for narrow band land mobile use is back on the  
front burner. RM 4831 had been placed on hold pending solution of a problem involving attorney  
That problem is now resolved, and the FCC Chief Scientist, Robert S. Powers, established  
the comments deadlines for RM 4831; original comments were due by December 19, reply  
comments are due by January 3, 1985. Official participation requires the filing of an  
original and five copies with the FCC, with another copy to the petitioner (ARRL), though  
even a single page will be considered informally. (See Volume 3, Number 18.)

\* \* \*

RENEWAL TIME FOR NORTHEAST VHF NEWS: This issue concludes our 13th year of publication of  
the NEVHF News, which means that it is time for all members who have not already done so  
to renew their membership for 1985. Dues remain at the modest level of \$3.00 per year,  
thanks to the support of our printer, WALAYS. Send your renewal check, payable to  
"Northeast VHF Association," to Lewis D. Collins, 10 Marshall Terrace, Wayland, MA 01778  
(and while you're at it, sign up a friend.)

\* \* \*

SPACE FILLERS BY LEE

Noah was probably the first great Financier - He wisely floated his stock while everyone  
else was being liquidated...

In any given miscalculation the fault will never be placed if more than one person is  
involved....

Successful man - one who makes more than he can spend - successful woman - one who finds him..

No matter what happens, there is always someone who knew it would....

A MESSAGE FROM BURNHAM, ME

Greetings from the North Country! Things are starting to settle down up here even though there's still an unbelievable amount of work to do. I strung an 80 meter dipole and, as you've probably heard, have been working some of the Rats on Sunday mornings. The sked is on 3827KC, at 8:00 AM EST Sunday with WA3JUF. We're going to try this for a couple of weeks and see how it goes and then I might try to organize an East Coast UHF/Microwave net on 80 or 40M. with the purpose of arranging skeds on 1296 and 2304 along the East Coast. This past Sunday, WA3JUF, WA3AXV, W2AXU, AK30, and KF6AJ were on. It was great hearing old familiar voices.

Plans are to put up a short temporary tower for the VHF antennas soon and then put up the "big tower" in the Spring. Don't know who I can work down that way with simple antennas, but won't know until I try. Aurora should be good up here - maybe I can work 'em that way. When I get up big antennas, I should make the grade with decent conditions, I'm about the same distance from Phila. as Cleveland, Montreal or North Carolina - certainly not an impossible path.

One of the things I plan to do on the side is go into the antenna business. I'm starting out with 1296 and 2304 loop yagis to see what happens and if I can find a market, I'll expand into other antennas and amplifiers, maybe transverters later. I'm setting up to do the loopers right away so pass the word around.

I'm enjoying life in the slow lane even though I can see myself eventually with more work than ever (sound familiar) I hope to be down in the area often, so I'm sure I'll see you then and hopefully we can make it on the air when conditions are good. CUL and hi to the Rats.

73, Bill Olson

\* \* \*

TLD BITS

Sunwatcher, Jack Power, W2AXU reports the monthly No. for November 1984 = 22.4, smoothed No. for May 1984 = 47.2

Received a note from Dick Boyle, K3IGX out there in Arizona - he is only on 2 mtr FM at this time. Sends Holiday Greetings to all the Rats.

John Tate, K3KTY reports from Florida that he is only on HF right now - will be on VHF/UHF at a later date - sends Seasons Greetings.

W3YXF, Joe Rushton and XYL spent a bit of vacation time in Mexico. Come out to a meeting Joe and tell us about your trip.

Condolences to Al Boblitt, K3EOD on the recent loss of his father.

Thanks to Charlie, WA3RSQ for the report on the six meter severe weather net. This net operates on 50.150 Mhz (SSB) on Sundays at 10 A.M. If you have weather info. you may call collect to the National Weather Service Office in Allentown, Pa. The numbers are 1-215-266-1552 or 1-215-264-4941.

SWAP SHOP

FOR SALE: 75S3C HF receiver - W/500 HZ CW filter. Mint condition \$600. Henry 3KA HF amplifier, super mint - \$1500 (pick up only) Drake L4 HF amplifier \$700.  
CONTACT: Bill, NF2L  
Phone: 609-386-4504

FOR SALE: Kenwood TS 700S transceiver for 2 mtrs, all modes - FM, CW, USB, LSB & AM. Priced right.  
CONTACT: A.G. Wentzel, W2HX  
318 Gardner Ave., Trenton, N.J. 08618  
Phone: 609-393-4823

FOR SALE: Lambda 28 volt, 13 Amp. P/S \$45.; 2 - 144 MHZ 13 el. long boom KLM antennas \$45.@  
CONTACT: Dan, N2ASC  
Phone: 609-386-1540

FOR SALE: 1296 and 2304 antennas - 1296 - 45 ele. 12 ft. boom \$80; 2304 - 45 ele. 7 ft. boom \$70. All antennas completely assembled and tested. All stainless hardware complete with boom to mast mounting bracket. Power dividers and phasing lines are available for stacked arrays.  
CONTACT: Bill, W3HQT at Down East Microwave Box, 1655 A, RFD 1, Burnham, ME 04922  
Phone: 207-948-3741

FOR SALE OR SWAP: R390A rcvr., Robot 400 SSTV

WANTED: 220 MHZ FM xcvr.  
CONTACT: Gus, K3GYS  
Phone: 609-767-3628

WANTED: High power 6 mtr. amplifier - 1 kw. 10 to 50 watt xcvr for 6 mtrs.  
CONTACT: Charlie, WA3RSQ  
Phone: 215-266-1552 or 215-264-4941

PICKUP FOR THE ASKING: Zenith 25 in. TV set. RCA 25 in. TV set. Both in working condition.  
CONTACT: Harry, W3CL  
Phone: 215-887-5052

FOR SALE: Ladies Size 5 San Marco Ski Boots. Excellent condition, like new. \$35 or best offer.  
CONTACT: WA3TEM, Marsha  
Phone: 215-886-2590

\* \* \*

THE RADIO REGULATIONS, INTERNATIONAL TELECOMMUNICATION UNION, (Geneva 1982) has assigned the meaning to the following symbols for the purpose of determining the classes of radio emission.

FIRST SYMBOL

Type of modulation of main carrier

1. Emission of unmodulated carrier.
2. Emission in which the main carrier is amplitude modulated, including cases where subcarriers are angle modulated.

Double sideband ----- A  
 Single sideband, full carrier ----- H  
 Single sideband, reduced or variable carrier ----- R  
 Single sideband, suppressed carrier ----- J  
 Independent sideband ----- B  
 Vestigial sideband ----- C

3. Emission in which the main carrier is angle modulated.

Frequency modulation ----- F  
 Phase modulation ----- G

4. Emission in which the main carrier is amplitude or angle modulated either simultaneously or on a pre-arranged sequence. ----- D

THE RADIO REGULATIONS CONTINUED

5. Emission of pulses

- Unmodulated sequency of pulses ----- P
- A sequence of pulses
  - (a) amplitud modulated ----- K
  - (b) width/duration modulated ----- L
  - (c) position/phase modulated ----- M
  - (d) in which the carrier is angle modulated during the period of the pulse ----- Q
  - (e) a combination of the foregoing or is produced by other means ----- V

6. Cases not covered above, in which an emission consists of the main carrier modulated either simultaneously or in a pre-established sequence, in a combination of two or more of the following types of transmission - amplitude, angle, pulse ----- W

7. Cases not covered ----- X
- NOTE: Emissions where the main carrier is directly modulated by a signal which has been coded into quantized form (e.g. pulse code modulation) should be designated under 2 or 3.

SECOND SYMBOL

Nature of signal(s) modulating main carrier

- 1. No modulating signal ----- 0
- 2. A single channel containing quantized or digital information without the use of a modulating subcarrier (excluding time-division multiplex) ----- 1
- 3. A single channel containing quantized or digital information with the use of a modulating subcarrier (excluding time-division multiplex) ----- 2
- 4. A single channel containing analogue information ----- 3
- 5. Two or more channels containing quantized or digital information ----- 7
- 6. Two or more channels containing analogue information ----- 8
- 7. Composite system with one or more channels containing quantized or digital information together with one or more channels containing analogue information ----- 9
- 8. Cases not otherwise covered ----- X

THIRD SYMBOL

Type of information to be transmitted

- 1. No information transmitted ----- N
- 2. Telegraphy - for aural reception ----- A
- 3. Telegraphy - for automatic reception ----- B
- 4. Facsimile ----- C
- 5. Data Transmission, telemetry, telecommand ----- D
- 6. Telephony (including sound broadcasting) ----- E
- 7. Television (video) ----- F
- 8. Combination of the above ----- W
- 9. Cases not otherwise covered ----- X

(Chapter 9 of the ARRL 1985 Handbook has an excellent explanation)



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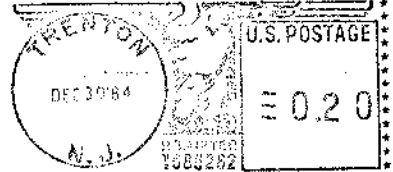
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