

PACK RATS'



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



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

ARNS

VOLUME XXVI

AUGUST, 1986

NUMBER 8

VHF REPORT By Jay Miller, KS2T

With a few exceptions the bands have been boring most of June and July. I haven't been keeping records long enough to follow propagation patterns, but the A index, K indices and amount of severe thunderstorms have been low, (60,000 feet and higher). On 6 meters: June 30th at 1427 UTC KS2T got W6JKV/CU2 (Azores), as did many others. On July 9th, N4VA on a trip to NC (FM25) worked a bunch in the U.K. and Ireland. I guess Larry planned it that way. The few openings to the U.K. have been very selective and quick to VE1, ME, NH, MA and once to NC during the late afternoon and early evening hours local time. On July 12th 2047 UTC W2CAP/1 worked G4GLT. July 17th brought a few crazed hours of trying to work the U.K. The German 10 meter beacons were heard throughout the Pack Rat neighborhoods. VE1YX worked a few G's. 28.885 was loaded with 6 meter freaks (including KS2T) telling each other where they are on 6, but the signals fell short. I talked with OX3LX (Grid GP60) on 10 meters, Bo has TVI problems so he asked me to go to 51.4 - we exchanged 559 reports at 2318 UTC. Think about all the elbow room we have on 6. Why do we all hang around 50.110 and QRM each other?! There are now 4 stations on 6 meters from Portugal; CT1WW (80 watts & 6 elements), CT1AWO, CT1LN and CT4PO. There has been new solar activity lately, but I'm uncertain when cycle 22 starts. Preliminary forecasts put it at mid 1987 to early 1988 with the next peak in 1991. Have fun RATS!!!

* * *

The "PREZ SEZ" will be in the September issue of Cheese-Bits.

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

SUBSCRIPTION RATE - \$3.00 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/K1PXE
- - -

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

OFFICERS: 1986-1987

PRESIDENT: WA2OMY, GARY HITCHNER
VICE-PRES: N2SB, BOB COOK
COR. SECY : W3CXU, JOHN ALLEN
REC. SECY : WA3AQA, WALT ZUMBACH
TREASURER: K3GAS, DOC CUTLER
DIRECTORS: WB2RVX, MIKE GULLO (EX-OFF)
WB3DNI, PAT CAWTHORNE (2 Yrs)
WB2VLA, DAVE POWER (2 Yrs)
N3CX, DAVE HACKFORD (1 Yr)
WA3JUF, DAVE MASCARO (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
ENGINEERING

PAUL D. MERCADO
Chairperson, Drafting Design Department

215-565-7900
Rose Valley-Notre Dame Campus
800 Manchester Ave., Media, Pa. 19063-4098

FOR SERVICE CALL
(215) 672-3850
(215) 822-0808

MICHAEL McMACKIN

REGISTERED PLUMBING & HEATING
BATHROOM INSTALLATIONS • ELECTRIC DRAIN CLEANING

1307 HILLTOWN PIKE
LINE LEXINGTON, PA 18932

2405 PARKSIDE AVE.
HATBORO, PA 19040

CALENDAR OF COMING EVENTS

By Harry Brown, W3IIT

AUGUST

- 2-3 ARRL UHF Contest. See July QST Page 86 for Contest rules. Contest begins at 1800 UTC on August 2 and ends at 1800 UTC on August 3.
- 10 MARC Hamfest at the Bucks Co. Drive-In Theater on Rte. 611 in Warrington, Pa. Talk-In on 147.66/06 or 52. For information: Write MARC, P.O. Box 352, Villanova, Pa. 19085 or call Bob Josuweit, WA3PZO, 215-449-9727.
- 12 Predicted peak of the Perseids meteor shower at 0700 UTC.
- 14 Board of Directors Meeting at the QTH of N3CX. All interested parties welcome. Call 215-679-7293 for directions. QTH: Pennsburg, Pa.
- 16 EME Perigee
- 16-17 New Jersey QSO Party. See July QST Page 87 for rules.
- 17 Delmarva Hamfest. Delaware Technical Community College, Georgetown, De. on Delaware 18 a quarter mile from the intersection of US 113 and Delaware 18 West of Georgetown. Talk-in on 147.075 and 52.
- 21 Second Annual Outdoor Meeting of the Club. Bring your XYL or YL and folding chairs. At the QTH of Dave, WB2VLA. Call: 609-882-1040 for directions. QTH is 25 Van Duyn Drive, Trenton, N.J. (Ewing Township)
- 24 C.P.R.A. Hamfest at the Penn Harris Motor Inn.
- 24 Gloucester County Amateur Radio Club annual Hamfest, 4-H Club Fairgrounds on Rt. 77 in Mullica Hill, N.J. Call: 609-589-2318 for info. Call-in on 147.18 146.52.
- 25-31 5th Annual 1986 North American ATV QSO Party (and DX) UHF Contest. See July 1986 issue of SPEC-COM for rules.
- 28 Microwave Update 1986 Conference, Estes Park, CO. For more info. contact WQPW.
- 31 Red Rose Computerfest, Sunday at the Guernsey Pavillion located on Rt. 30 at Rt. 896.

SEPT.

- 13-14 September VHF QSO Party. See August QST Page 82 for rules. Note new QRP Portable category.

MARK YOUR CALENDAR - VHF Conference, Warrington Motor Lodge, Warrington, Pa. October 4, 1986. HAMARAMA - The next day - 611 Drive-In, Warrington, Pa. October 5, 1986.

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. 902 MHZ TRANSCEIVER: Pacific Microwave Corp. is offering a 902 Mhz #PM900M FM transceiver for this new 33 CM band. No price or specs at this time. For more information, contact above at 555 Pilgrim Drive, Suite B, Foster City, CA. 94404
2. VHF/UHF BEAM ANTENNA: Dick Smith Electronics of Redwood City California has advertised a number of ham items. A 9 element yagi is available for 144 Mhz and 220 Mhz. A 13 element yagi covers the 440-450 Mhz range. All beams are rated at 12 DB gain. All antennas are designed for 50 Ohm coax. Price 144 - \$50; 220 - \$40; 440 - \$30.
3. ANTENNA TRAPS: G2DYM Aerials have produced a line of traps for the 10-80 meter bands, which have been popular overseas. A new addition to their line are 10 and 15 meter traps with 6" alum. tube extensions to facilitate building trap rotary dipoles and beams, and trap verticals. Prices \$15 each kit of 4 (Dipole) \$55. G2DYM Aerials, Uplowman Tiverton, Devon, England.
4. HIGH POWER AMPS FOR 144 and 432: Coens Technique of Belgium is selling a 144 Mhz 1500 watt output amp. thru their U.S. distrib. PX Shack. The 1.5 KW rating is for continuous duty, max output is 2.6 KW. Input drive required is 45 to 85 watts. Two 3CX800A7 tubes are used in the PA. A 432 unit will be available late this year. Price \$2500.

* * *

A 903 Mhz. BEACON ON THE AIR

N3CX has activated a 903.070 Mhz beacon from Pennsburg, Pa. 5 watts into a big wheel antenna horizontally polarized. The ID is N3CX - FN20 plus Pennsburg, Pa. Reception reports will be appreciated. Drop a QSL to N3CX, Dave Hackford, Box 138, R.D. 2, Pennsburg, Pa. 18073

* * *

WHERE DID I SEE THAT ARTICLE?

Would this be helpful to your club - A key to all the articles that have appeared in QST, CW, Ham Radio and 73 magazine since their first issue (with QST continuous since January 1945)? It's available in the form of a two volume set called "From Beverages Thru OSCAR - A Bibliography". Contained within the 764 pages are over 36,000 references to these articles divided into 92 separate chapters. Cost \$40 includes postage & handling. Contact Rich Rosen, K2RR for details, 626 Hurricane Hill Road, Mason, NH 03048

* * *

VISITORS MEETING JULY 17, 1986

WA3EHD - Jim - Roslyn, Pa.
KB3JW - Ray - Upper Dublin, Pa.
K3CQZ - Ben - Phila., Pa.

KA3AIS - Bill - Abington, Pa.
WA3GHM - Gerd & Carol - Levittown, Pa.
KA3MLY - August - Elkins Park, Pa.

SWAP SHOP

FOR SALE: From the Estate of W2ZI and from station W2FDE. Items are available for on the air demonstration at W2FDE. Drake TR-4CW 80-10 meter SSB/CW 300 watt transceiver w/AC-4 115 volt A.C. power supply. Includes: 500 Hz filter for enhanced C.W. operation. Complete w/key and microphone & Swan Dual Meter S.W.R. Meter \$175. Trio-Kenwood TS-510 (Allied A-2517) 80-10 Meter SSB/CW transceiver w/ 500 Hz CW filter for enhanced C.W. operation. Complete w/Electrovoice Model 638 grip stand microphone & C.W. hand key in excel. condition. \$125. U.S. Navy "Rak-8" 15 to 600 Kilohertz (or "Kc") very low freq. receiver. Ship to shore & submarine communications, and including an RCA AR-8503 low freq. preselector \$50. Barker-Williamson (B&W) Model 425 52 ohm low pass filter (1000 watt rating) \$15. Barker-Williamson (B&W) model 550-A five position Coax selector switch \$15. RCA Model WV-120A A.C. (RMS) Line voltage-power line monitor \$10. Ten-Tek Model KR-20 (6 to 60 words perminute) Electronic keyer (w/built-in magnetically damped paddle assembly) \$30. Heathkit Model AM-2 SWR Bridge (w manual) \$5. Heathkit Model HM-102 RF power meter 200/2000 watt range at 1.8 to 30 Mhz (also measures S.W.R.) \$30. Kenwood DC-25 D.C. to D.C. Converter for 12 volt (automobile cigar lighter) operation of TR-2500 or TR-3500 handy-talkie radios \$10. Drake TV-42-LP low pass filter w/200 watt PEP rating for transmitters operating below 30 Mhz. Small physical size for use w/(or mounted on) transceivers, etc. \$10. R.S.O. (Radio Society or Ontario) low pass filter for the ultimate in harmonic reduction in severe "T.V.I." problems Rated at more than 2KW PEP \$20. Kenwood SMC-24 speaker-microphone for TR-2400 H.T. \$20. DEC Model DCC TR-2400 rapid mobile charger for TR-2400 H.T. charges H.T. battery from cigar lighter while operation H.T. in car or from 12 volt power supply. \$15.

CONTACT: Sidney L. Daitz, W2FDE
14 Wickford Avenue
Trenton, N.J. 08618
Phone: 609-882-3950 between 9 AM - 2 PM

FOR SALE: Icom IC551 10W/6 meters AM,CW, SSB (FM not installed) Vox, built-in supply, hand mic \$300.

CONTACT: KA3B, Harry Schools
1606 S. Newkirk Street
Phila., Pa. 19145
Phone: 215-468-1866

FOR SALE: Clëgg Classic VHF CONVERTERS - solid state 50 and 144 Mhz. 1 Mhz xtal segments. 50 Mhz - tunes 48 to 53 Mhz w/14 Mhz output. 144 Mhz - tunes 144 to 148 Mhz w/28 Mhz output. A 1 Mhz calibration xtal & power supply in each. Make reasonable offer.

CONTACT: W2AXU, John Power
Phone: 609-882-8811

FOR SALE: 6 meter Swan 250C w/noise blanker and home-brew power supply. No mike, Good condition \$125. 2 meter Swan TV2-B xverter - no power supply - can be used w/6 meter or HF gear. Good cond. \$75. Manuals for both units. Klystron Tube - New - ITT NSN-5960-027-2248 sell or trade.

CONTACT: WA3RSQ, Charlie Giannetta
Phone: 215-837-0489

* * *

COMMERCIAL AD

FOR SALE: TR-7850 2 meter FM \$245. Kenwood: R-2000 Gen cov rcvr w/cw filter \$425. KPS-12 power supply \$65. PC-1 phone patch \$55. SP-520 Spkr \$40. Drake: TR5 H.F. xcvr \$350. FS4 synthesizer \$220. NB4 noise blanker for R4C \$80. W-4 wattmeter 1.8 to 54 Mhz \$65. MS4 spkr \$40. MN-2000 2 Kw ant. tuner \$195. AC-4 P.X. \$95. Closeout - AK-75 dipole antenna, 80 thru 10 (new) \$29. Yaesu: FL-2100B H.F. 10-80 meters, \$425. (1200 Wt. amp) Lafayette: HA 460 6 met. xcvr AM,CW \$40. Sanyo: 15" B&W monitor \$115.

CONTACT: K3UKW, Tony Musero
1609 S. Iseminger St.
Phladelphia, Pa. 19148
Phone: 215-271-8898

COMMERCIAL AD

Loop Yagis: 902 Mhz and 1296 Mhz 45 ele. \$70; 2304 Mhz \$62.50; Also available assembled and tested. Power dividers, stacking frames available. Linear amplifiers; 1296 Mhz. 1 watt in 18 watts out \$230; 2304: 1 watt in, 10 watts out \$300. Write for more info. to: Down East Microwave, Bill Olson, W3HQT, Box 1655A, RFD 1, Burnham, ME 04922 (207) 948-3741.

* * *

FOR SALE: Collins 75S-1, \$110.
Contact: Jay, KS2T
Phone: 201-244-7623

MONTGOMERY COUNTY COMMUNICATIONS DIRECTOR ANNOUNCES RETIREMENT

Montgomery County Communications Director Thomas E. Gibson announced that he will retire effective July 26, 1986.

Tom has served the Communications Center for fourteen years in the positions of Deputy Director and Director.

Tom was instrumental in leading the communications center into the computer age in 1976 with the introduction and development of the Computer Aided Dispatch system (CADS). Tom also oversaw the growth of the fire and ambulance segment of the center which began in earnest in 1972. Tom's career also spanned the relocation of the communications center from the 'mini trailer park' to the present EDC which represented a massive logistics nightmare but was pulled off on schedule without any break in service back in March of 1981. In the early 80's he guided the development and installation of the original two remote sites as well as the more recent additional sites at Gladwyne and Abington Hospital. To improve the reliability of the remote sites and reduce dependancy on Ma Bell's phone lines, he pushed for and got microwave links to connect them together.

We urge you to give Tom a call or drop him a note wishing him a healthy enjoyable and successful retirement.

EDITORS NOTE: Tom is the Montgomery County RACES officer and will continue in that capacity. His ham call is W3EAG. Best wishes.

* * *

TID BITS

Sunspot No. for June 1986 = 0.8 - Smoothed No. for December 1985 = 15.4.

Congratulations to Pack-Rat W2HX, BB Wentzel on his nomination as a fellow in the Radio Club of America. He will be installed at the November meeting.

Jo, W2EIF made our July outdoor meeting. It was nice to see you again Jo.

Some other old friends were there also, WA3EHD, Jim, KB3JW, Ray and Gus now KA3MLY; as well as Gerd, WA3GHM. Shocked to see K3DMA - Hi.

Best wishes to the SJRA on their 70th Anniversary.

K3ACR, KS2T, N3EAX, report good DX conditions over the July 19/20 week-end CQ contest.

On a sad note - W2MR and W3ZO became silent keys recently. Have known them for over 50 years. Condolences to their families.

Thanks to Dave, W3ZD for hosting the very FB July outdoor meeting. The Auction was a success - all items were sold! Our very experienced auctioneers, El, K3JJZ and Dave, W3ZD did an outstanding job. Our Prez, Gary, WA2OMY worked hard as well as Doc, K3GAS (money bags - that is).

Pat, WB3DNI is our HAMARAMA Chairman - Please give him your help.

* * *

1986 JUNE VHF QSO PARTY

PACKRAT EXPEDITION TO SPRUCE KNOB, W VA.

FINAL REPORT

By Rick Connor, WB2NPE

After two years of orientation and success on Spruce Knob Mountain, West Virginia in the UHF Contest, the Packrats decided to add six and two meters to the traveling show and try the June VHF Contest this year. Plans for the 1986 venture to the Knob (elevation 4860 ft.), began with meetings at the QTH of WA3NUF in early spring. The crew of club members consisting of N3AOG, WA3AXV, N3CX, K2EVW, WA3JUF, WB3JYO, WB2NPE, WA3NUF, AK3O, WB2RVX, N2SB, and WA3YUE utilized proven Packrat strategy and organization to map out the expedition to the highest point in the state of West Virginia. Reliable high-performance stations were selected for the trip, supported by a full complement of reserve equipment to back up each band. Spruce Knob is located in east-central W. Va., three hours and two mountain ranges from the nearest hardware store, so it is essential to carry with us sufficient parts, accessories, and tools to provide versatility and maintenance of the contest site. Six motor generators totaling 20 KW of 110/220 VAC were hauled for the power plant along with containers to hold 55 gallons of gasoline which we obtain at the base of the mountain. Aluminum towers and masts make up the seven antenna supports which range from 20 to 40 feet above ground. The tallest Spruce trees on the mountaintop are only 15 feet high. The towers are fitted with special bases for easy erection and are supported with polypro rope and steel spikes driven into the rocky ground. We learned the "plan for the worst weather" lesson at the Knob in 1984 when we experienced 50 mph winds and hard rain/lightning/sleet/hail, etc. Since then, the operating positions have been arranged in hard shelters. Two large van rental trucks and AOG's motorhome provided comfortable, dry shelter for the weekend. A total of seven vehicles made the journey in caravan style and used 220 FM to keep the boys together. Every expedition requires a mascot and that bill was filled by K2EVW's 100 pound black Labrador Retriever, IZZY. IZZY is a three time veteran of Spruce Knob!

We left the Philadelphia area at 0530 Friday, June 13, loaded and bound for the Knob. We all know how the Rats like to eat, so #1 priority for the morning was a stop at Elby's restaurant near Carlisle, Pa. for smorgasbord breakfast. Here, the guys fueled up for the big day with a few pounds of grub. Then, onto Rt. 81 for the ride to Harrisonburg, Va. Harrisonburg is the "last chance" stop before we head over the mountains and up to the summit. We arrived at Spruce Knob at 1400 beneath a clear sky, fresh air (except for the smell of brake lining), and the gleaming sunshine. We set up stations and towers to minimize inter-station interference and by 1700 we had bands up and running. N3CX heard his 903 beacon all the way from Finland, Pa. and was elated.

By 1000 Saturday, the site was complete and the crew was resting and ready to operate. N3CX had the food tent in full operation and the mountain skyline was filled with aluminum and the smell of Chef Dave's burgers, beans and dogs. We were visited by WB3KOZ, Bob, and KA8VTN, Tom who had arrived that morning with plans to operate a small effort for the contest. Upon the survey of our artillery, they accepted our offer to join the W3CCX/8 operation. They were thrilled!

The gong sounded at 1400 and we were off and running. 6 meters was roaring with E-skip to the South and West. 2 meters was packed edge to edge and we even had early activity on UHF. Some QRM was provided by AB4L, a mountaintop operation about 70 miles away, but we co-existed fine. West Virginia and grid FM08 are still a good catch so we drew some attention on the bands. The generators hummed and headphones range through the night as the activity level peaked. We had some brief moments of enhancement on 2 meters and up but for the most part those bands were flat. The colored blocks on the grid maps spread solidly in all directions stretching to the Chicago area (EN52) down to deep South Carolina (EM93) and to Maine (FN43).

(CONTINUED ON PAGE 8)

1986 June VHF QSO Party Continued

6 meter Eskip came and went; not quite as solid as it was here at home. Many times we heard you fellows working Sporadic E right over our heads. Our friends Bob and Tom pounded away on 220 and 432 which allowed our guys to co-ordinate band hopping for new grids and stations. On the 220, 432, 1296 bands we had topped our previous UHF contest totals by Saturday night -- much better activity in June! On Sunday, 6 meters opened to the Caribbean for some wild contacts into VP2, KP4, J88, and 8P6 land. We had a 10db over S-9 ragchew with K3YTL on 903 SSB (about 225 mi.) and we were able to catch up on some 220/432 activity. WA3NUF took his annual walk to the observation tower to contact AB4L on 10 Ghz (70 mi.). Piece of cake, eh Phil? I'm still amazed! We had not planned to send out a roving station this year as we had in the past. It's rough country to rove through and very tiring/time consuming. However, neighboring grid EM98 was a grid we needed on the upper bands and by Sunday noon the boys were itching for a detail. N2SB, WA3JUF, and N3CX built some simple antennas for 1296, 903, and 2304 and outfitted SB's 4-wheel drive with the spare UHF gear, a gunplexer, and a gas generator. Experienced rovers N3AOG, N2SB, and WA3JUF hit the road to complete EM98 QSO's back to the site on 220-10Ghz. Round trip time was about 5 hours but well worth the six new grids.

W3CCX/8 pushed on leaving no bands un-dredged until the finish line at 2300. We were satisfied we had put up our best effort. A quick tally painted the Spruce Knob picture - lots of multipliers; a little light on contacts. We leave this dense pocket of activity in the Northeast behind when we travel to West Virginia and we must devise a way to tap in a little better. Maybe a little more power on 2 meters or some effective 2 meter FM operations are the answer. We worked only one station via 2 meter FM -- probably could work 70 - 100. We have a year to fine tune the operation. Packrat activity was good, though. Thanks to all of those who got on and found us. We hope that more who have the capability look for us next year.

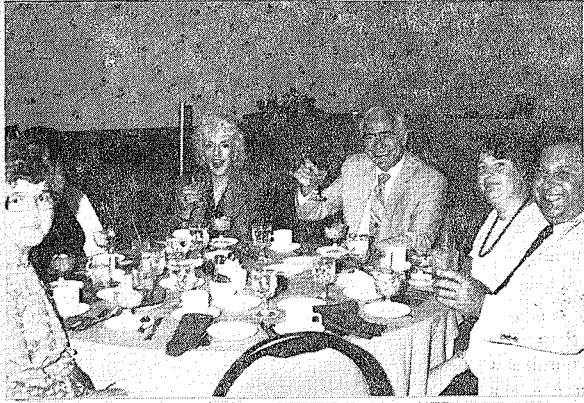
Here's how you did:

	<u>50</u>	<u>144</u>	<u>220</u>	<u>432</u>	<u>1296</u>
W3CL	x	x	x	x	
KB3DM	x	x	x	x	
KF6AJ	x	x	x	x	
W2EIF	x	x	x	x	
K1PXE	x	x	x	x	
WA2OMY	x	x	x	x	x
KA2JKI			x	x	x
AC3T	x	x	x	x	
W3IIT	x	x	x		
W3KKN	x	x	x	x	x
WA3IWT	x		x		
KS2T	x		x	x	
N3EAX	x	x		x	
W2AXU	x	x		x	
N3BBI	x	x		x	
WB3IGR	x	x		x	
K3LOM	x	x			
W3CXU		x			x
K3ESJ		x			
K3BPP		x		x	
K3GYS		x			
AA2Z		x			
K3ACR	x	x			
WB2BJH		x			
W3HQT/1	x				
WB2VLA	x				
K3LYB	x				
W3NSI *			x	- 8 -	

(WB2ONA, K3NHX, K3JJZ - not sure if these were logged)

* Worked through W3CCX repeater prior to contest.

(CONTINUED ON PAGE 9)



BERT (W3TNP), (Where is Ernie)?, ANN HOUSER (Our Apology) JANE (WB3DSK) & W3ZD, KATHY (WB3LTH) & WB3TGR



YL & WB3JYO, DONA (Where is Gregg, KD6KD)? ROSE & W3IIT, SHARON & WA3IWT



AK30 (his arm) & MADELINE, YL & WB3DNI, N2SB, WB2NPE & JANICE, RUTH & W3GXB



K3JJZ & LORRAINE, WA3HIT & BETTY, K3CAS & LORETTA, PEGGY



WA3AQA & JEAN, WB2VLA & NANCY (N2AII), WB2ONA & SUSAN



HERE IS NANCY (N2AII)

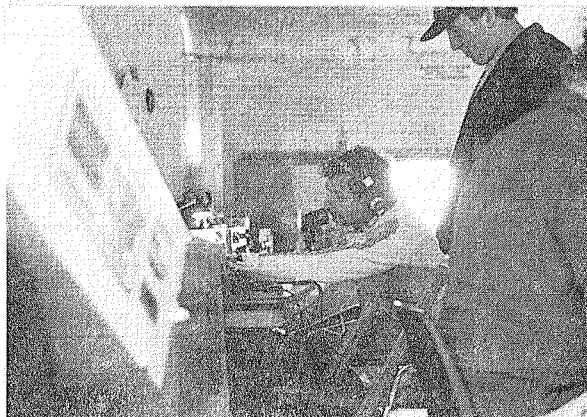
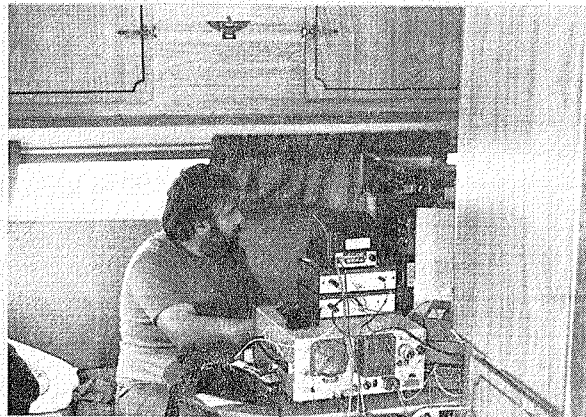
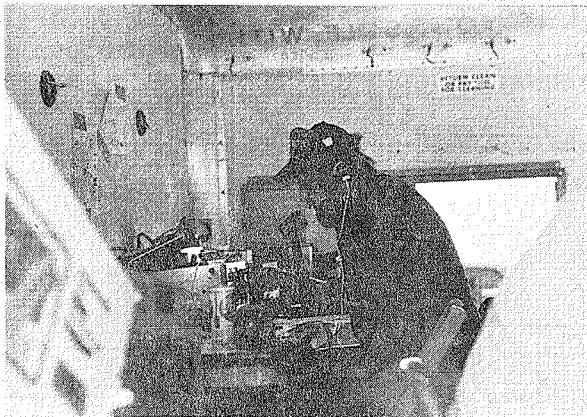
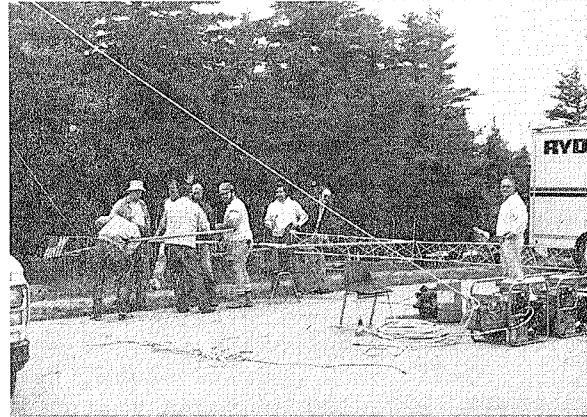
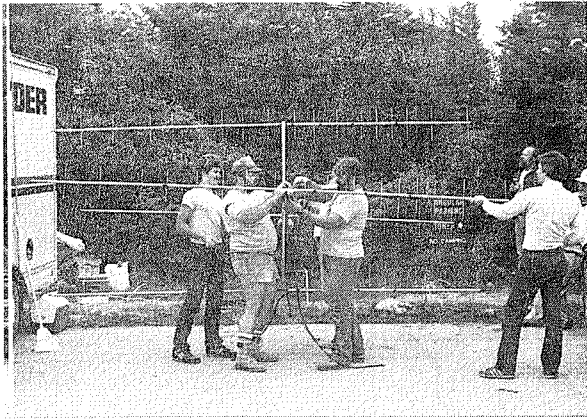
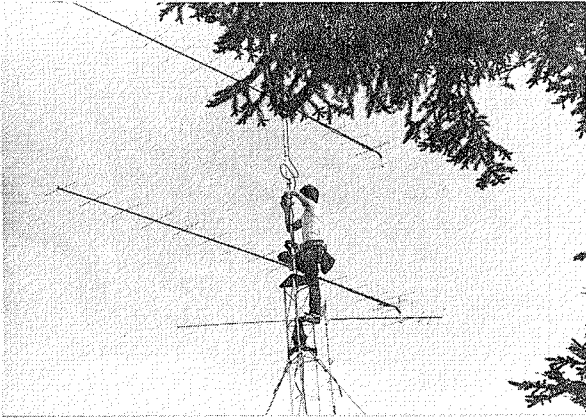


HERE IS ERNIE (W3KKK) WITH WB2NPE & W3CXU



LORRI & W3HKZ

LADIES NITE '86



SPRUCE KNOB - 1986

fotos by N2SB

DOWN EAST MICROWAVE

BOX 1655A - RFD #1
BURNHAM, ME 04922

Microwave Antennas and Amplifiers
by W3BQT

902 1296 2304 3456 MHz.

Bill Olson (207) 948-3741

73 Amateur Radio's Technical Journal

PO BOX 931
FARMINGDALE, NY 11737

\$25 one year 553 three years

NE 7-8929

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

W3HK

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

RCA Authorized
Distributor

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



Delaware Amateur Supply
"AMATEUR SALES AND SERVICE"

PAUL WA3QFX
KATHY KA3LYO

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

215-342-5982

WA3HIT

Paul and Betty Rilling

INCOME DIVERSIFICATION

5830 Weymouth Street -Phila., Pa.19120

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

CARL BARISH

**PRINTECH
PRINTING**

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



**NESHAMINY
TRAVEL
SERVICE**

Harriet Solhoff
Home: (215) 947-4483

xy1 K3IUV

2337 Neshaminy Blvd.
Bensalem, PA 19020

BROWSING - THURS. 7⁰⁰ - 8⁰⁰
SAT. 9⁰⁰ - 4⁰⁰

Day-Nite (215) 455-2121

FERTIK'S ELECTRONICS

Components & Equipment

LEON FERTIK

5400 ELLA STREET
PHILADELPHIA, PA. 19120

LUNAR, MICROWAVE MODULES, ARCOS, ASTRON, KLM
TAMA, TONNA 1971

THE
VHF SHOP

TOM KO3R
16 South Mt. Boulevard
Mountaintop, Pa. 18707

(717) 474-9398
M - F after 6:00 p.m.
Weekends Anytime!

EASTSIDE SURPLUS SALES

12894 NE 15th PLACE
BELLEVUE, WA 98005

(206) 453-0795

Carl Barish
KC7ZC

A CANDY STORE OF PARTS FOR THE EXPERIMENTER.

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



Delaware Amateur Supply
"AMATEUR SALES AND SERVICE"

ROB WA3QLS
GAIL KA3ITM

71 MEADOW ROAD
NEW CASTLE, DELAWARE 19720



Jenkintown & Glenside Electric Co.

WA3WLQ

220 YORK ROAD
JENKINTOWN, PA.
Turner 4-0375 - 4-1050
WA 7-4325

Service Since 1956
88 N. YORK ROAD
WILLOW GROVE, PA 19090
215-659-5900

"HAM" BUERGER, INC.
Electronic Equipment Distributor
"Right in the middle of a lot of good company!"

If we're judged by the company we keep, we should do pretty well!

WILSON ELECTRONICS CORP.
Xcelite
SPRAGUE (A MEMBER OF THE GENERAL ELECTRIC COMPANY)
TELEX
CUSHCROFT AMPHENOL
TRW TAB BOOKS
TEN-TEC
VIBROPLEX
Beamcot South River
"W2AU" HAM-KEY Lorusen Antennas
ROHN
ASiATIC "By gain"
GILFER LMB
nrc
ICOM
CE Saxon
CBS
CDE
DRAKE
Waldom
Weller
TPL
MISCO Vector
HUSTER
phips products
AMCO
AM COVER CRAFT
AMP SPECIAL INDUSTRIES
es
TCR
AMPHENOL

Cheese Bits
2087 Parkdale Ave.
Glenside, Pa. 19038



PACK RATS

FIRST CLASS