

# PACK RATS'



## PACK RATS

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, 947 E. Street Road  
Southampton, Pennsylvania 19866

VOLUME XXVI

JULY, 1984

NUMBER 7

### THE PREZ SEZ

It has been said that "All good things must come to an end." That is, indeed, a true statement. Having been the President of the Pack Rats has not only been good for me; it has been one of the most rewarding and honored events of my life. I can think of several highlights during my experiences with Amateur radio. Being a member and officer of the Mt. Airy VHF Radio Club tops the list. For those opportunities, I am grateful to the members of this great organization. My sincere thanks are extended to all of those who supported me during the past two years.

Many members provided suggestions, directions and special support during my term as President. I would not want to begin to list names of all of those who helped for fear of omitting someone. However, it would be unforgiving if I did not mention one individual who served as the catalyst for my success as your President. That person is Harry, W3CL. I shall never forget the many encouraging reminders that Harry offered. For all of his assistance I say, THANK YOU MR. STEIN!

As we approach the new year, I am confident that all of you will continue to support your club and all of its activities. We have demonstrated that no other amateur group is closer knit or more productive than the Pack Rats. Dave, WB2VLA, your new President, has been elected to provide the leadership that is required to insure continued success. He is extremely capable; his past contributions more than qualifies him to be at the helm for the coming year; and he is prepared to meet the challenges. Good luck, Dave! We will support you and your efforts.

Thanks Pack Rats for having been given this rare opportunity to serve as your President.

Bill, NF2L

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

SUBSCRIPTION RATE - \$2.50 PER YEAR

We operate on an exchange basis with other publications. Anything that is printed in CHEESE BITS may be reprinted, unless otherwise stated, provided that proper credit is given.

SWAP SHOP ITEMS - NO CHARGE

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

EDITOR:

W3CL, HARRY B. STEIN  
2087 Parkdale Avenue  
Glenside, Pa. 19038  
215-887-5052

PUBLISHER/SUBSCRIPTION MANAGER:

K3GAS, DOC CUTLER  
7815 New Second Street  
Elkins Park, Pa. 19117  
215-635-1078

PRINTER:

WB2VLA, DAVID POWER  
609-882-1040

TYPIST:

WA3TEM, MARSHA LISSAUER

TRUSTEE OF THE CLUB CALL - W3CCX:

WA3AXV, RONALD WHITSEL  
215-355-5730

AWARDS CHAIRMAN:

W2EIF, JOSEPH KILGORE  
609-783-9478

CLUB HISTORIAN:

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

NET CONTROL

W3CL

W2EIF

K3GAS

KS2T

K3IUU-NF2L

W3HQY

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

OFFICERS: 1984-1985

PRESIDENT: WB2VLA, DAVE POWER

VICE-PRES: WB2RVX, MIKE GULLO

COR. SECY: AK30, FRANK KERNS

REC. SECY: W3IIT, HARRY BROWN

TREASURER: K3GAS, DOC CUTLER

DIRECTORS: NF2L, BILL SMITH (EX-OF)

WA3AAJ, JIM WARD (2 Yrs)

WB3IND, GEORGE McMAHON (2 Yrs)

WA2OMY, GARY HITCHNER (1 Yr)

WA3YUE, BRUCE LOSS (1 Yr)



THE AMERICAN RADIO RELAY LEAGUE

OST

HUGH A. TURNBULL, W3ABC

Director, Atlantic Division

6903 RHODE ISLAND AVE.  
COLLEGE PARK, MD. 20740

(301) 927-1797

1-302-478-2757

AMATEUR  
and  
ADVANCED  
COMMUNICATIONS



G. B. WALLS

3208 CONCORD PIKE (RT. 202)  
WILMINGTON, DEL. 19803



Pennsylvania Institute  
of Technology

PAUL D. MERCADO

Chairperson, Drafting Design Department

(215) 565-7900

Rose Valley-Notre Dame Campus  
800 Manchester Ave., Media, Pa. 19063-4098

FREE ESTIMATES  
(215) 672-3850  
(215) 822-0808



MICHAEL McMACKIN

REGISTERED PLUMBING & HEATING  
BATHROOM INSTALLATIONS • ELECTRIC DRAIN CLEANING

96 HELLBERG AVE.  
CHALFONT, PA. 18914

2405 PARKSIDE AVE.  
HATBORO, PA. 19040

CALENDAR OF COMING EVENTS

Syllabus By Lee, K3MXM

JULY

- 1 Historical Note - Battle of Gettysburg - 1863
- 1 Dominion Day (Canada)
- 4 Independence Day - Fly the Flag with Pride
- 4 Harrisburg ARC - Firecracker Hamfest - Bressler FC Picnic Grounds - Info: Dave, KC3MG, 131 Livingston St., Swatara, Pa. 717-039-4957
- 12 Board of Directors Meeting - QTH: WA2OMY, Gary Hitchner, 39 W. Mt. Kirk Avenue, Norristown, Pa. 215-539-6409 Directors and interested parties always welcome and invited.
- 14 West Jersey ARC Hamfest at Super 130 Drive-In - Edgewater Park. Just South of Burlington, N.J.
- 14 Mt. Beacon Hamfest, Poughkeepsie/LaGrange School - Dutchess County, N.Y.
- 14 SCARC '84 Hamfest - Sussex County Fairgrounds, Plains Road off Rt. 206, Augusta, N.J. Info: Don Stickle, K2OX, Weldon Rd., R.D. #4, Lake Hopatcong, N.J. 07849 - 201-663-0677
- 15 St. Swithin's Day
- 19 First Outdoor Meeting of the Year - QTH - Zimmerman's GLENN - 520 Centennial Road, Warminster, Pa. AUCTION and WHITE ELEPHANT SALE. All attendees must bring a sealed goodie package for sale for and by the club. Your sealed item will make this a most pleasurable evening. All other items will be sold with the club getting a small percentage. Clean out your shack, clean out your cellar, clean out your attic, clean out your garage. Keep the iron moving. Pass along your "prized possessions" so they will have a new home for a new year and then next year you bring them back to the sale. A good fun filled evening under the stars??? Of course - pure "Amateur" refreshments - what else.... Bring your friends and buddies - invite other clubs - make this a really big nite - talk it up on the repeaters..we want a large crowd...
- 20-22 ARRL National Convention New York City
- 27-28-29 Central State VHF Conference - Cedar Rapids, Iowa.
- 29 Maryland Hamfest and Computerfest - Howard County Fairgrounds - 15 miles west of Baltimore. Info: BRATS - POB 5915, Baltimore, Md. 21208.
- 29 Picnic - Friends of WCAU - K3VAN Repeater - Starts at noon. Bring family and food to Ft. Washington Park, Flourtown, Pa. (Tnx W3HKZ)
- 30 For you Baseball fans - today is Casey Stengel's Birthday.

OUR GOOD WISHES TO THE OUTGOING OFFICERS OF THE CLUB AND GOOD LUCK TO THE INCOMING PACK-RATS!!

## NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. YAESU ELECTRONICS FT 203R: The new RT 203R for 2 M FM is a compact HT featuring VOX when used with the optional YH-2 Headset. This allows hands free operation for tower or roof work. Thumbwheel frequency selection allows coverage of the entire band. Indications from the company that this unit will be followed by 220 and 440 HTs, would mean the 220 HT buyer would have four units to select from. Price \$240.
2. KLM ULTRA HIGH PERFORMANCE BEAMS: KLM has introduced three new antennas for Oscar 10 and moonbounce operations. The 432-30LBX is a 30 element long yagi rated at 17.3 Db gain on a 22 foot long boom. Weight is 9 pounds and wind loading is 1.43 sq. ft. The 2M-16LBX has a gain of 13 Db and features a 19 foot boom. Weight is 11 pounds and wind loading is 1.85 sq. ft. The 2M-22C is a circular polarized beam rated at 14.8DB. Boom is 28 foot long and weight is 10 pounds. All antennas include baluns. All use 50 ohm coax feedlines.
3. PALOMAR INLINE RECEIVER PREAMPS: The P 310X for 115 vac and P 312X for 12 vdc, are designed to be used in the coax line from the transceiver to the antenna. The pre-amp is automatically bypassed on transmit, with an adjustable delay for return to receive. Maximum RF transmit power is 350 watts. The pre-amp covers 1.8 - 54 MHz with a gain of up to 20 Db. Price \$140.

\* \* \*

### VHF/UHF REPORT

By Joe, W2EIF

There is little to be reported this month. The Eskip on six and two has been very spotty. The best opening to this area on six occurred about mid May and other than short openings to Florida and the MidWest, activity has been generally poor. That goes for tropo also.

The June QSO Party occurred during poor conditions in general and only a couple of small openings to Fla. and Midwest on six.

The weather during the Spring months was unusually cool and wet and was of little help for good tropo. Let us hope that the trend reverses itself as the summer progresses. Activity also is down on all bands no doubt due to the conditions. As I write this, there is an opening to Fla. from the NE, but it doesn't sound like its going to amount to much.

NOTE: WB2NPE reported some spotted openings to the Carribean.

\* \* \*

### A JUNE VHF QSO PARTY NOTE

The Suburban Amateur Radio Club Contest Station, K3MTK, operating from the Big Pocono State Park near Tannersville, Pa., made contact with station W8YIO in Manchester, Michigan. Contact was established first on 1296 Mhz at approximately 9:15 P.M. E.D.T. on Sunday, 6/10/84 during the ARRL sponsored June VHF QSO Party. After the initial contact on 1296 Mhz, both stations switched over to 2304 MHz where contact was made again. Information was exchanged in the CW mode for about 5 minutes, then both stations switched to the SSB mode and continued to talk with Q5 signals for another 5 minutes. The distance covered by this QSO was 440 miles. W8YIO used an 8 foot dish and 400 watts transmitter power. K3MTK used a 16 foot dish and transmitter power of 100 watts. This contact is believed to be the first Michigan to Pa. contact on 2304 MHz and also ranks high in distance covered on 2304 Mhz. Needless to say a good time was had by all, and much celebrating was done after the QSO. Tnx - WB2YEH, Bob Fischer

SWAP SHOP

FOR SALE: 3.5 Mhz to 220 Mhz SSB and CW stations: SB301, SB401, SB500, home-brew 6 mtr. transverter w/Heath cabinet enclosure - All w/two(2) 6146 tubes in final. Home-Brew(QST) 220 Mhz transverter - 5/6 watts - no enclosure. Manuals-tagged connecting cables - band change w/two switches - antenna relays included - all in excellent condition. \$350.

CONTACT: W3AJF, Horace Deacon  
Phone: 215-657-0673

FOR SALE: Block & tackle equipment - 300 Ft. 3/8 in. manila hemp rope like new. (Four) (4) 5 inch blocks with 3 in. pulleys. One (1) - 3 pulley block; Two (2) 2 pulley blocks; One (1) - 1 pulley block. Can be arranged into an 8 to 1 using all blocks and anything down to 1 to 1. Last used to lower my tower. \$50.

CONTACT: W3AJF - Horace Deacon  
Phone: 215-657-0673

FOR SALE: 30 ft. tower w/tilt-over base (American Tower Co.) \$60.  
New 10 ft. length sked 40 aluminum pipe 2 in.O.D. \$25.

CONTACT: N3CX - Dave Hackford  
Phone: (Home) 215-679-7293  
(Work) 215-482-0428

FOR SALE: Hygain 66B - 6 el. 6 mtr. beam - stainless steel hardware \$30.  
2 - 9 el. 2 mtr. KLM antennas - mounted on horizontal cross boom \$30.  
1 - 29 El. Spectrum International Loop Yagi with "N" type connector \$15.

CONTACT: WA2OMY, Gary Hitchner  
Phone: 215-539-6409

COMMERCIAL AD

Chassis-Kit can save the homebrewer dollars, replaceable sides, end, and top plates. Any size up to 17 inches square of .040 aluminum. For quotes on other size send sase.

Side plates 20% each of chassis price plus \$1.00 postage & handling for 1st and \$.50 for each additional.

Cabinet kits quotes sase state size and of front openings.

<u>CHASSIS-KIT</u>	<u>BOTTOM PLATE</u>	<u>CHASSIS-KIT</u>	<u>BOTTOM PLATE</u>
4x8x3 - \$4.65	\$1.80	8x17x3 3/4 - \$10.00	\$3.65
5x9x3 - 5.15	1.90	8x17x4 - 10.95	3.65
8x10x3 - 6.40	2.85	10x17x3 - 8.70	3.75
8x12x3 - 6.90	3.55	*10x17x3 3/4 - 11.95	3.75
8x12x4 - 8.50	3.55	10x17x4 - 12.95	3.75
10x14x3 - 8.40	3.65	*10x17x5 - 18.45	3.75
6x17x3 - 8.25	3.60	*8x18x3 - 8.95	3.75
8x17x3 - 8.40	3.65	*8x18x4 - 11.50	3.75

\* SPECIAL ORDER

New Single Disk Drive Box \$10.25 & P&H

Tower mounting box w/mounting plate and 4 U-bolts (.040 Alum.)

8x10x3 - \$11.95

8x10x4 - \$13.50

Add \$2.50 for postage & handling for 1st chassis-kit add \$.85 for each additional kit and \$.50 for each bottom plate when ordered with a chassis-kit. Pa. residents add 6% sales tax. Prices can change without notice.

Byers Chassis-Kit  
5120 Harmony Grove Road  
Dover, Pa. 17315

THE SIX METER SEVERE WEATHER NET

The net control is WA3RSQ...The net meets on Sunday mornings at 10 AM local time, on 50.150 Mhz, SSB. There is one Sunday per month when I work days and I usually have an alternate station run it for me. The net is activated during times of Severe Weather; gathering weather information and relaying the info into the weather office at Allentown, Pa. Should there be severe weather, and the net is not on the air, the info is telephoned in. Any station in the net may operate or activate the net. You do not have to be a member to check into this net. There are no dues and no one is keeping records as to how many times you check in. I do keep a required log for my records and the FCC. The net is open and friendly.

We are having our 2nd Annual Summer picnic at Beltzville State Park. This is open to all radio amateurs and their friends. The date is Sunday, July 8, 1984.

\* \* \*

VISITORS - JUNE 21, 1984 MEETING

KA2NYF - Janet, Deptford, N.J.  
WA3DSP - Doug, Glenside, Pa.

W3AJS - Ed, Oreland, Pa.  
WB2ONA - Warren, East Brunswick,  
N.J.

VOTED TO MEMBERSHIP

WB2ONA - Warren Whelan, Wife - Susan  
8 Gunia St.  
East Brunswick, N.J. 08816  
201-257-3871/257-1741

VOTED TO RETIRED STATUS

WØRSJ - William Murphy  
2372 Stepping Stones Way  
Colorado Springs, CO. 80904  
303-636-3254

DROPPED FROM MEMBERSHIP

K3BOY, K3HES, K3MWW

KA3B reports another new newsletter published by Rusty Landes, KAØHPK called "VHF/UHF and Above" - Subs - 6 monthly issues \$8.00. 12 monthly issues for \$15.00. P.O. Box 270, W. Terre Haute, IN 47885

\* \* \*

TID BITS

Sunwatcher, Jack Power, W2AXU reports the monthly No. for May 1984 = 75.1 - Smoothed No. for November 1983 = 66.6.

Congratulations to the Delmont Radio Club celebrating their 25th Anniversary.

Bill Olson (W3HQT) and Sandy tied the knot on Saturday, June 23, 1984. Our best wishes folks.

Congratulations also to the John Tate's (K3KTY) on the recent marriage of their daughter Jill More congrats - to Peggy and Lee Cohen (K3MXM) on the marriage of their son Arnold.

Pack-Rats K3DLS and WA3FOF were with the Pennarc, Holmesburg ARC and the U of P ARC on Valley Forge Mountain during the FD on June 23 and 24, 1984 - Understand the group did an FB job.

LISTING OF MICROWAVE ACTIVITY 6/11/84

23 CM

CALL	SEC	CALL	SEC	CALL	SEC
N1BC	EMA	NZASC	SNJ	W3AED	MD
KA1BXB	CT	W2AWX	ENY	* W3AXV	EPA
WB1CJT	NH	N2BOW	NNJ	* W3BBS	EPA
K1DPP	CT	K2BJG	NNJ	* K3BPP	EPA
K1DS	RI	N2BNL	NNJ	W3CXU	EPA
W1EJ	NH	KA2BTD	SNJ	N3CX	EPA
WB1FKF	CT	K2BWR	SNJ	W3EQQ	MD
K1FO	CT	K2CBA	ENY	* W3ESS	EPA
* W1GAN	EMA	N2CEI	LI	W3FFC	WPA
KA1GT/2	NNJ	W2CNS	WNY	N3FL	MD
W1GXT	CT	W2CRS	WNY	K3GAS	EPA
WA1JOF	CT	N2CYM	LI	W3GMR	WPA
* W1JR	EMA	KK2D	LI	W3G00	EPA
W1JOT	EMA	W2DWJ	NNJ	W3HFY	EPA
K1PQ0/1	NH	W2EIF	SNJ	* W3HMU	EPA
W1PV	CT	K2EVJ	WNY	K3HP	EPA
K1PXE	CT	W2FGK	NNJ	* W3HQT	EPA
W1QK	CT	W2FKJ	NNJ	K3HWC	EPA
W1RIL	WMA	W2FUZ	LI	K3HZD	MD
WA1RWU	WMA	W2FVN	NNJ	W3IP	MD
AF1T	NH	K2GE	NNJ	K3IUV	EPA
WA1TFH	NH	WB2GEZ	NNJ	W3IY/4	VA
W1TKZ (CT)VT	VT	K2GK	WNY	* W3JUF	EPA
K1TR	CT	W2GUN	NNJ	WB3JYO	EPA
WA1TZV	NH	K2IBP	NNJ	W3KKN	EPA
WA1UGC	CT	W2IJX	SNJ	W3LBI	EPA
K1WHS	ME	W2JHY	NNJ	K3LNZ/8	WVA
WA1WXV	CT	KA2JKI	SNJ	* K3MTK	EPA
W1XM	EMA	W2KFC/4	VA	W3NSI/2	SNJ
K1ZZ	CT	NF2L	SNJ	* W3NUF	EPA
		K2LNS	NNJ	W3NZZ	MD
K4CHE/3	DEL	W2LSE	NNJ	AK30	EPA
K4QIF	VA	W2LTM	NNJ	K3QCQ	EPA
W4IY	VA	K2LZF	NNJ	K3SXA	DEL
		K2NJ	NNJ	W3TNP	EPA
W48TXT	OH	WB2NPE	SNJ	W3TZH	EPA
K8W	OH	* W20MY/3	EPA	W3UGP	EPA
		WB2ONA	NNJ	W3WFM	MD
		NF2P	SNJ	W3WI	MD
		WB2QQQ	NNJ	W3YON	EPA
		W2RUG	SNJ	K3YTL	EPA
		WB2RVX	SNJ		
		N2SB	SNJ	SECTIONS = 19	
		W2SNA	NNJ	STATES = 14	
		* W2SZ/1	WMA	(*) 13CM ACTIVE	
		W2TC	NNJ	PACKRATS = 25	
		W2TEO	ENY	TOTAL = 132	
		W2TTM	NNJ		
		* K2UYH	SNJ		
		W2VC	NNJ		
		WB2WIK	NNJ		
		W2WVL	WNY		
		K2XR	NNJ		
		K2YCO	WNY		
		WB2YEH	SNJ		
		K2ZRJ	SNJ		
				DE W3JUF	

SECTIONS

EPA WPA  
 NNJ SNJ  
 ENY WNY  
 EMA WMA  
 LI RI  
 CT NH  
 VT ME  
 VA WVA  
 DEL MD  
 OH

TID BITS CONTINUED

Jane Zimmerman (WB3DSK) the wife of Dave, W3ZD took a header from her 10 speed bike and ended up with severe injuries. Feeling much better now. She says she will wear a helmet in the future.

Doug Crompton, WA3DSP gave an excellent talk on Amateur Sattelite Communications at our June meeting - it triggered some of the gang into going for this type of technology.

Condolences to Walt Bohlman, K3BPP on the death of his mother June 15, 1984.

Best wishes to our two Octogenarians W2HX, BB Wentzel and to Horace Deacon, W3AJF.

\* \* \*

MONDAY NITE NET CHANGES

KS2T, Jay Miller located in Toms River, New Jersey has agreed to take over the 220.125 MHz SSB Net operation at 8:45 P.M.

Pete, K1PXE located in Milford, Ct. will be alternate net control with Bert, K3IUU on 432.110 MHz at 9 P.M. NF2L, Bill will be back again in September. Pete did a nice job on the evening of June 25, 1984 with 14 check-ins. Thanks, Pete --

\* \* \*

FROM ARRL LETTER OF  
JUNE 21, 1984

ARRL, with assistance from the AMSAT Hq. staff, "showed the flag" at the Armed Forces Communications and Electronics Association (AFCEA) 1984 Convention in Washington this week. "Amateur Radio's Newest Frontier" ran continuously at the ARRL booth Wednesday and Thursday proving to be an attention grabber among the non-hams in attendance. Several hundred hams attending the show stopped by to chat. ARRL hosted a number of prominent government officials, journalists and hams at the annual AFCEA Amateur Radio Luncheon Wednesday. Those attending from ARRL were Atlantic Division Director Hugh Turnbull, W3ABC, Roanoke Division Vice Director John Kanode, N4MM, General Manager David Sumner, K1ZZ, Washington Area Coordinator Perry Williams, W1UED, Associate Washington Coordinator Charles "Chuck" Dorian, W3JPT, ARRL Counsel Christopher D. ImLay, N3AKD, and Public Information Coordinator Peter O'Dell, KB1N. AMSAT General Manager Bill Lazzaro, N2CF, and AMSAT Office Manager Martha Saragovitz assisted with the booth activity.

\* \* \*

LAST MINUTE INFORMATION

During the Monday Nite 432 Pack-Rat Net the evening of June 25, 1984, KS2T reported that W6JKV/OX in Greenland was on 50.110 MHz at 9:30PM. W2AXU reports working W6JKV/OX at 9:45PM. Apparently contacts with Greenland were made up and down the East Coast that evening.

\* \* \*



(215) 355-5400

**MARKETLINE**  
SYSTEMS, INC.  
975 JAYMOR ROAD  
SOUTHAMPTON, PA. 18966

Computers & Peripherals

KC7ZK

CARL BARISH

**PRINTECH  
PRINTING** 13620 NE 20th Suite D  
Box 4247  
Bellevue, WA 98009  
746-6000

NE 7-8329

GEORGE S. VAN DYKE, JR., P.E.  
CONSULTING ENGINEER

W3HX

4607 CONVENT LANE  
PHILA., PA. 19114



AMIL S. GUMULA  
PRESIDENT

A. G. RADIO PARTS CO.  
939 TOWNSHIP LINE RD.  
ELKINS PARK, PENNA. 19117  
TELEPHONE: 215-866-5100

**RCM** Authorized  
Distributor

(302) 328-7728  
ORDER LINE 800-441-7008



*Delaware Amateur Supply*  
"AMATEUR SALES AND SERVICE"

PAUL WA3QPX  
KATHY KA31YO

71 MEADOW ROAD  
NEW CASTLE, DELAWARE 19720

AMATEUR  
SALES & SERVICE

(215) OL 9-5900

**"HAM" BUERGER INC.**  
Communication Specialists

BOB HERSHMAN  
WA3ZID

68 N. YORK RD.  
WILLOW GROVE, PA. 19090

P E N N A R C  
A GENERAL PURPOSE CLUB

Monthly meetings the 4th Tuesday-8PM  
Montgomery County Community College  
340 DeKalb Pike, BlueBell, Pa.

CLUB REPEATER = 223.04/224.64 Mhz

*The Ham Radio Publishing Group*



Greenville, NH 03048 (603) 878-1441

HAM RADIO - the Technical Ham's  
Magazine. Ask for a free sample  
copy or our Book Catalog.

CALL DOC CUTLER (K3GAS)  
FOR YOUR ELECTRONIC NEEDS

NEW, RECONDITIONED, OR AS IS.

LOW PRICES

by appointment 215-635-1078

**Heathkit**  
ELECTRONIC CENTER

Stan Demski  
Manager

Heathkit Electronic Center  
6318 Roosevelt Blvd.  
Philadelphia, Pennsylvania 19149  
(215) 288-0180

**Veritechnology**  
ELECTRONICS CORPORATION



**NESHAMINY  
TRAVEL  
SERVICE**

Harriet Soltoff  
Home: (215) 947-4483

Phone:  
(215) 757-1585

2337 Neshaminy Blvd.  
Bensalem, PA 19020

BROWSING - THURS. 7<sup>00</sup>-8<sup>00</sup>  
SAT. 9<sup>00</sup>-4<sup>00</sup>

Day-Nite (215) 455-2121

**FERTIK'S ELECTRONICS . . . . .**

*Components & Equipment*

LEON FERTIK

5400 ELLA STREET  
PHILADELPHIA, PA. 19120

LUNAR KLM ASTRON  
MICROWAVE MODULES  
TAMA

(717) 868-6565

THE  
**VHF SHOP**

BOX 349 R.D. 4  
MOUNTAINTOP, PA. 18707

K3MKZ  
GERRY

215-PI5-9007

WA3POF

RALPH ALEXANDER

Electronic Equipment Repair  
Technical Writing

(302) 328-7728  
ORDER LINE 800-441-7008



*Delaware Amateur Supply*  
"AMATEUR SALES AND SERVICE"

ROB WA3QLS  
GAIL KA31TN

71 MEADOW ROAD  
NEW CASTLE, DELAWARE 19720

215-342-5982

WA3HIT

Paul and Betty Rilling

INCOME DIVERSIFICATION

5830 Weymouth Street -Phila., Pa.19120

**73** Amateur Radio's  
Technical Journal  
PO BOX 931  
FARMINGDALE, NY 11737

\$25 one year \$53 three years

215-742-2437

WA3HIT-co-worker

STOTT WINDOW CLEANING  
and  
BUILDING MAINTAINANCE

We clean and repair windows. We  
repair the A.P.Orleans aluminum rods

5723 Rising Sun Ave. Phila. Pa 19120

