

PACK RATS'



CHEESE BITS



CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

MT. AIRY V.H.F. RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA (ARNS)
(50.2, 145.2, 221.4, 432.03 & 1296.3 Mhz) Repeater 222.98/224.58
AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE
MEETINGS: THIRD THURSDAY OF EACH MONTH 8:00 P.M.
SOUTHAMPTON FREE LIBRARY, 947 E. STREET ROAD
SOUTHAMPTON, PENNSYLVANIA

VOLUME XVII

OCTOBER, 1975

NUMBER 10

THE PREZ SEZ

Once again we need your help at Hamarama. This is the club's largest event of the year and requires many willing workers to share the load. Hamarama makes possible many of the other activities and perquisites that we have come to expect and enjoy throughout the year. Need I remind you that the cost of living has increased? There was a time when your dues paid for just about all the club's activities. Today, the income from dues amounts to only about 20 per-cent of the club's annual income. This is not a pitch for a dues increase for we could not, as a practical matter, raise dues to a level where they would again become a significant portion of our budget. Those days are gone. What we do need is your personal involvement in club activities. This is a far more valuable resource than monetary considerations. We need your particular expertise, experience and/or muscle to make things happen. I hope to see a real turnout for Hamarama this year. Endeavor to find an excuse as to how you CAN help. Please let the Hamarama Committee know in advance when you will be available to lend a hand. We have to know in advance so that plans can be made to make the most use of your time. Lets really give Lee, K3MXM, the support a club of this calibre should provide for an event of Hamarama's magnitude.

Don't forget the club meeting will be back at the Library starting in October. We hope to see many of the faces that have been missing all Summer.

73, Ron, WA3AXV

- - -

1975

NEW ENGLAND DIVISION A.R.R.L

CONVENTION

NOVEMBER 1 and 2- 1975

Hartford Sheraton Hotel and Civic Center, Hartford, Conn....
Exhibits, Forums, Prizes, Banquet, League Tours;
YL Activities

PACK RATS' CHEESE BITS IS A
PUBLICATION OF THE MT. AIRY
V.H.F. RADIO CLUB, INC.
PHILADELPHIA, PA. AND IS
PUBLISHED MONTHLY.

SUBSCRIPTION RATE
\$1.50 PER YEAR

WE OPERATE ON AN EXCHANGE BASIS
WITH OTHER PUBLICATIONS AND
ANYTHING THAT IS PRINTED IN
CHEESE BITS MAY BE REPRINTED,
UNLESS SO STATED, AS LONG AS
THE PROPER CREDIT IS GIVEN.

SWAP SHOP ITEMS - NO CHARGE

DEADLINE FOR ARTICLES IS THE
GENERAL MEMBERSHIP MEETING.

EDITOR:

W3CL, HARRY B. STEIN
2087 PARKDALE AVENUE
GLENSIDE, PA. 19038
215 TU 7-5052

PUBLISHER AND SUBSCRIPTION MANAGER:

K3GAS, DOC CUTLER
7815 NEW SECOND STREET
ELKINS PARK, PA. 19117
215 ME 5-1078

PRINTER:

WA3DJF, CARL MATTIACE
7317 RYERS AVENUE
PHILADELPHIA, PA. 19120
215 RA 5-1928

TYPIST:

WA3TEM, MARSHA STEIN

<u>MONDAY NIGHT NETS:</u>	<u>NET CONTROL</u>
145.2 - 7:30 P.M.	W2EIF
50.2 - 8:30 P.M.	W3CL
221.4/224.58 9:00 P.M.	K3GAS
432.03 - 9:30 P.M.	K3IUV
1296.3 - 10:00 P.M.	W3HMU

<u>FRIDAY NIGHT ATV NET:</u>	<u>NET CONTROL</u>
439.250 - 7:00 P.M.	WA3AXV

PACK RAT REPEATER - WR3ACD-CHURCHVILLE, PA.
222.98/224.58

OFFICERS: 1975 - 1976

PRESIDENT: WA3AXV, RON WHITSEL
VICE. PRES.: K3MXM, LEE COHEN
CORRES. SEC.: WA3NGK, HARRY BROWN
REC. SEC.: WA3DJF, CARL MATTIACE
TREASURER: K3GAS, DOC CUTLER

DIRECTORS:

W3FQD, DICK HUNTZINGER (EX-OFFICIO)
K3ACR, RICH PATTISON
W3HMU, TONY SOUSA
W3HQT, BILL OLSON
WA3JUF, DAVE MASCARO

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

TRUSTEE OF CLUB CALLS: W3CCX - WR3ACD:

W3SAO, FRANCIS BRICK
821 W. LINDLEY AVENUE
PHILADELPHIA, PA. 19141
215 DA 4-7524

AWARDS CHAIRMAN:

W2EIF, JOSEPH KILGORE
#5 SUNNYBROOK COURT
STRATFORD, NEW JERSEY 08084
609 - 783-9478

CLUB HISTORIAN:

W3SAO, FRANCIS BRICK



PENNSYLVANIA
INSTITUTE of TECHNOLOGY

PAUL D. MERCADO-W3FBB

FCC AMATEUR/ *Instructor*
COMMERCIAL LICENSE INSTRUCTION

(215) FL 2-7100
(215) JA 8-6998

414 SANSOM STREET
UPPER DARBY, PA. 19082

215-674-0300



LAFAYETTE RADIO ELECTRONICS
"Associate Store"
531 Easton Road
Horsham, Pa. 19044



Ed Clark

CALENDAR OF COMING EVENTS

Syllabus by Lee, K3MXM

OCTOBER

- 5 HAMARAMA - Bucks County Drive-In Theatre, Rt. 611, Warrington, Pa.
This is our big affair and every club member is asked to come out, offer aid and help to one of the four committees. We have expectations of over 1500 persons and help will definitely be needed. Give them a few hours of your time and then join in the fun of tail-gate selling, browsing around, and meeting those friends you have talked to on the air. The hours are 8 a.m. till 4 p.m. and we will be looking forward to seeing you and sharing the fun and pleasure of a good day...
- 8 Board of Directors Meeting, QTH K3BPP, Walt Bohlman, 101 East Street, Doylestown, Pa. 215-348-8913.
- 11 RAGS Hamfest, Syracuse, N.Y. Contact, WA2UBT, 128 Atkinson Avenue, Syracuse, N.Y. 1320
- 13 Columbus Day
- 16 First Indoor Meeting of the Season. Southampton Free Library, Street Road, Southampton Pa. 8:00 P.M. We expect Ed Tilton, W1HDQ to be the speaker of the evening. Meet the speaker at the Buck at 6:00 P.M. Doc's Silent Auction - The MARIO Raffle, Refreshments. Open meeting to one and all; invite your buddies and friends.
- 19 Gaithersburg Hamfest, Gaithersburg, Md. There may be a chartered bus running again from the Norristown area. Listen for info on the nets..
- 24 United Nations Day
- 26 Coordinators for January VHF SS Contest meet at K3GAS QTH at 1:30 P.M.
- 27 Veterans Day
- 31 HALLOWEEN - Better watch your car antennas and park in a guarded spot..

NOVEMBER

- 12 Board of Directors Meeting
- 20 Club Meeting, Topic: Equipment Review, how it works and especially how to fix it. A seminar type meeting with our own knowledgeable club members conducting each part.

DECEMBER

- 18 Closed Meeting, Among other things , Part II - The Gulf Oil Fire, Carl Croce, K3DLS.

JANUARY

- 3 & 4 JANUARY 1976 VHF Sweepstakes.

INTERESTING AND VALUABLE INFORMATION

By K3MXM

When writing to the FCC at Gettysburg, Pa. concerning your license, don't forget to use P.O. Box 1020, Gettysburg, Pa. as it will help to get a quicker response. Only AMATEUR license matters go to this special box number... de Auto Call.

At a recent coffee klatch mobile operation was under discussion and a very valuable point was brought out about grounding. All too often it is overlooked but the tail pipe section of the muffler assembly acts as a resonant length and causes all sorts of problems. The motor end is grounded but the far end should definitely be tied to ground (the car frame) with some braided strapping. Having problems...give it a try...

After listening to AM radio for a while, we have decided that anything not worth saying.. is sung de Auto Call

NEW PRODUCTS OF INTEREST TO HAMS

By Lynn, W3NSI

1. Coil Kits for Home Built Gear: Caddell Coil Corp. has a list (2A) of 38 coil sets for various projects described in the 1975 ARRL Handbook and recent issues of 73, Ham Radio, and CQ magazines. Pieces of these kits can be purchased separately. List of kits and prices available from Co. address below, at no charge. 35 Main St. Poultney, Vermont 05764
2. Two Meter F.M. Amp: American Basic Corp #P15A1 FM & CW amplifier will boost the 1 watt output of a hand held 2 meter T/R to about 25 watts while drawing 2-3 amps of 13.4 V D.C. Unit is very compact and can be switched in and out on the amplifier chassis. Cost \$59.00. 542 North Frederick Avenue, Gaithersburg, Md. 20760
3. 500 Mz Prescaler: Davis Electronics model Ps2A prescaler will divide a signal by either 10 or 100 and feed it to your lower range counter for direct readout. Unit is complete with power supply and the input is overload protected. BNC fittings are used for input and output, making series connection to a counter simple. Input sensitivity is 150 Mv. Cost \$100. 636 Sheridan Drive, Tonawanda, N.Y. 14150.

VHF/UHF REPORT

By Jo, W2EIF

The VHF/UHF BANDS showed a small increase in activity just before the Sept. QSO Party. No doubt people getting ready for the affair. The contest itself showed fair activity, more CW than usual was observed on six meters although I thought the overall activity was less than expected. The other bands, 2 meters and up were good and as usual predominantly CW. In my opinion, the CW on 2 meters was above expectations. This was no doubt due to the advent of the small synthesizer SSB/CW rigs now available for the band.

There was one thing that hurt the contest; namely, the fact that large groups in South Jersey and Ohio schedule Ham Fests on the contest weekend.

Sections were plentiful on 2 meters where as many as 22 were worked from the E, Pa. area. 16 and over were available on 432.

After the Contest, the bands went dead with practically zero activity observed by this writer to date.

"HOW IT WAS - 200 YEARS AGO"

Amateur Radio will accompany the reenactment of the original march which began on 11 Sept. 1775 when General Washington ordered a volunteer force of 1150 Continental soldiers, commanded by Col. Arnold, to march from Cambridge in a desperate attempt to capture Quebec City by surprise. The army was to follow the uncharted wilderness route through Maine, using bateaux to carry their stores, and relying on the Indian riverways and trails. This march was planned to take 3 weeks. It actually took 8, and only half the men made it to Quebec. Enroute they were buffeted by a hurricane, lost in forests and endless swamps, starved and frozen, but persevered. Their ultimate attack on Quebec failed, and all the resolute courage and determination of our ancestors shown in this gallant effort seemed to be in vain. Although not a victory, the story of the "AEQ" serves to inspire Americans everywhere, as an example of the love of country that kept men fighting, the tremendous odds against them. (See Kenneth Roberts' great novel, "Arundel", now in paperback.) Join WA3UNI, WA3HWZ and WA3UNE, members of Penn Wireless Assn. in celebrating this great Bicentennial event in which close to 1100 men will take part, all attired in authentic clothing and carrying arms of the period. Contact the expedition Special Call Station, WZ1AEQ. The schedule will be: Sept. 26,27,28,29 and 30 from Pittston, Maine to the Canadian border: Oct. 2,3, and 4 it will be /VE2 to Quebec City, 1975. Time: Starting daily from about 2200Z until? Operating Mode: Phone only, centering on 3890, 7230, 14,310, 21,360 and 28,600. For QSL please send SASE to WA3HWZ, Bob Strickland, 138 N. Blue Bell Ave. Langhorne, Pa. 19047

ARRL NATIONAL - 1975

By Gary, WA3YZC

On the weekend of Sept. 12, 13, and 14, I was lucky enough to accompany Dave, W3ZD to the 1975 ARRL National Convention in Reston, Va. Being licensed only 6 months and still having the "newcomer" feel only added to the excitement of attending my first amateur convention. The following are, in my opinion, the highlights of the convention and the results of all my rushing around to see, hear, and learn all (A task I discovered that was slightly more than one person could handle.)

The program in progress when we arrived Fri. morning was the QCWA Annual Meeting. Approximately, 300 were quickly counted in the "SRO" meeting. The QCWA luncheon followed immediately afterward with Tom Rogers, consultant to NAS, talking on "Practical Application of Space Systems". FCC Commissioner Robert Lee was presented with an honorary QCWA membership.

Friday afternoon began the first technical session on RFI/LEMC (electromagnetic compatibility) that was presented to a "SRO" crowd of 300. We learned by an assistant to the Honorable C.A. Vanik that HR7052 will possibly begin sub-committee hearings this fall. Egbert Tingley, K4FKX of the EIA represented the manufacturers viewpoint. He spoke of EIA's part in training service personnel to deal with RFI and of the lack of RFI standards and testing facilities. He admitted that industry is reluctant to accept blanket regulations in view of cost and competition problems. Of the six other papers, the one that stands out was given by Don Garve, representing the Santa Barbara Electronics Interference Assistance Committee. Formed of the Santa Barbara ARC and two CB groups, the members are available to assist in solving RFI complaint. Besides solving RFI problems, Don spoke of the extensive testing they had done on induced signals in telephone, power, and CATV lines. To someone who has recently experienced RFI problems (and solved them), this session left me with optimistic feelings but with the knowledge that RFI legislation will not happen by itself. The Leagues work now in progress to develop recommendations of RF levels for testing is a step in the right direction.

Friday evenings General Technical Session featured five varied presentations, the most memorable of which, was George Jacob's (W3ASK) talk on ionosphere propagation forecasting. He claimed that by using the geomagnetic and solar flux information provided by WWV, at 14 and 18 minutes after the hour respectively, that amateurs could obtain 90% accuracy, in predications. His talk concentrated on exploding the myths concerning propagation predictions.

Sat. started early with a quick tour of the 42 commercial and non-commercial exhibitors. At 10 a.m. the DX Forum, Microprocessor Forum, and FM Forum all started. The DX and Microprocessor Forums were given to "SRO" crowds of 300 and 150 respectively. The FM Forum which dealt mostly with repeater operation and control was, surprisingly, lightly attended. The Micro-Processor Forum consisted of descriptions and applications of these "computers on a chip". These are the biggest thing to hit the electronics industry since transistors and I was impressed with the level of technical information being presented. The two applications discussed were for uses in the OSCAR Satellites and in the Metrovision fast scan ATV repeater. The highlights of the DX Forum was the film and talk by Al Hermandes, WA3YVN (ex-LUIZC) entitled "DXing from Antartica".

The rest of my morning was spent wandering about the exhibitors. Heathkit showed three new products; an all solid state low band transceiver, the HW-104, a 2 M. 5 channel, one watt handle-talkie, and a 10Watt, synthesized 2M transceiver, which for \$289 will probably be a big success. Trio-Kenwood showed their new TS-700 all mode 2 meter transceiver for the first time on the east coast and YAESU showed their FT-620 SSB-CW- AM transceiver which is now available in the US.

The highlight of Sat. afternoon was the Space and EME Forum. Bob Haviland, W4MB, and Chuck Dorian, W3JPT, spoke of the worldwide demand for VHF and UHF frequencies. If we are to keep our current frequency allocation, we are going to have to show activity and interest. The papers that followed were filled with ways to do this. The next paper was by Jan King, W3GEY, of Amsat. He described the present plans for the next Oscar #8. They are now studying the inclusion of a small thruster to lift the satellite into a highly elliptic orbit which would provide both long access times and wide coverage. Another aspect of the Oscar program stressed was its use as a tool in teaching science at almost all levels. Here is a chance for amateurs to demonstrate the hobby in a productive environment. A dramatic demonstration of the capability of Oscar 7 was given Sat. morning by Fred, W2GN when he operated on SSB mobile from the parking lot using mode B, 432 up and 2 Meter down. The next topic was EME. Dave O'Lean, K1WHS, and Dana Huhn, K4DFK, talked and showed slides on their 144 Mhz antennas stressing the point that, though the systems were large, they were not that difficult to build.

ARRL NATIONAL - 1975 CONTINUED

Al Katz, K2UYH showed both his old and new 432 dishes, mentioning that the old 20' one now resides at W3CCX/3 with good results. His new dish is 28' in diameter and he reported that he has heard his echoes on 2300 Mhz.

A point of interest brought up in another afternoon session entitled "Development and Execution of License Training Programs" was that not all clubs are adequately prepared to meet and inform the newcomer who might wander into a club meeting. I'm sure we recognize the need to encourage all those we can into the ranks of amateur radio.

Sat. evening's program consisted of the banquet and a special talk by Astronaut Owen Garriett W5LFL. Master of Ceremonies for the banquet was Robert Lee, FCC Commissioner and Keynote speaker was Major General Sadler, USAF. Director of Communications Electronics for the Joint Chiefs of Staff who spoke on amateur radio's communication responsibilities. Harry Dannals, W2TUK ARRL President, provided the introductory remarks.

Astronaut Owen Garriett, provided an outstanding talk and movie concerning the Skylab III, mission of which he was a member. He detailed a few of the experiments performed during the mission and regretted that he was unable to do any hamming while aloft.

A list of Sunday's sessions included an FCC Forum during which John Johnston, K3BNS, was named head of the Amateur Division of the Commission. There was also an ARPSC Forum, a Contest Forum, and a RTTY Forum. Unfortunately, though it was time to pack and prepare for the drive home. One afternoon session I regretted missing was presented by the Metrovision group from Washington, D.C. concerning their fast scan ATV repeater. I did manage to spend a few moments at their display booth and had a chat with Bruce Brown, WB4YTU, one of the originators of the project. By building video modulators for some of the new 450 Mhz transceivers on the market, it is becoming increasingly easy to enter this unique form of amateur radio.

There were, unfortunately, a few problems encountered during the convention. The largest was that the hotel overbooked their registrations and sent about half of their registrants to hotels six miles away. The meeting rooms were just a little too small to handle the crowds that wanted to attend and the programs were usually running late so there was no time for a question and answer period after the talks. All considered, though, considering the over 1500 registered by Saturday afternoon (a figure I feel a bit pessimistic), things went fairly smoothly.

I believe that Harry Dannals, W2TUK, ARRL President summed up my feeling, when he remarked that he was impressed with the attendant's desire for knowledge as shown by the filled technical sessions. Dave, W3ZD and I were impressed with the happenings and Bill, K3ZSG who we discovered there on Sat. reports the same. I am now looking forward to the Atlantic Division Convention in Phila. next Summer.

- - -

PRIZES RECEIVED FOR PACK-RAT PICNIC 1975

2 Prize Subscriptions 72 Magazine; 5 Dollar Match Certificates, Spectronics; 10 Plastic VSWR Charts, Bird Electronics; 3 RCA Record Albums, RCA/Moorestown; 3 Suit Bags, RCA/Moorestown; 2 Ham Notebooks, Ham Radio Magazine; 1 \$15 Gift Certificate, Kass Electronics Dist.; 1 Book (FM & Repeaters) ARRL; 1 Book (Specialized Communications Techniques) ARRL; 1 Book (VHF Manual) ARRL; 1 Book (Radio Amateurs Handbook) ARRL; 1 Radio Handbook, Howard W. Sams, Inc.; 1 Book (2MTR. FM Repeater Circuits Handbook) Tab Books; 1 Book (Amateur FM Conversion & Construction Projects) Tab Books; 1 Book (How To Be A Ham) Tab Books; 1 Antenna Mast Kit (Portable) Lafayette Radio, N.Y.; 10 Radio Amateur Maps of North America, Radio Amateur Callbook, Inc.

Thanks to all that helped make the picnic an FB success.

Dick, K3IGX

- - -

OFFICIAL BULLETIN NR. 533 FROM ARRL HEADQUARTERS NEWINGTON CT SEPTEMBER 18 1975 TO ALL RADIO AMATEURS BT: Effective immediately John Johnston, K3BNS has been appointed Chief, Amateur and Citizens Division FCC, filling the vacancy caused by the retirement of A. Prose Walker, W4BW. K3BNS earlier served in the Division as Chief, Rules and Legal Branch. Announcement of the appointment was made by Charles A. Higgenbotham, W3CAH at the ARRL National Convention in Reston, Virginia. AR

MT. AIRY V.H.F. RADIO CLUB, INC.



ADS

NE 7-8329 GEORGE S. VAN DYKE, JR., P.E. CONSULTING ENGINEER W3HK 4607 CONVENT LANE PHILA., PA. 19114	 AMERICAN RADIO RELAY LEAGUE, Inc. HARRY A. McCONAGHY, W3SW/W3EPC DIRECTOR, ATLANTIC DIVISION, ARRL "Connie-Mac"
609-429-0087 BRADDOCK ASSOCIATES MANUFACTURERS' REPRESENTATIVE EDWARD BRADDOCK MEMBER, I.E.E.E. W2RAY POST OFFICE BOX 305 HADDONFIELD, N. J. 08033	215-747-5052 W3CL HARRY B. STEIN ASSOCIATES COMMUNICATIONS CONSULTANTS HARRY B. STEIN 2037 PARKDALE AVE. GLENSIDE, PA. 19038
A request from your AD Manager PATRONIZE OUR ADVERTISERS Tell them you saw their ad in CHEESEBITS. Leave your QSL card with them. CHEESEBITS is one of the best read local radio club papers. Circulation - 300	1 year - \$8 3 years - \$16 73 magazine for radio amateurs PETERBOROUGH, NEW HAMPSHIRE 03458

**ham
radio**
your most interesting
amateur publications
hp REPORT
Greenville, NH 03048

FOR SALE: HA-460, Excellent condition.
\$75.00

CONTACT: WA3NDE - Hy Ecksel,
9801 Haldeman Ave.
Phila., Pa. 19115
215-OR 7-7986

FOR SALE: TR 4 Transceiver & AC4
Power supply. Shure 51S Mike & Stand.
3 spare tubes for final. \$415.00

CONTACT: W3CQA, 215-PI5-5909

FOR SALE: Ameco TX-62 & 621 VFO
W/Manuals \$115.00. Will trade for
HW32A & A.C. will not sell VFO alone
unless xmitter goes first.

CONTACT: WA3NFV, Dan Mitten
346 W. 6th Ave. Apt. 3A
Conshohocken, Pa.

Phone: 8:15 a.m - 5 p.m. 215-825-3750

B&K Model 801 in/out of circuit capacitor
analyzer, new \$80; B&K dyna-flex probe
model FP-5, \$5; Have all manuals, cables,
probes, for all equip. listed.

CONTACT: Robert L. Hopper, WA2GAA
346 Dudley St., Apt. 296
Camden, N.J. 08105

SWAP SHOP

FOR SALE: Clegg Interceptor "B" mint w/allbander;
Drake SC-6 6 meter converter, CPS-1 power supply,
SCC-1 calibrator; McCoy Golden Guardian SSB
filters w/ USB/LSB crystals; Johnson 6N2 VFO

WANTED: Drake TR-3 or TR-4

CONTACT: WA3AXV, 215-355-5730

FOR SALE: Motorola 19" B&W VHF TV, excellent
condition. Cart included \$35.00. GE solid state
stereo portable phonograph \$25.00. Emerson 17"
B&W VHF TV w/motorized tuner (portable) \$20.00
RCA 16" B&W VHF portable TV. \$15.00.

CONTACT: Doc Cutler, K3GAS, 215-ME 5-1078

FOR SALE OR TRADE: Realistic DX-160 general
coverage receiver 150 Hz to 30 Mhz \$100; Drake R-
2B receiver w/ 2-CQ speaker Q mult combination \$150;
Regency Aircraft band scanner w/all local xtals
\$135; Midland digital VHF scanner plus xtals \$100;
Heath Seneca transmitter, \$65; Polycomm 6 six
meter Transceiver \$60; 12"24 hr. clock, \$20; B&K
Model 277 solid state electronic multimeter \$65;
B&K Model 162 transistor/FET tester, new \$80; B&K
Model E-200D R.F. Generator, new \$140; B&K Model
E-310B Sine/Square wave generator new \$90; B&K mod
2902 substitution master, new \$50;



BARRACKS TRADING POST

Camping • Electronics • Canvas

RT. 38 AT RUDDEROW AVE.
MAPLE SHADE, N. J. 08052

HARVEY PRIMOST
609-662-6114

HEATHKIT
Schlumberger

ELECTRONIC CENTER
SCHLUMBERGER PRODUCTS CORP.
OVER 300 ELECTRONIC KITS

TED HALDIS
MANAGER
K3EPK

6318 ROOSEVELT BLVD.
PHILA., PA. 19149

TELEPHONE
215 GU 8-0180



Scott's
Surplus
Electronics

134 E. Park Av. Merchantville, N.J. 08109

Division Of dab Associates Inc.

Pres: Scott Layman

609-665-2466



AMIL S. GUMULA
PRESIDENT

A. G. RADIO PARTS CO.
939 TOWNSHIP LINE RD.
ELKINS PARK, PENNA. 19117
TELEPHONE: 215-886-5100

RCM Authorized
Distributor

HOURS
CLOSED MONDAY
TUE. & THUR. 9:30-5:00
WED. & FRI. 11:30-9:00
SAT. 9:30-5:00

(215) 723-1200
(215) MI 6-2511

ELECTRONIC EXCHANGE

ALL TYPES OF HAM GEAR & ELECTRONIC EQUIPMENT
BOUGHT, SOLD, TRADED & REPAIRED

GORDON R. KITTEL
K3AIG

136 N. MAIN STREET
SOUDERTON, PA. 18964

Alex King- K3RMV
Ben Schaefer-WA3ATP
Phyllis Dorey-WA3OWG
Tony Wilczynski-WA3AJW

(215) 449-2300

KASS ELECTRONICS DISTRIBUTORS



DISTRIBUTORS OF
INDUSTRIAL ELECTRONIC PARTS & EQUIPMENT
RADIO - TELEVISION PRODUCTS

2502 TOWNSHIP LINE ROAD
(WEST OF LANSOWNE AVE.)
DREXEL HILL, PA. 19026



(215) 943-7855
788-1527

K3MWV

RICHARD H. PIERCE
PHOTOGRAPHER

2000 NEW RODGERS ROAD
LEVITTOWN, PA. 19056

APT. E-11



J.C. R/C HOBBIES

659-9773

Hours:
Mon. & Sat. 10:00 - 5:00
Tues. thru Fri. 10:00 - 9:00



MINIATURE FLYING MODELS
Radio Control Equipment & Supplies
Crafts for All Ages
BOATS, TRAINS, CARS & PLANES

23 EASTON ROAD
Willow Grove, Pa. 19090

JERRY COWAN
Owner

K3HIN

DICK'S PET SHOP
Everything For The Pet

2128 S. 7th St.
Phila., Pa. 19148

HO 2 - 8915

(609) 663-9236

SWEETMAN CALIBRATION SERVICES
ELECTRONIC TEST EQUIPMENT

GERHARD J. SWEETMAN

2672 GLADWYN ROAD
PENNSAUKEN, N. J. 08109

W3CJU

DONALD KRAUT HAMPTON

Jeweler - Watchmaker

ROGER W. KRAUT
31 W. State Street
Doylestown, Penna.

Phone
Bus. 348-4884
Res. 348-8969

K3MXM

JE 3-4660
4661

LEE A. COHEN

CLAYTON L. HAGY & SON
INCORPORATED
4527-31 HEDGE STREET
PHILADELPHIA, PA. 19124

WIPING RAGS
POLISHING CLOTHS
COTTON & WOOLEN WASTE



W3KKN

ERNEST KENAS
TOOL DESIGN
MANUFACTURING ENGINEERING DEPARTMENT

THE BUDD COMPANY
AUTOMOTIVE DIVISION

PHILADELPHIA, PA.

LOCUST 7-7130

K3KTY

TRANSPORT EQUIPMENT COMPANY
"Everything for the Truck"

JOHN A. TATE
PRESIDENT

2215 - 2217 RACE STREET
PHILADELPHIA, PA. 19103

People who look for peace get it.

—Guru Maharaj Ji

For information contact:

DIVINE LIGHT MISSION (DUO)
6388 CITY AVE., PHILA., PA.
19151
Office- 215-GR 7- 2800

PATRONIZE OUR ADVERTISERS

Tell them you saw their Ad in

CHEESE - BITS

K3ACR



Delta
Data
Systems
Corporation

Richard Pattison
Director of Quality Assurance
Woodhaven Industrial Park, Cornwells Heights, Pa. 19020 • (215) 639-9400

Tony, K4AWS, on the air, look for him between ^{TID BITS} 7 & 8 P.M. daily on 50.110 MHZ, SSB.

Herm, K3GOZ and XYL Betty spent the Summer traveling in the West. They took in all the sights from San Fran to L.A. Then off to Boulder Dam for the grand tour. They spent 8 days in the gambling capitol and Herm convinced a Casino Manager that they needed left handed "one-armed bandits". It is understood that a development contract for such a device is under way

Out "White Elephant Sale" meeting on September 18th got "rained in". Lee, K3MXM out host, moved the furniture out of his living and dining rooms and accommodated a large crowd of white elephant hunters. The meeting turned out to be one of our better successes. Thanks Lee and your harmonic.

Congratulations to Matthew, WA3VJU Stan Smith's (K3IPM) number one son on passing his general class license - pretty good show for an 11 year old lad.

Large Pack-Rat turn-out at the SJRA Hamfest. Chas. K3HSS our Ex-Prez won the 3rd prize, a Lafayette Receiver.

Change of Address: WA3NFV, Dan Mitten, 346 W. 6th Ave. Apt 3A, Conshohocken, Pa. 19428.

Phone Number: 215-825-2617

Voted to Membership: WA3YUE, Bruce Loss, 3747 Warfield Drive, Huntingdon Valley, Pa. 19006
215-947-8390.

Correction on 220 MHz repeater update - In Sept. Cheese-Bits; The "Hamburger" repeater will be located in Warrington, Pa. Not Warminster. By the way Regency 220 in stock and 220 ringo rangers.

The Space Net Contest Results:

Class I - 1. WA2APD, Rick, S.J.; 2. WA1IWK, Wally, Vt.

Class II - 1. WA3HIT, Paul (Pa.) Pack-Rat; 2. K3VYG, Gordon (Pa.) Pack-Rat.

Class III - 1. WA3JMM, Rus (Pa.) Mobile Sixers; 2. WA3WVL, Dick, (Pa.)

Class IV - 1. WA2THT, Dave, (N.Y.) 2. WA3SZD, Dennis (Pa.) Penn Arc.

In the Club competition, the Pack-Rats came in first - High-man - WA3HIT.
Second place was won by the Mobile -Sixers High-Man- WA3JMM

NINTH ANNUAL EAST COAST ANTENNA MEASURING CONTEST

By Tony, W3HMU

This event which for the past three years has been jointly sponsored by the East Coast VHF Society and the Trenton State College Radio Club drew a large group despite the extremely hot and humid weather conditions of Aug. 3, 1975. Participants from New England to Tidewater including several Pack-Rats gathered to try out their latest antenna designs and construction techniques on the WA2ZZF portable antenna range set up at Trenton State College. Antennas were measured on three amateur bands: 432 MHz, 1296 MHz and 2304 MHz. Those not actively engaged in the antenna measurements gathered in groups under the shade trees and held many informal discussion on VHF/UHF operating and equipment. These discussions are always an important feature of this low pressure event. The usual presence of East Coast VHF notables enables many of us to gain expert advice on our current projects and problems.

A difficult problem arose with the antenna range during the early measurements. The signal source which in past years has been very steady in output was fluctuating up and down a few dB within a cyclic period of about a minute, making it impossible to obtain steady readings. Evidently the heat of the day was disturbing the circuit balance. The problem was remedied by using a comparator provided by K2RIW. In this technique the signals are received on two antennas; the test antenna and a reference antenna. A colinear was used as the reference antenna on 432 and dishes on 1296 and 2304. The received signals from the two antennas were compared in a Hewlett-Packard Ratiometer so that the reading taken was the signal level received by the test antenna compared to the signal level received by the reference antenna. So now even though the source strength was varying, it varied at both antennas, and the difference between the two antennas was constant.

Good 432 MHz antenna designs for DX work are available and reproducible. The K2RIW version of the 13 313ment yagi on an 8-foot boom gives consistently good results at pretty close
(CONTINUED ON PAGE 10)

NINTH ANNUAL EAST COAST ANTENNA MEASURING CONTEST

CONTINUED

to 15 dB gain. The new KLM antenna on a 12-foot boom does about one dB better. The 6 foot boom Tilton yagi is a consistent performer at about 13 dB gain. These antenna measurement affairs are often eye openers. W1JAA discovered some severe problems with the matching harness in use on the colinears he brought to Trenton. I'm sure Joe will publish some of his findings. Dipoles are always unreliable as reference antennas. The number of elements an antenna has is not a reliable prediction of performance. Witness the experience Jud, K2CBA had with his 1296 array. The more elements he removed the better it worked. See you all next year at Trenton with a bigger but not necessarily better array. The tabulated results presented below were all obtained using the comparison technique. The antenna listed at the top of each column was the antenna used for calibration. These are antennas which have known gain, and the same reference antennas have been used at these East Coast affairs for the last three years or longer:

432 Results

CALL	Antenna Description	Gain
W3HMU	NBS Reference Antenna(Actually EIA Reference Antenna)	Over Dipole 7.7dB
K2UYH	8 x 13 el. Yagi (wood booms)	20.7
WA1FFO	2 x 16 el. KLM Yagi	17.7
W1JAA	32 el. extended expanded collinear	16.8
W3TMZ	2 x 16 el. KLM Yagi	16.7
W3HQT	2 x 11 el. Tilton Yagi	16.0
WA2FGK	24 el. collinear	15.9
WA1FFO	16 el. KLM Yagi	15.9
K2RIW	13 el. insulated Yagi	15.1
W1JAA	13 el insulated Yagi (W3HMU Antenna Kit)	14.9
WA2NCP	16 el. KLM Yagi	14.8
K2TKN	17 el. Yagi	14.6
W1JAA	16 el. extended expanded collinear	14.4
W3HMU	13 el. insulated Yagi (non-standard director)	14.2
W3TMZ	13 el. insulated Yagi	14.1
WA3JUF	8 el. Yagi (K3UJD design)	13.3
K1LOG	10 el. Yagi (WB6NMT design)	12.3
K2TKN	12 el. collinear	12.1
W1GAN	6 el. Yagi	8.9
K2CBA	NBS Reference Antenna	8.7
W1JAA	Cavity backed dipole	8.0
K3BPP	Dual polarized dish feed (includes cavity filter inserted loss)	6.9
K2CBA	Dipole over ground plane	5.2
WA4ZRP	Inagaki corner for 1296 Mhz	4.3
WA4ZRP	Dipole	1.7
K2TKN	Pylon slot	-1.3
WB2BYP	14 el. Yagi	-5.3
WA2ZZF	Reference Horn	Over Isotropic 15.4 dB
WA2FGK	7 ft. Fiberglass dish - horn feed	26.9
WA2FGK	7 ft. TV dish - horn feed	25.5
K2PPZ	7 ft. dish - log periodic feed	24.1
K2UYH	5 ft. TV dish - horn feed	21.2
WA3JUF	29 in. dish	17.5
K2CBA	32 el. collinear (W6AJF design)	17.2
WA4ZRP	Inagaki corner reflector	16.0
K2UYH	Rhombics(stacked)	13.3
K2TKN	Horn - rectangular	11.7
K2PPZ	Horn - rectangular	11.2
K2TKN	NBS reference antenna	9.1
K2PPZ	Horn - coffee can	8.4
K2RIW	Horn - ridge wave guide	8.4
K2TKN	Log periodic	8.2
WA2LTM	Dual mode feed horn (W2IMU design)	7.7

(1296 MHz results continued on pg. 11)

1296 MHz Results Continued

<u>KETKN</u> <u>Antenna Description</u>		<u>Gain</u>
	Log periodic	7.7
	16 el. array	5.2
K2CBA	24 el. array	2.5
K2CBA	32 el. array	0.9
		2304 MHz Results (Over isotropic)
K2RIW	AIL Reference Horn	17.0 dB
K2PPZ	7 ft. dish - log periodic feed	28.2
K2PPZ	22 in. dish	17.7
K2PPZ	Horn - rectangular	13.2
K2RIW	Helix - 15 turn bifilar	12.7
K2RIW	Dual mode feed horn (W2IMU design)	12.5
WA2ZZF	Horn - rectangular	11.7
K2RIW	Horn - ridge waveguide	9.5
K2PPZ	Log periodic	7.4
K2TKN	Log periodic	6.7
K2CBA	Log periodic	5.7

WHAT IS A PACK-RAT FROM "ASK ANDY" - Evening Bulletin (Phila) Aug. 28, 1975

The Pack Rat, alias the wood rat, is actually a vole - a ratty relative with a furry tail, large ears and a happy face. Without a doubt he is one of the most charming of the rodents, and he may be the outstanding genius of the whole clan. One might say that his greatest talent is in commerce, for of all things the rat is a horn trader.

In pioneer days, a packman traveled the Western frontier with goods for sale, stashed in a pack on his back. Often he traded or bartered a precious cooking pot for a slab of bacon for himself. And sometimes in his lonely journeys he encountered a pack rat - who also traded something for something else.

Chances are, the packman never saw the pack rat, for the furry little trader arrived like a thief in the night. His little heart yearned for a bright shiny treasure, such as a bit of glass or metal.

A few nails would do just fine, or even a scrap of bright cloth. But a thief he was not, for he came prepared with something to exchange for what he took away.

A pack rat may leave a few bright pebbles, a bleached bone or some other object which he considers to be a fair trade. The treasure he removes is taken home to his elaborate burrow and displayed in his private museum. The nicest pack rat story concerns a miner. While he slept, a few worthless bits of metal were traded for a few nuggets of pure gold.

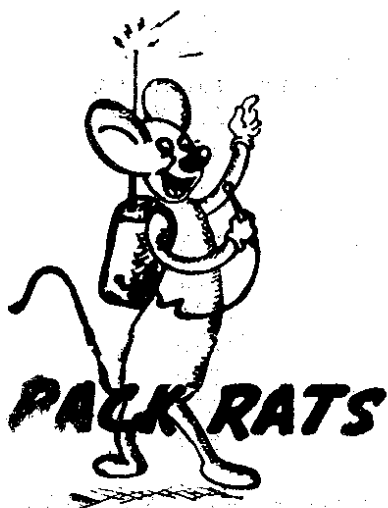
This tale may or may not be true. But certainly countless sleeping campers have been visited by pack rats, hoping to trade some attractive item for something else.

The little trader is about 9 inches long with a 9 inch tail, usually covered with fur. His fluffy coat is thick and silky, colored brown above and creamy white on his undersides. His home is an elaborate nest of twigs built on the ground. He has a separate bedroom, where he dozes during the daytime, and a storage room, plus that extra-special room where he displays his treasures.

Usually he lives alone until the courting season, when he may travel half a mile to call on a female. Being almost voiceless, he drums his feet to attract her attention.

The young are born a month or so after mating, and often the male stays around awhile to help with the child care.

2087 Parkdale Ave.
Glenside, Pa. 19038



MT. AIRY VHF RADIO CLUB, INC.

MEETING NOTICE

W3FQD Dick Huntzinger
130 Fairhill Drive
Churchville, Pa. 18966

FIRST CLASS

The Ultimate In Versatility.

All Frequency Capability:

Full synthesis enables use of all frequencies between 143.5 and 148.5 KHz increments.

Super Sensitivity:

Plus 20 watts output allows you to go direct when others can't.

Repeater Offsets:

Offsets are programmed automatically up or down 600 KHz. The 144 Jr. can be set up to operate any oddball repeater by selecting split mode and setting the repeater input frequency on thumbwheel B and the repeater output on thumbwheel A.

(215) OL 9-5900

"HAM" BUERGER INC.

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

emergency
beacon

