

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PA.

ARNS

50.125, 144.50, 432.110, 1296.025 Mhz, WR3ACD - 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 18966

VOLUME XXIII

AUGUST, 1981

NUMBER 8

THE PREZ SEZ

As predicted, approximately a ton and a half of prime ham gear exchanged hands at the July meeting White Elephant Sale and Auction at Zimmerman's Gulch. Well, maybe it wasn't all prime, but everyone - buyers and sellers alike came away happy. The XYL's were momentarily happy when the OM came home saying that he sold all of the "drek" that he took earlier in the evening. A few microseconds later they remembered to ask the next logical question; What did you buy? Thinking along the positive line - at least some of the guys got some exercise lugging the gear to and from the meeting.

On the subject of club meetings, your help and guidance in the planning of the program for the meetings would be appreciated. John, K3KTY, our new V.P. among other duties, is the Program Chairman and he is after your ideas on what you want for club programs. In the past our meetings have varied from very light subjects to heavy technical matters. We have tried to provide some variety to please all. John would like to know your desires and any contacts you may have with potential speakers - especially the last because that is the difficult part of the job.

There's still a lot of summer left so in between those chores around the house, take a look at your antennas and feedlines. Now really is the best time for antenna work, so give those antennas an overhaul and see how much better they work the remaining part of the summer and during the Fall tropo that will be here soon.

Bill, W3HQT, and the June Contest crew have finally got the logs in shape and submitted them for 247,364 points. This represents an improvement of 58k over last year and results in 1396 contacts and 142 sections from 50 Mhz to 10 Ghz. Congratulations to Bill and crew for a fine job. Just wait til next year when we decide to go out to win instead of having fun.

Don't forget the August outdoor meeting at Doc's Ham Haven. It's time for a slide show review of our past activities and bring the XYL with you. We promise another quick business meeting.

73, Harry, W3IIT

* * *

FROM HR REPORT NO. 345: KH6HMI HAS A 1296.0001 BEACON now in operation. It's using four loop Yagis aimed at south-central California. Call Paul at (808) 959-9553 with reception reports. Thanks W6NGN.

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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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

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215-355-5730

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W2EIF, JOSEPH KILGORE
609-783-9478

CLUB HISTORIAN:

W3CL, HARRY B. STEIN

<u>MONDAY NIGHT NETS</u>	<u>NET CONTROL</u>
7:30 PM - 50.125 MHZ	W3CL-W3HQJ
8:00 PM - 144.150 MHZ	W2EIF
8:30 PM - 222.98/224.58	K3GAS
9:00 PM - 432.1 MHZ	K3IUV-WA2DPU
9:30 PM - 1296.025 MHZ	W3CXU

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

OFFICERS: 1981-1982

PRESIDENT: W3IIT, HARRY BROWN
VICE-PRES: K3KTY, JOHN TATE
COR. SECY: W3ZD, DAVE ZIMMERMAN
REC. SECY: K3IGX, DICK BOYLE
TREASURER: K3GAS, DOC CUTLER
DIRECTORS:

WA3JUF, DAVE MASCARO (2yrs)
WA3NUF, PHIL MIQUELEZ (2yrs)
WA2DPU, BILL SMITH (1yr)
K3NHX, JOE GARDOCKI (1yr)

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UPPER DARBY, PA. 15082



THE AMERICAN RADIO RELAY LEAGUE

OST

JESSE BIEBERMAN, W3KT

Director, Atlantic Division

RD 1, BOX 66
VALLEY HILL ROAD
MALVERN, PA. 19355

(215) 827-7426

CALENDAR OF COMING EVENTS

Syllabus by Lee, K3MKM

AUGUST

- 6 We have recently read about a solar powered airplane crossing the English Channel - Well, back in 1926, Gertrude Ederle was the first woman to SWIM the Channel on muscle power.
- 9 M.A.R.C. Hamfest and Solar Fair - 309 Drive-In, Montgomeryville, Pa. Big display of Solar equipment for heating, wind power, conservation, plus workshops and seminars plus a tailgating fleamarket (BYOT) Info: MARC, Box 352, Villanova, Pa. 19085
- 13 Board of Directors Meeting - QTH, K3KTY, John Tate, 520 Larkspur St., Phila., Pa. (215-673-8840) Always an open meeting to concerned club members.
- 14 V-J Day, Japan Surrendered - 1945 - where has the time gone.....
- 15 Ramapo Mountain ARC Hamfest - American Legion Hall, Oakland. N.J. Not too far from the Philly area, about 20 miles from G.W. Bridge. This is the group that runs the various VHF Contests and has given a lot of help and support to our Club and our Club activities. Info: WD2AAI - 1-201-838-7565.
- 20 Second Outdoor Meeting of the Season. Nostalgia Nite. QTH, K3GAS, Doc Cutler, 7815 New Second Street, Elkins Park, Pa. Films, slides, special narration - a good general fun nitè with the XYL's and a tradition that has been going on for almost 15 years. A very pleasant evening for all. Refreshments of course, and if you are lucky, a special visit and tour of Doc's Den.
- 25 John Fitch launched the first Steamboat in Pa. Right up near Hatboro.
- 28 First Petroleum Well opened in Titusville, Pa. in 1859. So where is all the Pa. Oil today - not in our gas tanks ----
- 29 Tioga County ARC Hamfests - Fairgrounds - Wellsboro, Pa.
- 30 Gloucester County ARC Hamfest - Gloucester County Community College, Sewell, N.J. Many special features, contests, seminars, speakers and FCC exams - Tech thru Extra - code tests 0930-1330. NO preregistration required. Forms 610 available at exam. Info: GCARC Hamfest - P.O. Box 370, Pitman, N.J. 08071

* * *

VISITORS AT THE JULY 16, 1981 MEETING

K3OZB, Bill Armstrong, Dresher, Pa.	WA2OMY, Gary Hitchner, Eagleville, Pa.
W2PJC, Frank D. Gullo, Westmont, N.J.	K3KDF, Bud Smyth, Phila., Pa.
WB3KNU, Hugh Odhner, Huntingdon Valley, Pa.	WA3GHM, Gerd Meigel, Levittown, Pa.
KA3AIS, Bill Pileggi, Abington, Pa.	WB3HTK, Walt Newman, Oreland, Pa.
KA3FMV, Jim Bracken, Roslyn, Pa.	WB3LGO, Bill Brandenburger, Ardsley, Pa.
N3BBI, Mike Pandolfo, Croydon, Pa.	WB2UVB, Gene Bond, Moorestown, N.J.
WB3EFO, Ed Lee, Huntingdon Valley, Pa.	KA2CQX, Janice Bond, Moorestown, N.J.

APPLICATION FOR MEMBERSHIP

CHANGE OF CALL

CHANGE OF ADDRESS

N3BBI, Mike Pandolfo
509 Neshaminy Road
Croydon, Pa. 19020
215-785-5807

WALNGR, Ron Allen
now KB3QM

WA3HVL, Donald DeRosa
822 Barlow Street
Phila., Pa. 19116

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. TWO METER QUAD ANTENNA: Palomar Engineers is now making the 2 element quad as detailed in QST for September 1980. The model A502 slips into an 18" carrying case which is also used as the support base when in use. For portable use, this folding antenna gives the gain of a higher powered amplifier without the drain on a battery. Cost \$87.50 - 1520-G Industrial Avenue, Escandido, CA 92025
2. FM T/R FOR 450 MHZ: The new Standard C7800 covers the range 438 - 449.975 Mhz in 25 Khz steps. Ten watts or one watt are available on these 480 channels (FM only). The built-in memory can store any 5 frequencies and the rig can then scan these for signals. Any 1 Mhz segment can also be scanned in 25 or 50 Khz steps. Up and down frequency control is built into the Mic. with the frequency being displayed on a four digit LED readout. Price \$400.
3. ICOM IC 290 ALL MODE TWO METER RIG: The new 290 features two VFO units and five memories. The VFO's tune 1 or 5 Khz increments on FM and 1 Khz and 100 Hz increments on SSB and CW. Sidetone is built-in for CW operation. Receiver scanning is available for all modes. Frequency readout is by 5 digit LED display. Price \$450. 3331 Towerwood Drive, Suite 307, Dallas, Texas 75234.

* * *

ICOM ANNOUNCES:

Two new synthesized hand held units. 220 Mhz - delivery starting Sept. 1981; 440 Mhz - delivery starting Dec. 1981. Price of 220 rig will be a little higher than the 2 meter 2A/2AT. No projected price on the 440 rig. The beauty of the whole thing is that the accessories (battery packs, chargers, speaker/mics) for the 2AT 2 meter unit will work with the 220 and 440 units.

73, Joe, W3PNL, CARR ELECTRONICS

P.S. New IC-290, should have in stock this week. IC-25A - new 2 meter FM only unit just announced.

* * *

VHF/UHF REPORT

By Joe, W2EIF

The six meter band has had some good openings, with everything from the Carribean to Argentina, Mexico and the West Coast. The mid-west has also been working into Alaska. The activity has dropped off a bit as of mid July.

The weekend of July 4 was excellent for 6 and 2 meters. The Es opening on 2 occurred as usual when very short skip was observed on 6 meters. The boys in the N.E. including N.N.J. seemed to have the best shots as Texas, Ark., Okla. and Mo. were worked. Not too much noticed in this area.

432 has had some excellent tropo openings, but mostly coastal types.

Don't forget the UHF Contest (220 and up) August 8 and 9. Don't see any restrictions on QST as regards FM operation on 223.5 - Must have been an oversight. The tropo season is almost upon us, so be ready.

* * *

ARRL BULLETIN NR 74 FROM ARRL HEADQUARTERS NEWINGTON CT JULY 9, 1981 TO ALL RADIO AMATEURS BT
The FCC has voted to adopt a Notice of Inquiry and Notice of Proposed Rulemaking looking toward permitting Advanced and Amateur Extra class licenses to experiment with spread spectrum techniques on the 50 MHz, 144 MHz and 220 MHz bands without the necessity of obtaining special authority from the Commission. The wording of the proposal, General Docket 81/414, has not yet been released to the public. However, the Commission expects the document to be published within the next two weeks. Details will appear in QST AR.

SWAP SHOP

FOR SALE: 75 Ω hard line. 3/4" O.D. aluminum foam insulation. 3/16" copper covered - aluminum center conductor. Brand new - on wood reels, over 2,000 feet.

CONTACT: W3AJF, Horace Deacon, Phone: 215-843-1808.

FOR SALE: Motorola L-44 UHF Base Station - 2 units \$125ea.
Heathkit GR-110 Hi Band Scanner - \$75

CONTACT: K3ESL, Ben Gindin, Phone: 215-535-4619

* * *

TID BITS

Sun watcher, W2AXU, reports: Ri for month of June 1981 is 89.8. Smoothed No. for Dec. 1980 is 142.3 (Rz).

Our new Director, WA3NUF, Phil Miguelez, spells Miguelez with a "G" not a "Q". Apology from the Editor.

Best wishes to the Penn Jersey Young Ladies Radio Club celebrating their 25th Anniversary on September 19, 1981 with a Dinner Party at the Yorktown Inn, Elkins Park, Pa.

K3JJE's number two son is appearing in "Godspell" at the Bluett Theater on the Campus of St. Joseph's College, 54th and Overbrook Ave., Phila., Pa. from July 10 to Aug. 15. For information, call Octet Productions: 215-844-5655.

* * *

JUNE VHF QSO PARTY SUMMARY

By W3HQT, Chairman

CALL: W3CCX

MULTIOP STATION

SECTION: E. PA.

LOCATION: HILLTOWN, PA.

DATES: 6/13/81 to 6/15/81

CALLS OF ALL OPERATORS/LOGGERS: WA3AXV, W4LYHO, N3AHI, K3ZPN, KD6KD, WA3NUF, WA3YUE, W2NM, K2EVW, K3IUU, KA3FOG, WB3JYO, W3HQT, WA3WAS, N3MW, WA3JUF, WA2DPU, WB3IND

BAND	CONTACTS		POINTS	MULT
50 Mhz	514	X1	514	55
144 Mhz	552	X1	552	24
220 Mhz	137	X2	274	22
432 Mhz	129	X2	258	23
1296 Mhz	30	X3	90	11
2304 Mhz	7	X3	21	4
10.25 Ghz	3	X3	9	2
TOTALS	1372		1718	141

Claimed Score = 1718 x 141 = 242,238

I hereby state that I have abided by the rules specified for this Contest and that to the best of my knowledge, the points and score as set forth in the above Summary are correct and true.

S.W. Olson, W3HQT, Box 356, R.D. 1, Green Lane, Pa. 18054

* * *

Sally and Lyn Rowland (W3NSI) toured the Carribean and returned from Caracas, Venezuela recently. Received your 'man in Caracas' card finally on July 24th. Mani tnx.

1981 MID-ATLANTIC STATES VHF CONFERENCE

OCTOBER 3, 1981

SPONSORED BY: MT. AIRY VHF RADIO CLUB, INC.

WARRINGTON MOTOR LODGE

- 0900 FCC FORUM: Ennis Coleman, Engineer - in Charge of the Phila. office of the FCC will discuss the plain language rules. The impact on VHF operation will be covered.
- 1000 LOW NOISE AMPLIFICATION: Joe Resiert, W1JR will discuss low noise pre-amps and cover the latest technology for weak signal reception.
- 1100 LOOP YAGIS: Jon Allen, W3CXU, presents the design criteria for the Loop yagi antenna. Typical designs for the 1296 Mhz band will be shown. Slides of a stacked array of loop yagis which were used by the Pack Rats during the June QSO party will be shown.
- 1200 Buffet Smorgasborg luncheon ala Warrington.
- 1300 SOLID STATE POWER AMPS: Ron Whitsel, WA3AXV will present design methods for solid state power amplifiers for the VHF and UHF bands. Sample units will be on display. Methods for test and de-bugging for home construction will be covered.
- 1400 YAGI ANTENNA PATTERNS: Dick Knadle, K2RIW will talk on his continuing research project on computer modeling of yagi antenna patterns. Great advances have been made by Dick in this field and several interesting developments have resulted.
- 1530 1296 AND 2304 SOLID STATE TRANSVERTERS: Dave Mascaro, WA3JUF and Bill Olson, W3HQT will describe the techniques for construction and unitized fabrication of solid state equipment for the higher UHF bands. Samples will be on display. Device selection will be covered.
- 1830 Cocktail hour and get-together in the Pack Rat Hospitality Suite.
- 1930 Buffet style Banquet.

* * *

SPACE FILLERS

All change is not growth and all movement is not forward...
When a body is immersed in water... the telephone rings...
Bare feet magnetize sharp objects so that they always point upward from the floor
specially in the dark....
There are no real secrets - Only obfuscations....
If polls are so accurate - why are there so many polling companies....
One good turn gets most of the blanket.....
Apathy is becoming a major problem - but who cares????
Anything dropped in the bathroom falls in the toilet....
Don't believe in superstition; it usually brings bad luck.....
And in closing remember: The other line always moves faster.....

Above vaporings by LEE

NOISE FIGURE MEASUREMENTS - SEVENTH ANNUAL EASTERN VHF/UHF CONFERENCE, MAY 1981

<u>144 MHZ:</u>	<u>CALL</u>	<u>CONVERTER DESCRIPTION</u>	<u>NOISE FIGURE IN dB</u>
	K1KG	Ameco Nuvisitor	4.0
	WALAYS	Parks Nuvisitor	4.5
		<u>PREAMPLIFIER DESCRIPTION</u>	
	VE3FN	D 432 Dexel GaAs Fet home brew	1.15
	AFIT	3SK48 home brew	1.45
	K1FWF	3SK48 home brew	1.75
	K1BKK	3N225 home brew	1.80
	K1GVM	3SK48 ARR Preamp.	2.20
	AFIT	U310 JFET home brew	2.80
	W1UHE	3SK48 home brew	3.40
<u>220 MHZ:</u>		<u>CONVERTER DESCRIPTION</u>	
	K1FWF	VE3CRU converter with 3SK48	3.2
	WLAIM	VE3CRU converter with 3SK48	4.2
	WALTZV	3SK48-SRA-1 home brew converter	5.8
	KALGT	3N140 converter	5.9
		<u>PREAMPLIFIER DESCRIPTION</u>	
	W1UHE	Dexel D 432	1.1
	AFIT	3SK48	1.5
	KALGT	3SK97	1.4
	WALTFFH	3SK48	1.7
<u>432 MHZ:</u>		<u>CONVERTER DESCRIPTION</u>	
	VE2SH	MMT-432/28	3.75
		<u>PREAMPLIFIER DESCRIPTION (INTO 3.75 dB NF conv)</u>	
	W1JR	V 244	0.50
	W1UHE	Dexel D 432	0.50
	W1JR	Dexel D 3501	0.75
	KALGT	Plessey GAT 4	0.80
	WB6NMT	Dexel D 432	0.90
	VE2DFO	Dexel D 432	0.9
	W1UHE	Dexel D 432	0.95
	KALGT	Plessey GAT 4	1.15
	WLOOP	Cascaded NEC V645's	1.40
	WLOOP	Quadrature coupled NEC V645's	1.50
		<u>PREAMPLIFIER DESCRIPTION</u>	
	KALGT	NEC V645	1.65
	WA2ZZF	MSC H001	1.75
	VE2SH	MRF 901	1.90
	KALGT	MRF 901	1.95
	K2VXO	ARR PA 432VD	2.15
	WB1CWZ	ARR PA 432VD	2.20
	VE2DFO	2SC1369	2.3
	AFIT	BFQ 85	2.4
<u>1296 MHZ:</u>		<u>CONVERTER DESCRIPTION</u>	
	W1JR	SOTA 1296	5.5
	K1LPS	MMC-1296 with input filter	9.0
		<u>PREAMPLIFIER DESCRIPTION (INTO 3 dB NF Conv)</u>	
	KALGT	NEC 21889	1.2
	WLOOP	2304 PA with NEC V645	1.6
	KALGT	Plessey GAT 2	2.0
	WLOOP	A 1200 hybrid amplifier with NEC V645	2.1
	WLOOP	A 900 with 30 dB gain	2.2
	KALGT	NEC V645	2.2
	WLOOP	A 900 with 23 dB gain	2.3
	KALGT	NRF 901	3.0

(CONTINUED ON PAGE 8)

<u>1296 MHZ:</u>	<u>CALL</u>	<u>PREAMPLIFIER DESCRIPTION (INTO 3 dB VF Conv CONTINUED)</u>	<u>NOISE FIGURE IN dB</u>
	K1LPS	HP HXTR 2101	3.3
	WA1VUW	3SK97	3.6
	K1LPS	MRF 901	4.3
	K1LPS	MRF 901 kluge	4.3
	AF1T	MRF 901 with 10 dB gain	4.5
	W3HQT	SSM SD1520 1 watt linear amplifier	8.0
<u>2304 Mhz:</u>		<u>CONVERTER DESCRIPTION</u>	
	W1JR	Home brew converter	6.00
		<u>PREAMPLIFIER DESCRIPTION (WITH 6 dB N.F. Conv.)</u>	
	W100P	Cascaded NEC V645	2.0
	KA1GT	NEC V645	2.65

ANTENNA MEASUREMENTS--SEVENTH ANNUAL EASTERN VHF/UHF CONFERENCE, MAY 17, 1981

<u>70 CM:</u>	<u>CALL</u>	<u>ANTENNA DESCRIPTION</u>	<u>GAIN (dBi)</u>
	WA2ZZF	ETA Reference	9.8
	K1WHS	26 el Cushcraft prototype "Boomer"	16.9
	AF1T	19 element K2RIW yagi	16.6
	K1WHS	23 el Cushcraft prototype "Boomer"	16.6
	W1JR	21 el F9FT yagi	16.6
	WALEKV	19 el Tama SST-0719 yagi(Japanese K2RIW copy)	16.6
	WB1FKF	21 el home brew loop yagi on 12' boom	15.9
	WA2ZZF	19 el K2RIW yagi	15.4
	G3HUL	15 el Home Brew Yagi w/trigonal reflector	14.5
	K1LOG	10 el (WB6NMT) yagi	13.7
	G3HUL	13 el home brew yagi	13.1
	N1AFQ	14 el KLM yagi	12.6
	W1JR	6 el 1.2 wavelength NBS yagi	12.2
	K2VXO	5 el yagi for 450 Mhz	6.7
	WB1FGW	17 el NBS yagi w/trigonal reflector	6.3
<u>23 CM:</u>	WA2ZZF	Reference horn	15.4
	W1JR	Quad of 23 el F9FT yagis stacked 28"	22.7
	G3BVU	4 vert. stacked 19" Spectrum int. 28 el loop yagis	22.1
	KA1GT	Stacked 28" 39 el loop yagis	21.6
	W3HQT	45 el loop yagi on 12' boom	19.5
	KA1GT	39 el. loop yagi on 10' boom (#1)	19.4
	KA1GT	39 el. loop yagi on 10' boom (#2)	19.4
	WA1VUW	44 el. loop yagi on 12' boom	18.0
	W1JR	23 el F9FT yagi on 68" boom	16.9
	W1JR	26 el original G3JVL loop yagi	15.8
	WA1VUW	W2IMU dual-mode horn	11.7
	WA2ZZF	13 el W2CQH yagi	11.1
	W1JR	Polrad 10 dB reference gain horn	9.8
<u>13 CM:</u>	WA2ZZF	Reference gain horn	13.5
	W1JR	32" dish	22.6
	N. Metivier	25" snow sled dish	21.6
	KA1GT	36 el loop yagi	20.9
	W1JR	Polrad 15 dB gain reference horn	14.6
	WA1VUW	Quad of 20 element helicies	12.7
	WA2ZZF	EIA reference	12.6
	WA2ZZF	Corner reflector	12.6
	W1JR	Cavity backed dipole	12.5
	WA2ZZF	29" dish with 1296 feed	12.0
	N. Metivier	2# coffee can feed	10.7

Thanks to Joe Reisert, W1JR

THE MT. AIRY VHF RADIO CLUB, INC.
PRESENTS
HAMARAMA '81
AND
MID-ATLANTIC STATES VHF CONFERENCE
OCTOBER 3-4, 1981

THE CONFERENCE

SATURDAY—OCT. 3, 1981— 9 A.M. to 5 P.M.
WARRINGTON MOTOR LODGE

(FROM PA. TURNPIKE EXIT 27 TAKE 611 NORTH 4.5 MILES TO ONE BLOCK NORTH OF ROUTE 132)

ALL DAY VHF PROGRAM MODERATED BY WELL KNOWN VHF'ers

COCKTAIL HOUR AND GET-TOGETHER AT 6:30 P.M.
in *PACK-RAT* HOSPITALITY SUITE

HOSPITALITY SUITE WILL ALSO BE OPEN
FRIDAY EVENING FOR EARLY ARRIVALS

BUFFET DINNER AT 7:30 P.M. — \$11.00

REGISTRATION—ADVANCE \$3.00, AT DOOR \$4.00 (INCLUDES FLEA MARKET)

THE FLEA MARKET

SUNDAY — OCTOBER 4, 1981—8 A.M. to 4 P.M. — RAIN OR SHINE

BUCKS COUNTY DRIVE-IN THEATER
WARRINGTON, PA.

(ROUTE 611—4 MILES NORTH OF PA. TURNPIKE—EXIT 27)

AMATEUR RADIO EQUIPMENT
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TALK-IN — W3CCX
146.52 Mhz

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TAILGATING—\$3.00 per space
(Bring your own table)

For more information contact WA3AXV, Ron Whitsel, Chairman
or phone 215-355-5730

Advance registration for the *VHF Conference* must be in the hands of the chairman by September 26, 1981

Name _____ Call _____ Number of Tickets _____
Address _____ Registration \$3.00 ea.
City _____ State _____ Zip _____ Buffet \$11.00 ea.

MAKE CHECKS PAYABLE TO THE MT. AIRY VHF RADIO CLUB, INC.

SEND TO

Motel Room Registrations
215-343-0373

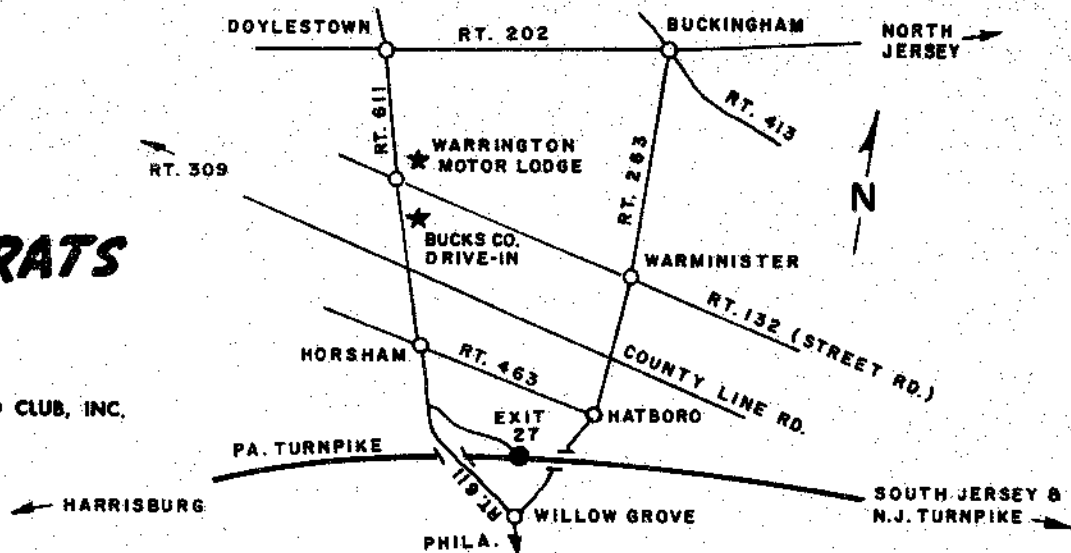
HAMARAMA
P.O. Box 311, Southampton, Pa. 18966

Advance tickets held at Door
SASE for Confirmation



PACK RATS

MT. AIRY VHF RADIO CLUB, INC.



HAMARAMA '81

AND

MID-ATLANTIC STATES VHF CONFERENCE
OCTOBER 3-4, 1981

CONFERENCE—SATURDAY, OCTOBER 3, 1981
FLEA MARKET—SUNDAY, OCTOBER 4, 1981

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W3HK

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PHILA., PA. 19114



AMIL S. GUMULA
PRESIDENT

A. G. RADIO PARTS CO.
939 TOWNSHIP LINE RD.
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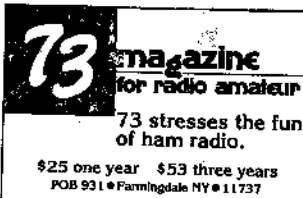
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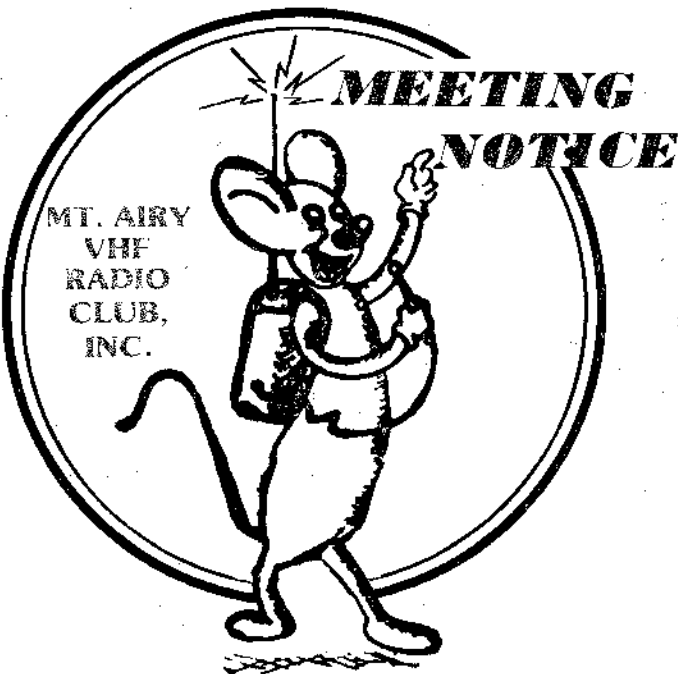
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