

PACK RATS'



MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



CLUB CALL: W3CCX

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

50.125, 144.50, 432.110, 1296.025 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 18966

ARNS

VOLUME XXIV

JULY, 1982

NUMBER 7

THE PREZ SEZ

The June VHF QSO Party was a prime example of how different "radio weather" can be from regular weather. It was the most miserable wet weekend in contest history in these parts, however, the propagation was fantastic. Several hours of aurora Saturday and a repeat Sunday coupled with fantastic E Skip on 6 meters Sunday evening made for a record breaking weekend from E. Pa. For those operating from dry home stations, increasing your states count on 2 meters and up should have been relatively easy. Our QSO count was approx. 1600 with 150 sections which was a record for both multipliers. The 1296 log looked like 432 did a few years ago with 16 sections including W.N.Y., W. Pa., Ohio, and W. Va. if we could only have made that sked with Ga. FM operation on 2 meters was not missed with the seemingly never end of stations on ssb and cw - never knew there were so many VE's up there; thanks everyone. We worked 4 sections on 2304 with W. Mass. being the best DX. It's only a matter of time before 2304 sections and contacts will approach the 1296 numbers. Admittedly, power is a little harder to generate but antenna gain is easier and low noise preamps are about the same - the only difference is activity - who's working on a 2304 lunch box? If we could only grow some mountains down here, the microwave bands might be more worthwhile tackling.

The June meeting in addition to electing a mostly new set of officers (good luck guys) brought Wayne Overbeck, N6NB as our guest speaker. With a trayful of slides, Wayne gave us a guided tour of his increased crazyness in VHF mountaintop contesting while reducing the hair on his head and denting his pocketbook a little too. Wayne's temporary QTH this Summer is Alenandria, Va. while he is working for the NAB this summer. Wayne added a lot of humor in his slide tour but as active VHF contesters it was serious too. Wayne demonstrated what hard work can accomplish and his contest records show it too - as of Sept. 81 he was listed as the record holder for 8 divisions in the 3 VHF contests. Well done Wayne, but one of these days you might even hear W3CCX/6 out there -- would be interesting.

Congratulations to the new club officers and the next time you think ... "why doesn't someone..." remember that you are that someone and volunteer to do it.

73, Harry, W3IIT - July '82

* * *

We are saddened to report that Jesse Beiberman, W3KT our Atlantic Division Director became a silent key on May 27, 1982. He was a respected and admired friend who devoted a good bit of this life to Amateur Radio. He will be missed. Our condolences to his family and friends.

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 other-
wise 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 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

NET CONTROL

7:30 PM - 50.125 MHZ	W3CL
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: 1982-1983

PRESIDENT: K3KTY, JOHN TATE
VICE-PRES: WA2DPU, BILL SMITH
COR. SECY: W3ZD, DAVE ZIMMERMAN
REC. SECY: W3NSI, LYN ROWLAND
TREASURER: K3GAS, DOC CUTLER
DIRECTORS: W3IIT, HARRY BROWN
WB2RVX, MIKE GALLO (2 yrs)
WB2VLA, DAVE POWER (2 yrs)
WA3JUF, DAVE MASCARO (1 yr)
WA3NUF, PHIL MIGUELEZ (1 yr)

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

1-802-478-2757

**AMATEUR
and
ADVANCED
COMMUNICATIONS**

"Gisele"
K3WAJ

G. B. WALLS

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



**Pennsylvania Institute
of Technology**

PAUL D. MERCADO

Chairperson, Drafting Design Department

(215) 352-7100
(215) 528-6998

414 SANSOM STREET
UPPER DARBY, PA. 19082

Amateur Radio Equipment
Sales & Service

(609) 386-2348

D.P.U. ENTERPRISES

Antennas • VHF Amplifiers • Accessories

KLM

ATRAVE

Bill Smith
WA2DPU

47 Langdon Road
Burlington, NJ 08016

CALENDAR OF COMING EVENTS
Syllabus by Lee, K3MXM

JULY

- 1 Dominion Day (Canada)
- 4 Independence Day - Be sure to Fly the Flag - Attend a Parade; go to a picnic, Have Fun!!!
- 4 Harrisburg Firecracker Hamfest, Shellsville VFW Picnic Grove
- 6 First Talkie Movie 1920
- 8 Board of Directors Meeting, QTH - K3MXM, Lee A. Cohen, 8242 Brookside Road, Elkins Park, Pa. Directors and interested parties always welcome.
- 10 Nittany ARC Hamfest, State College, Pa.
- 11 K3VAN Picnic, Ft. Washington State Park, Starts at Noon.
- 11 Wilkes-Barre Hamfest - Pocono Downs Racetrack; Rt. 315 just off Turnpike. About 1 1/2 hrs. from Phila. and well worth attending.
- 15 St. Swithin's Day
- 15 General Club Meeting - First Outdoor Meeting of the Season. General and White Elephant AUCTION at Zimmermans Glen 520 Centennial Road, Warminster, Pa. A good fun evening for all club members and their friends. An open affair for all amateurs. Talk up the affair, invite your buddies. Clean out your cellar or attic, unload that unwanted equipment. Be sure to bring ONE wrapped package as your WHITE ELEPHANT contribution to the club - then sit back and enjoy the bidding... Refreshments for all -----
- 17-18 Ten-Ten International QSO Party
- 18 First U.S. Atom Powered Plant in operation 1955
- 20 First Manned Moon Landing 1969
- 23-25 ARRL National Convention - Cedar Rapids, IOWA
- 24 Mt. Beacon ARC Hamfest - Poughkeepsie, N.Y. A nice Hamfest to visit if you are vacationing in the Mountains.
- 25 Brats - Hamfest - Howard County Fairgrounds, Maryland
- 26 K3JJZ, El Weisman will give the Pack-Rat Moonbounce DXpedition to Colombia S.A. presentation to the Penn Wireless Association.

* * *

MacGregor's Law - The First one to see a light turn green is the Second car back..

Middle age is when you get out of the shower and you are glad that the mirror is all fogged up....

Narrow minds are 100% likely to have wide mouths....

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. THREE BAND BEAM: The Ant-1 scanner beam now being sold by the GROVE CO. can also be used for low power transmitting on the 144,220, and 432 bands. Rated gain is 6-8 DB for this 7 element antenna, which should be set up from a ground plane. The 44" length of this antenna allows it to be turned by a small TV rotor. Price \$40. Brasstown, N.C. 28902
2. UHF MULTIMODE RIG: ICOM now has their new IC 490A FM, CW and SSB rig available. The 490 covers the 430-440 Mhz range and has a 10 watt output. The size of the 490 makes it possible to use both mobile and fixed. A digital readout is featured and frequency selection tuning rates are 25, 5 and 1 KHz. Four memories can be set up for use in switching to most used frequencies. Full band scan or memory only scan may be used. Up and down frequency control is included on the microphone unit. Price \$649. 2112-116th Ave., NE, Bellevue, Washington 98004
3. KENWOOD TR 9130: The 9130 is actually an improved 9100 2 meter multi-mode rig. The power output has been increased to 25 watts. Six memory channels with memory scan, battery memory back up, and automatic band scan of 1 Mhz segments are now featured. A 16 key autopatch mic is now available. Price \$525.

* * *

VHF/UHF REPORT

By Joe, W2EIF

The six meter band has been opening since the middle of May with contacts to the Caribbean and West Coast. There was some crossband activity, 10 to 6 from the Azores. Two meters also provided some DX contacts to the Midwest and Fla.

The highlight of this report period has to be the June QSO Party. I think that of all the contests I have ever been in, for at least 20 years, none has equaled the recent contest. It is the first time I have ever noted aurora conditions on both days of a contest extending to 432 and 2 meters open to S.C. and FLA. In addition, there was a phenomenal opening on six Sunday nite. Most of the continental 48 states were in all at once. The only ones I did not hear were Wash. Mont. and Nev. all the rest were there and could literally pick the sections you wanted provided you could get thru the QRM!

Don't forget to watch 2 meters for E'skip through early July.

* * *

VISITORS JUNE 17, 1982 MEETING

N6NB - Wayne - Garden Grove, CA.

K3KDF - Bud - Phila., Pa.

K3ZVC - Tony - Phila., Pa.

AC3T - Len Moncaleri - Wilmington, DE.

N3CUX - Bob Simpson, Glen Mills, Pa.

N3BHS - John - Norwood, Pa.

WB3EFO - Ed Lee - Huntingdon Valley, Pa.

KA2NYF - Janet, Deptford, N.J.

CHANGE OF ADDRESS

W3HQT, Bill Olson

P.O. Box 118

Ottsville, Pa. 18942

K3HW, Howard Weinstein

Temporary Motel in New Hampshire

Mail Address for the Present

7620 Lycoming Avenue, Phila., Pa. 19126

K3KTY, John Tate

3021 Octagon Ave.

Sinking Spring, Pa. 19608

215-670-2488

2489

WA3WAS, Steven M. Simons

1201 Ridgely Street

Campbell, CA. 95008

408-559-8255

DROPPED FROM MEMBERSHIP ROLLS:

K3AUH, K3HES, K3HIN, K2KRC, AB3Z

SWAP SHOP

FOR SALE: 18' steel 3 legged crank-up tower suitable for light antenna - needs paint \$25.

WANTED: 35 or 40' of 8 conductor rotator wire.

CONTACT: WA3MXX, John Mallon
Phone: 215-332-9114

FOR SALE: 2 Motorola Model L44AGA 2 way Class A citizens band base radio with digital clock and base mic. 117 V.A.C. \$75 each. A 6 panel wood door - 1 3/4" thk., 6'8" by 2'10" w/brass hinges, lock & knob. \$50. Fan coil unit for hot water or water cooled air-double fan-will do large basement or large room \$50.

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

FOR SALE: Rohn #25- four 10' sections and one 10' flat top section \$194. One hinge base \$36. Wilson system one 5 element tribander w/balen \$190. TBI bearing(used for mast insertion \$45) Ham III rotor w/50' cable \$125. Rotor Plate \$10: Total pkg.\$600. Optional items: House bracket \$9; 4 steel turnbuckles \$25; 5' steel mast \$6; 4 Rohn 38TEE guy wire anchors \$25; will negotiate pkg. price.

CONTACT: Jim Robold, KA3BKQ
Phone: 215-659-8960

FOR SALE: Radio Shack Clarinette 95 AM-FM 8 track play and record - also stereo cassette player plugs into rear jack, also phono on top. Specially priced at \$65. Many speakers - some in enclosures. Young peoples AM-FM phone-stereo with speakers \$25.; Records and 8 track tapes - new--unknown artists: 3 for \$1.00; 12" Sony Trinitron - lost its color \$50. Plays black and white tint.

CONTACT: Doc Cutler, K3GAS
Phone: 215-635-1078

ELECTRONICS ENGINEER: Valley Forge, Pa. ICI Americas Inc. the diversified U.S. subsidiary of Imperial Chemical Industries, has an excellent opportunity for an innovative electronics engineer in the Development Group of our Ordnance & Aerospace Division. Requires a BSEE with 4-5 years experience or MSEE with 3-4 years experience in general electronics applications development. Candidate should have a working knowledge of linear and digital circuit design familiarity with RF and/or UHF systems and the application of microprocessors. Experience in a wide range of techniques and their application and the desire to work on whole systems rather than on specialized modules are important. Responsibilities include project work from concept through development stages design of test equipment and development of future products. We offer a professional working environment plus excellent compensation and benefits with growth potential based on individual merit. Send resume with salary history to: Harry R. McKenry, ICI Americas, Inc., Wilmington, Delaware 19897

COMMERCIAL AD

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

Chassis-Kit	Bottom Plate
3x3x2 - \$2.25	\$.65
3x4x2 - 2.50	.75
4x6x2 - 3.00	1.35
5x5x2 - 3.00	1.50
7x5x2 - 3.10	1.65
7x7x2 - 3.25	1.75
4x8x3 - 3.75	1.80
5x9x3 - 4.00	1.85
8x12x3 - 5.00	3.25
8x17x3 - 7.00	3.40
10x12x3 - 7.00	3.50
10x17x3 - 7.75	3.75

Add \$2.50 for postage & handling for 1st chassis-kit. Add \$.75 for each addt'l kit. Pa. residents add 6% sales tax. Prices can change without notice. Cabinet kit quote sase state size & of front opening. Side plates 20% as of chassis price + \$1.00 P&H for 1st & 50¢ for each additional.

Byers

CHASSIS-KIT, 5120 Harmony Grove Road
Dover, Pa. 17315

THE JUNE VHF QSO PARTY REPORT By Bill Olson, W3HQT Chairman

Set-up for the 1982 June QSO party started Friday morning. Jo, W2EIF, was first on the scene to set up the tents. I was next with some towers and junk, next WB3IND and KD6KD with the red and white towers. By Friday afternoon the Hilltown field was buzzing with excitement.

But at 4:30 Friday afternoon, the telephone which had been ordered 2 months earlier had still not been installed. After an hour long call to Ma Bell, they agreed to install the phone the next Friday. After two hours and many nickles, they agreed to do it Sat. I was beginning to wonder what the weekend had in store for us...at least it wasn't raining!! By that night 3 towers were up and a number of stations were ready to go.

Saturday brought more Pack-Rats and cloudy skies: at least no one would get sunburned. The telephone man was there first thing. Maybe things would work out after all. Contest time was 3:00 P.M. and 6,2,220,432 were all ready at that time. 1296 made it on by 3:30 P.M. The new 2304 system with mast mounted pre-amp was up but didn't seem to hear very well, in fact it didn't hear at all. Early Sat. evening one of the hottest aurora openings in many years occurred. As I walked over to operate some 2 meters CW, I saw the 6M TR6 upside down and a lot of puzzled faces gathered around. As I walked back a couple hours later I saw the 6M amplifier upside down. The 6M station was down to a 10 watt TS600 barefoot. Well, we still had 4 bands running and help was on it's way. Help and rain! The 24 hour June 82 rain storm raged on through the night.

By Sunday morning 6 meters had a new TR6 and Swan KW amplifier. We already had 29 sections on 2 meters and 12 on 1296. Help was on the way for 2304. Tony, W3HMU was bringing the club "breadboard" converter. As we focused our attention on 2304, the rain finally got to the antiquated Hilltown power system and we lost the neutral on the Southeast side of the field. Voltages were jumping from 90 to 160 volts and the 1296 exciter blew up. A TS820 from WA3YUE rectified the problem and a wire strung from the 6M shack to the other side of the field calmed the voltage situation down. And the 2304 station was finally hearing- we were working W2SZ in Western Massachusetts! just as the dog show people pulled the plug on us! Everything went black when they inadvertently switched off the breaker for our side of the field. Power was restored and thank goodness W2SZ was still there - whew!

Through all this, WA3NUF was attempting contacts on the new tower mounted 10 Ghz station. I don't think the rain helped here very much! Nothing but local contacts were made, though not due to a lack of effort on Phil's part.

By Sunday night everything and everybody were pretty wet, but just when things looked the worst, six meters opened up to everywhere, we worked three more sections on 1296 and the rain let up.

At least we didn't have to take it all down in the rain. Thanks to all who helped. It was an incredible effort in very difficult conditions. But after all this is the Pack Rats and we expect a superior job no matter what. That's what we got - Good going guys.

NOTE: Unofficial scores: W2SZ/1 - 354,000; W1FC - 295,000; W3CCX/3 - 285,000; W1VD, 215,000.

* * *

STUDENT MEMBER ON A DIG IN ISRAEL

Paul Randolph, WB3HHP, a member of the Pack Rats, is presently in Israel as a member of an archeological group trying to locate the city of AI located about 9 miles from Jerusalem. If the city is located, it will confirm yet another point in Bible history. Prior to the start of the dig, he spent a day touring Greece and a week touring Israel. He expects to receive several college credits for this work from Temple University where he is a senior. In addition to the dig he plans to meet with a professor from Hebrew University.

* * *

June 18, 1982

SPECIAL LETTER TO ARRL-AFFILIATED CLUBS IN PENNSYLVANIA

Dear Club Members:

Last March I wrote to you about how a radio amateur in your state, Robert N. Wilderman, K3SR0, 19 Glen Road, Lansdale, Pa. 19446, had asked a state legislator, Benjamin H. Wilson, WA3ACB, (R-144th District), to introduce legislation which would relieve amateurs from zoning restrictions throughout the state, except for safety factors. This legislation has been assigned House Bill No. 1779, and a copy was attached to my letter of March 23rd.

It now appears that H.B. 1779 is sitting in committee and will remain there unless Pennsylvania's 17,500 radio amateurs emphasize their interest in the bill to the members of the Local Government Committee of the Pennsylvania House of Representatives.

The ARRL, with the support of ARRL Atlantic Division Director Hugh Turnbull, W3ABC, is in complete agreement with the objectives of this legislation by and for amateurs and amateur radio. Please call or write the legislators whose names and addresses appear on the accompanying list of members of the House Local Government Committee. The session of the Pennsylvania House of Representatives will soon close for the summer. There is no time to lose.

List of members of the House Government
Committee available from W3CL

73, Sincerely,
David Sumner, K1ZZ
General Manager

* * *

KAP'S COLUMN, By Jordan Kaplan
W9QKE

The summer months have raised the spectre of storms and heavy rains in our area. With these storms come lightning discharges that have caused damage to the stations of some of our members, amateur repeater sites, and also quite a lot of the VHF/UHF commercial installations in the Midwest.

A ground connection for your station is of course, good engineering practice. Obtaining A Good Ground is easier said than done. In our area, just below the soil, about a foot or so, can be found a clay mix of some sort. The best approach would be to extend a copper rod or tube 8 to 12 feet below the ground level. A ground rod should be connected to each leg of the tower, and at the point of entry to the house, of the transmission line.

At the entrance to your house, multiple ground rods should be placed in a triangle layout, and all rods should be electrically connected together so as to provide the lowest resistance path to ground for the station.

At the station, all receivers, transmitters, test, and monitor items plus the antenna tuner should be tied together to the same common ground.

The exact details of how to do this have appeared in the popular amateur radio magazines during the last year. If you have followed the above suggestions, you may feel free to breathe easier...but not so fast...

Two other paths remain open for the electrical discharge to get to your station and cause damage often of a permanent nature. A path still exists to bring the electrical energy from a strike into your station via the transmission line...That's right. The transmission line goes right up to the tower, and a strike on the tower, or antenna could result in your station getting whacked. You have a few options left. One would be to ground all antennas thru the transmission lines at your station to the station ground. That means that each time a forecast of heavy storms is made, you should disconnect the transmission lines from the station equipment, and connect them to a series of 83 chassis connectors that have been shorted and connected to the station ground.

To expedite the grounding of the transmission lines, some stations use type C connectors.

(CONTINUED ON PAGE 8)

KAP'S COLUMN CONTINUED

These are the large size versions of the BNC's. A simple twist and the connection is remove from the equipment terminal and pushed onto the grounded connector, a slight twist and the line is grounded.

Another method would be to use one of the lightning protectors on the market, such as, the Hy-Gain LA-1. This device is inserted in the line and is grounded to the tower, or at the station ground prior to being brought into the house. After all the idea is to keep the strike out of the house!

The last path is thru the AC line. A station power line disconnect is an easy way to safeguard the station from a powerline discharge, and as a special extra to also keep the station under your control while you are away from the house.

From Circuit Board

* * *

FROM NORTHEAST VHF NEWS

Eighth Annual VHF/UHF Conference Wrap-Up: The 8th Annual Eastern Vhf/Uhf Conference was held at the Sheraton Inn and Conference Center, Boxboro, MA on May 14-16, 1982, with 100 hams, plus YL/XYL's in attendance. Technical presentations were made by W1HDX on Oscar Phase III, W1EJ on Antenna Measurements, W1JR on Station Design for VHF DX and Contesting, WA8ONQ on VHF Contesting, Midwestern Style, K2UYH on Low Noise Preamplifier Design. In addition, a contest forum, moderated by W1GXT and including participation by K1KA, WA8ONQ, K1MNS, W1JXN/7, and W1XX focused on the work of the ARRL Ad Hoc VHF Contest Committee. "Rap Sessions" for the various bands were a popular feature of this year's program. The 50 MHz session was chaired by K1MUC, 144 MHz by K1WHS, 220 MHz by W1GXT, 432 MHz by K2UYH, and 902 MHz and up by W4WD/7. Following the excellent roast beef banquet (The banquet menu at the Sheraton is definitely above average!), W1XX of the ARRL Communications Department discussed the League's VHF contest program and described a worldwide "QTH Locator" system which is the outgrowth of the one used in Europe for the past 20 years or so. Then the popular "VHF Trivia" quiz was held, with W4WD/7 walking away with a pair of new Eimac 8930's. Both Sat. and Sun. featured near ideal weather, and the antenna measuring competition was held outdoors on Sunday. (*The results appear on the previous page of this newsletter.) The noise figure measurements will be reported in the next issue. Next year's conference will be held the same weekend (the weekend after Mother's Day). Details will appear in this newsletter as they become available. As a cost-cutting measure, only one advance mailing will be made to those having attended in previous years prior to next year's conference. Any one who is willing to participate in the planning and preparation for next year's conference (in any manner, no matter how small) is requested to contact W1JR. The 1982 conference was dedicated to the memory of W1BJ, W1HOT, WA9DOT, and W2BOC, now all deceased.

* Available at W3CL QTH

* * *

TID BITS

Sun watcher, Jack Power, W2AXU, reports the sunspot no. for May 1982 = 81.4. Smoothed number for November 1981 = 138.7. Jack also notes that as of July 1, 1982 add one second to your clocks for the correct time.

Douglas Crompton, WA3DSP, has been appointed Races Radio Officer for Abington Township, Pa. A new duty roster will be mailed soon.

Do you own an Icom 2AT Handi Talkie -- K3QQ reports that the antenna is cut to 130-132 MHz with a resultant 10-1 SWR.

N6NB, Wayne Overbeck after his presentation at the June meeting deserves an Honorary Membership in the Pack-Rats. His Pack-Rat prowess is on a tremendously large scale.

George Gakoumis (age 18), son of May and George, K3KMN, is the graphics artist for Cinekyd Film Makers of Willow Grove, Pa. a non-profit unique educational media center. There was a spread in the Sun. Inquirer of June 6, 1982 describing the FB workings of this group of young people.

Best wishes to Jean and Walt Zumbach, WA3AQA on the celebration of their 25th wedding anniversary.

PACKET RADIO

Packet Radio and Digi-Peaters are two new developments in the communications and the amateur radio world and is the newest mode of communications now making the scene in Digital Communications. There are currently RTTY and Computer nets and repeaters in the Delaware Valley. Most of us have heard them on the air. But basically these are lowspeed devices that do not totally utilize the spectrum available to them. The best way to begin to describe this development is to start with a simple interactive digital computer that you and a friend use.

In an interactive mode, there is an action taken by a computer or digital device every time you press the line feed or the return key. Unlike RTTY, each keystroke is stored, rather than transmitted, until the line feed or return is depressed. Then the entire line or group is transmitted at a high data bit rate (say 9600bps). The string of data is run through a CRC16 (cyclic redundancy check-16 bits) before being sent. The result of this action being appended to the packet as an additional 2 bytes. On the receiving end, this is reprocessed through another CRC16. If the result does not check, an acknowledgement is not sent. After a certain period of time without receiving an acknowledgement, the packet is retransmitted. All of this occurs in less than the time it takes most of us to think about the next line we are about to type. This leads to the possibility of employing Time-Division-Multiplex (TDM) as a method of carrying on several different conversations apparently at the same time. Think about it, if you only need a fraction of a second at the end of each line to get the message across, then you can have several users on the same line or channel at the same time. The digital traffic by the way can be either text or digitized data such as video, speech or the status of your home security system. There is one experimental system on an East Coast repeater that adds a digital spurt to the end of a squelch tail. To put numbers to this, consider that current RTTY at 60 words per minute operates at 1/24th of the 1200 baud speed that the packet system is starting with. Within a year the system should be operating at 9600 baud or 19,600 baud.

The Digital Network that is currently operating in Canada used the Vancouver protocol. The network is sophisticated, growing and even has access to 20 hours a week on the Canadian ANIK communications satellite. There are seriously active hams laying out and building a chain of repeaters that will tie in the Canadian System with the American Network. The southern terminal node will be in the Washington, D.C. area. Though a site in the Havre de Grace area is pending, the network will proceed north through N.J. and up the Hudson River valley to Canada. Rensselaer Polytechnic Institute is designing the string from the border down to about New York City.

The DIGI-PEATERS will be simplex repeaters on a common 220Mhz channel. The digi-peaters are simple RF-wise. The system (NODE) listens for a digital transmission, determines 1) whether it just sent the message or not and 2) whether it is the terminal node for a user that accesses the network through that particular node (like a partial ZIP code). If both tests fail, the digital package is transmitted to the next node down the chain.

An interesting aspect of this system is that there is room for users and for tinkerers. Most of the people now involved are interested in both, with an emphasis on the system rather than the use. This may just revitalize the 220-band. The local node that will serve the Delaware Valley will be near Atco, N.J. More details on the system and where to get literature will appear in the next data-packed issue of PARAGRAPHS. For immediate information please contact: Brian Riley, KA2BQE, RD #2 - Burnt House Road, Indian Mills, N.J. 08088

FROM PARAGRAPHS

* * *

NOTICE

Jack Power, W2AXU has agreed to be assistant to the editor Of Cheese-Bits.

* * *

ELECTION RESULTS

Congratulations to the following slate of officers elected at the June 17, 1982 meeting.

President - John Tate, K3KTY Rec. Secretary - Lyn Rowland, W3NSI
V. President - Bill Smith, WA2DPU Treasurer - Doc Cutler, K3GAS
Cor. Secretary - Dave Zimmerman, W3ZD

Directors:

Harry Brown, W3IIT (ex-officio)
Mike Gallo, WB2RVX (2 Yr. term)
Dave Power, WB2VLA (2 Yr. term)
The following directors are presently serving their second year term:-
Dave Mascaro, WA3JUF
Phil Miguelez, WA3NUF

* * *

CAN YOU PLAY CHESS

The following is an excerpt from the founders issue Newsletter of the newly formed Chess & Amateur Radio International - CARI. CARI, and the CARI Newsletter, are dedicated to bringing together the combined hobbies of chess and amateur radio. We are not a chess club, per se, nor an amateur radio club. We are, instead, the unique combination of both.

Subscription to the CARI Newsletter is offered to everyone - licensed radio amateurs, chess players, neither, or both. We encourage those in either hobby to join the other, and those in neither to join one or both.

CARI's first breath resulted from my letter to Chess Life (Oct. 1981) in which I wrote of the many new benefits to be gained from chess by amateur radio. Several readers soon responded, many of them radio amateurs. They asked if I would organize them so that finding a game on the air, any time, any band, would be made easy. I agreed.

We were then boosted by a feature article (with cover photo!) in CQ Magazine (May 1982), to which many more responded (and very enthusiastically) - young and old, male and female, U.S. and Canadian (one reason we exchanged "Society" in the name, for "international"). They all wrote of their desire to see the creation of an organization that would finally unify their common goal of convenient chess by amateur radio.

Coincidentally, the same issue of CQ Magazine carried an article on the sometimes common practice, these days, of hurried, empty QSOs. Well, if you want to add an entirely new dimension to your hamming, and at very little cost, join CARI and buy a chess board. Join many others who have recently learned to play chess; those who have discovered the combination of chess and amateur radio to be a fascinating sideline activity loaded with unexpected benefits.

Our first goal will be to set up standardized processes by which members will be able to turn to the ham bands for a chess game without typical past frustrations. There will be operating aids such as calling frequencies for a "CQ Chess", novice and general bands, voice and code, and specified calling time periods to enhance the likelihood of finding a "chess mate" over the air. In short, no more whistling in the dark for a chess game; CARI will offer this feature, and much more.

For additional information contact the publisher: Vince Luciani, K2VJ,
Clogne Press, P.O. Box 682, Clogne NJ 08213-0682

* * *

215-947-6670

MARKETLINE™

SYSTEMS, INC.
2337 Philmont Avenue
Huntingdon Valley, Pa. 19006

Computers & Peripherals

WB7TCF

**CARL
BARISH**

NE 7-8329

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

Printech

15620 N.E. 20TH.

ELLERIE, WA 98005
(206) 746-6000

W3HK

4807 CONVENT LANE
PHILA., PA. 19114



AMIL S. GUMULA
PRESIDENT

A. G. RADIO PARTS CO.
939 TOWNSHIP LINE RD.
ELKINS PARK, PENNA. 19117
TELEPHONE: 215-885-5100

RCA Authorized
Distributor

K2RPZ PRINT**stu goodman**

Distinctive QSLs-Largest selection, lowest prices, top quality photo and completely customized cards. Make your own QSLs truly unique at the same cost as a standard card, and get a better return rate! Free samples, catalogue. Stamps appreciated. Stu, K2RPZ, Box 412, Dept. PR, Rocky Point, NY 11778. (516) 744-6260

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

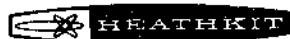
HAM RADIO - the Technical Ham's
Magazine. Ask for a free sample
copy or our Book Catalog.

CALL DOC CUTLER (K3GAS)
FOR YOUR ELECTRONIC NEEDS

NEW, RECONDITIONED, OR AS IS.

LOW PRICES

by appointment 215-635-1078



Norm Richards Manager

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

a unit of Veritotechnology

TV • RADIO • HAM • CB • STEREO

RICHARD H. PIERCE
ELECTRONIC EQUIPMENT REPAIR
SPECIALIZING IN AMATEUR RADIO EQUIPMENT

K3MWV
(215) 785-0058

2700 NEW FALLS ROAD
NEWPORTVILLE, PA. 19058

BROWNSO - THURS. 7% OFF
SAT. 8% OFF

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

WA3FOF

RALPH ALEXANDER

Electronic Equipment Repair
Technical Writing

(215) 723-1200
(215) 646-2600



CARR ELECTRONICS
AMATEUR RADIO GEAR NEW & USED FOR TODAY'S HAM

JOSEPH J. BURGESS
W3PNL

MAIN & RELIANCE
TELFORD, PA. 18969

215-342-5982

WA3HIT

Paul and Betty Rilling
INCOME DIVERSIFICATION

5830 Weymouth Street -Phila., Pa.19120

73 magazine
for radio amateur
73 stresses the fun
of ham radio.
\$25 one year \$53 three years
POB 931 • Farmingdale NY • 11737

HOLMESBURG AMATEUR RADIO CLUB
P.O. Box 6253- Phila.Pa 19136

NOW IS THE TIME TO JOIN
Excellent coverage in Phila &
surrounding area

Initiation: \$20 Dues - \$16/yr.*
* Prorated through year

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

68 N. YORK ROAD
WILLOW GROVE, PA 19090
215-659-5900
Service Since 1950

It was judged by the company we keep, we should do pretty well!

Cheese Bits

2087 Parkdale Ave.
Glenside, Pa. 19038

Wise shoppers stretch dollars

Consumer Education

USA 20c



WA3WAS-6 STEVE SIMONS

~~911 N KILEY BLVD.~~

~~SANTA CLARA, CA. 95051~~

1201 RIDGELY ST;
CAMPBELL, CA 95008

PACK RATS

FIRST CLASS