

## e Heers

MT. AIRY V.H.F. RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA (50.2, 145.2, 221.4, 432.03 & 1296.3 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

1974

NUMBER 5

THE PREZ SEZ

All those present at our annual Ladies Night on May 4th enjoyed the wining, dining, dancing and fur And why not, with all those beautiful gals in the party? K3KTY, our perannial Ladies Night chairman, and his committee did a great job of planning and arranging for the affair. Many thank to John and all who assisted him.

We've all known for a long time that we have an excellent club paper. But did you know that other think so also? Cheese Bits was declared the winner of Class A-1 in the Amateur Radio News Service 6th Annual Amateur Radio Publications Contest with:

1st place in Technical Articles. 2nd place in Editorial Comment. 2nd place in Club Activities. 2nd place in Member Contributions.

Surely all contributors of articles have a share in winning this award. However the lion's share of congratulations and a big "well done" go to our editor, W3CL, for his untiring efforts.

Our club will, participate in the VMF QSO party on June 8 and 9 from the Hilltown site that we have used for several years. The chairman for the event this year is Dave, WA3JUF, who will soon be outting forth an appeal for manpower to set up, operate and dismantle equipment at the site. Please give him your assistance and also plan to contact W3CCX/3 on all the VHF bands on which you can operate from your home station.

Dick, W3FQD

Local 220 MIZ Repeaters:

√R3ACD, Churchville, Pa.

VR3ACE, New Holland, Pa. √R3ABH, Valley Forge; Pa.

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

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\* \* \* \* \* \* \* \* \* \* \* \* \* \*

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

SWAP SHOP ITEMS - NO CHARGE

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

MONDAY NIGHT NETS: NET CONTROL

145.2 - 7:30 P.M. W2EIF

50.2 - 8:30 P.M. W3CL/W3GEW

221.4 - 9:00 P.M. K3GAS

432.03 - 9:30 P.M. K3IUV

1296.3 - 10:00 P.M. K1SFF/3

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#### CALENDAR OF COMING EVENTS Syllabus by Lee, K3MXM

- $\frac{\text{MAY}}{4}$
- 4 LADIES NITE Buck Hotel, Feasterville, Pa. For only \$8.00 each where else and how else can you have and enjoy a Saturday Nite with music dancing exhibitions prizes and good congenial company plus a full roast beef diner with all the trimmings. This is our annual LADIES NITE wherein we pay tribute to their silent suffering and indulgence of or spending so much time and effort in the shack while she could have us doing so many othe jobs and tasks around the home QTH. Come on join with us to say thank you to the better half. Get your tickets and/or reservations back to John Tate, K3KTY. Phone 673-8840 or mail your checks to 520 Larkspur Street, Phila., Pa. 19116. See you there! YOUR DUES ARE HELPING UNDERWRITE THIS ACTIVITY WHY NOT ENJOY THEM!
- 5 . 5 Potomac Area HAMFEST Westminster, Maryland
- 8 Board of Directors Meeting, QTH, Tony Sousa, W3HMU, Ottsville, Pa. If lost, call 847-5017 for directions. Directors and interested parties invited.
- 6 General Club Meeting Southampton Free Library, 8:00 P.M.
  ARRL NITE Nominations of Officers for the coming year. Nominating Committee
  W2EIF and W3KKN. Members make nominations from the floor. Open meeting, everyone invited. The MARIO RAFFLE plus Doc's Silent Auction. Refreshments will be served.
- .7-18 Western New York Hamfest (Rochester).
- 19 IS SUNDAY Delaware Valley Amateur Radio Club Hamfest and Auction starting at 10A.M.

  Ewing VFW Post, Green Lane off Route 31 West Trenton, N.J. Table and tail gate selling with an auction in the afternoon. This hamfest is in the greater Trenton Area and shoul offer no problem in the gasoline department. It is a nearby hamfest and offers you the chance to meet with many of the areas local amateurs.
- <u>UNE</u> 8=9
- VFH QSO PARTY, Hilltown, Pa. This year the club is mounting an all out effort to W-I-N. New Methods and modes will be tried. DAVE MASCARO, WA3JUF the Chairman asks for your help and ideas. More details and announcements on the Monday Nite Nets.
- 2 12 Board of Directors Meeting, QTH, WA3DJF, Carl Mattiace.
  - 20 General Club Meeting ELECTION NITE. Last indoor meeting of the year.
- 1-22-23 ARRL Field Day, full details QST.
- National Amateur Radio Week A special proposal has been made by Barry Goldwater, K7UGA to the Congress. Write your senator for support. Senator Scott of Pa. is on the Judiciary Committee which is considering the proposal...let him know you support this idea.
- ULY 18
- 18 First Outdoor Meeting of the Season. Big AUCTION at W3ZD, Centennial Road, Warminster, Pa.
- UGUST
  | Club Picnic at Fort Washington State Park, Flourtown, Pa. ALL DAY.
- ACK RAT HAMARAMA OCTOBER 6.

#### NEW PRODUCTS OF INTEREST TO HAMS By Lyn, W3NSI

- 1. Two Meter Hand Trans/Rec. Kit (HT-144): VHF Engineering has just introduced a 2 watt, 4 channel, FM HT unit using a dual conversion receiver with a ceramic 455 Kc filter. The kit is built into an aluminum case measuring 9"x 2 1/2"x 1 1/2" and uses silk screened, predrilled PC boards, for easy assembly. Price \$99.95. 320 Water St., Binghamton, N.Y. 13902
- Fast Charge Nickel-Cadnium Batteries: The new GE series of "Powerup-15" nicad cells are de≕ signed for repetitive fast charge cycles. It is possible to re-charge to 90% of nominal capacity in about 15 minutes. The units can be mounted in any position, and are re-chargeable up to 1000 times or more. Cells may be stored for an indefinite time without damage. Available in ratings of 100 MaH to 3/5 AH in standard GE cases. General Electric Co. Bat. Prod. Sec. P.O. Box 114, Gainesville, Florida.
- 3. Clegg Hand-Hold 2 Meter Transceiver: Clegg will shortly start production on a new FM T/R unit that weighs in at 1 lb and 10 oz. and has an output of 2 watts on 5 channels. The HT 146 uses a single conversion receiver and solid state T/R switching. Receiver standby drain is only 5Ma. Size is 8 1/4"x3"x1 1/2", and case provides a BNC fitting on the top for antenna installation A small heliflex antenna is included. Price \$289. Clegg Div. of ISC 3050 Hempland Road, Lancaster, Pa.

#### SPACE NET NEWS

Tony, WB2MTU was the featured speaker at the Pack-Rat meeting on April 18th. He gave a brief historical review of the Space Technology effort by NASA and the contractor that Tony represents, RCA. He spoke about the direction that the U.S. Efforts will be going in the future.

Tony brought along an FB video tape of one of the recent minifests at his QTH which featured a number of Pack-Rats. This was followed by a stirring video tape dramatizing the events at Ground Control during the Apollo 13 Mission, entitled "Houston We Got A Problem". It was a long session but appreciated by all. Come back again real soon, Tony. We would like to celebrate another birthday. Last Flash - results of the recent Space Net Contest honoring Skylab I was announced on the net Friday evening April 19th as follows:

Class I

- WA3SPQ, Warminster, ARC. 1.
- W2EIF, Mt. Airy VHF R.C.
- W2PAU, SJRA

Class II

- W3ETB, Mobile Sixers
- 2. W3CL, Mt.Airy VHF R.C.
- WB2ODD

.Class III

Class IV

- WA3NUG, Mobile Sixers 1.
- WA3HOW, Warminster, ARC
- WA3NBQ, Mobile Sixers
- W3HMU, Mt. Airy VHF R.C.
- 1.
- WA3SXY, 2.
- WB6TUW 3.

CLUB SCORES

- 1. Warminster ARC (WA3HOW) 69,636
- Mobile Sixers (WA3NUG) 58,651
- 3. Mt. Airy VHF R.C. (W3CL) 51,480
- SJRA (W2PAU), 16,754
- Southern Chester County R.C. (WA3MHF)
- 6. Mid South VHF ARC (Tenn.)

#### SIX METER REPORT - By Rich Pattison, K3ACR

This month contained a lots of activity with the Space Net Contest honoring Skylab I starting things off with a good deal of participation by those who like zip code contests. These contests certainly make a lot of sense being only 24 hours long and using zip codes as multipliers. They also give more chance of winning for the people who want to put in the time, with a variety of power catagories. Next one coming up is honoring Apollo 11 on July 20 and 21, 1974. More details later on this spectacular.

All the nets seem to be picking up as the Spring brings everything back to life, including our old Friend "Sporadic E". With openings on the 15th and 16th, it's good to hear some old friends from 4 & 5 land as well as all the locals who come out of the woodwork after a long cold winter. Some common comments passed around during the dpening indicate pretty much what we found to be the case in the Phila. area, that scatter was kind of sparse and that this should be one of the better skip seasons. BCNU on six.

VHF REPORT By Jo, W2EIF

The activity on 2 meters has improved a little, both for AM above 145 and at the low end of the band. There have been several new stations noted on SSB from Delaware. There was an aurora opening during the first week of April, however, not many took advantage of it. Some stations were noted on six meters from Maine to the Midwest but no signals were heard on 2 meters or above. I hope that you all have your 6 meter gear all ready to go as the E skip season is almost upon us. The second week in May should have produced several nice openings.

There is a theory that the E layer activity increases as the Sum Spot cycle decreases. We are now at the lowest part of the cycle and if the theory is correct, expect some good ppenings this Summer. Don't forget that the club needs your contact during the June QSO Party, particularly on 220 and above since the points are doubled on these upper bands.

Good luck and lots of DX.

#### PACK-RAT SCHEMATIC LISTINGS, By E1, K3JJZ

Although the response to date has been somewhat weaker than expected, the current listing contains over 220 schematics, submitted by 8, imagine 8 Pack Rats.

How about it gang, when the listing is finally complete it ought to be well over 2000. All you have to do is list those schematics in your possession. You do not have to copy them or send them any place.

Send me a list of what you have. I will eventually publish a composite list which will list the schematic and who has it.

Lets go gang!

\* \* \*

DFFICIAL BULLETIN NR 474 FROM ARRL HEADQUARTERS NEWINGTON CT. APRIL 4, 1974 TO ALL RADIO AMATEURS BT: Senator Goldwater has introduced Senate Joint Resolution 197 which would declare the week of June 17 through 23, 1974, as National Amateur Radio Week. The Bill has been assigned to the Committee on the Judiciary whose members are Senators Eastland, McClellan, Ervin, Hart, Kennedy, Bayh, Burdick, Byrd, Tunney, Hruska, Fong, Scott, Thurmond, Cook, Mathias, and Gurney. Amateurs wishing to support the bill should communicate at once with their own senators or with members of the committee. Thanks to the Overlook Mountain Amateur Radio Club of Woodstock, New York, for taking the initiative in contacting K7UGA.  $\overline{AR}$ 

#### NEWS RELEASE

From Headquarters Navy-Marine Corps. MARS RADIO STATION (NAV)

On-the-air amateur radio facilities will be provided by the Chief of Naval Operations (CNO) Amateur Radio Station, MANAA, during the Armed Forces Communications and Electronics Association (AFCEA) convention to be held at the Sheraton-Park Hotel in Washington, D.C., from 11 to 13 June 1974. KANAA is the official amateur radio station for the convention and will be operational from 1000 to 1800 EDST daily with two positions on the 10 through 80 meter amateur radio phone and C.W. bands. Licensed radio amateurs throughout the world are invited to establish contact with K4NAA during the AFCEA convention. A specially designed QSL card, personally signed by the Commander, Naval Telecommunications Command, Rear Admiral Jon L. Boyes, USN, has been prepared and will be sent to acknowledge all contacts. Amateurs desiring to utilize the K4NAA facilities will be required to show their original FCC license in accordance with Article 97.83 of the FCC Rules and Regulations. A facsimile or photostatic copy cannot be honored. The U.S. Navy and AFCEA invite all enthusiasts to visit the K4NAA exhibit.

#### TID BITS

We are happy to hear that Connie-Mac the Atlantic Division Director is out of the hospital and recuperating at home. Hope you can make ARRL Night on May 16th.

Congratulations to Walt, WAJAQA on passing the Advanced Class exam last month.

Paul Rilling, WA3HIT would like to hear from you. Write him care of Arkansas Enterprises for the Blind, 2811 Fair Park Avenue. Little Rock, Ark. 72204.

News from the Poconos. John, K3OPC has been busy building a new house up there in Blakesly, Pa. Says his shack will be finished soon and he will be getting back on the air.

Did you see Bill's KlJDY/3 picture in the Evening Bulletin, Friday, April 19th. Who is Steve Sears on the front page of the section entitled "Motor World". Did you change your name Bill?

The Nominating Committee has prepared the following slate for the election of Officers of the Club. It is noted that additional nominations may be made from the floor up to and including the regular meeting in June. It is cautioned, however, that your nominee be consulted and that he is agreeable to run prior to placing his name in the ring. The (\*) after WA3DJF means that he will run only if another name is placed in opposition.

President - Ron Whitsel, WAJAXV
V. President - Tony Sousa, WMHMU
Harry Brown, WAJNGK
Rec. Secretary - Carl Mattiace, WAJDJF \*
Cor. Secretary - Frankie Brick, WJSAO
Directors (Two to be elected)
Rich Pattison, KJACR
Walt Bohlman, KJBPP
Bill Olson, KIJDY/J
Dave Mascaro, WAJJUF
Pete Shavney, WAJOVH

New Member - W3HX, A.G. Wentzel, Jr. (BB) 318 Gardner Avenue Trenton, N.J. 08618 609-393-4823

Retired List: K4UV, Lewis Clement ( Papoo)

Change of Address: K3OPC, John Cardon, General Delivery, Blakesly, Pa. 18610

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Complete Clegg six and two meter AM station: Zeus Transmitter - 175 W. Interceptor Receiver

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Drake TR-6 SSB Transceiver, 300 W. and A.C.

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Home Brew Two Meter AM Station:

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Contact: K3ACR, Rich Pattison 717 Paxson Avenue Wyncote, Pa. 19095

215=885-3830

FOR SALE: National NC 183D Receiver

Hallicrafter HT40 Transmitter, Vibroplex Key

All in good condition, reasonable.

WA3CRX, Bob Marino Contact:

72 Wood Drive, Holland, Pa.

215-968-2097

FOR SALE: Swan 250, 6 mtrs. AM/SSB Transceiver. Complete with power pack, speaker and microphone. Factory adjusted, mint condition sacrifice \$250.00.

Contact: WA3NDE, Hy Ecksel

9801 Haldeman Avenue, Phila., Pa.

215-OR 7-7986

FOR SALE: Multi Products Co. Elmac A-54-H phone & cw. 807 final transmitter, for 75, 20 & 10 meters. With PSA-500 matching power supply. Instruction book included. Gonset VFO, Preamp with built-in power supply, and push-pull 826 Final (50 watts) with built-in power supply. These items for two meters.

W2HF, Herb Brown CONTACT:

R.D. #3 Ninham Road Farmers Mills

Carmel, N.Y. 10512

WANTED: 29 inch aluminum dish - State price.

CONTACT: W3VIR, Bill Pawson 215-EL 7-9234

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CONTACT: Frank Simmons 1520 Crest Road Penn\_Wynne, Pa. 19151 215-MI2-8834



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#### TID BITS CONTINUED

VISITORS AT THE APRIL 18, 1974 MEETING:
WB2MTU, Tony Slapkowski, Sicklerville, N.J.
W2HX, BB Wentzel, Jr., Trenton, N.J.
W3VIR, W.E. Pawson, Holland, Pa.
WA3NUN, George Kugler, Southampton, Pa.
WN3VYZ, Mark Gluch, Glenside, Pa.
K3BPK - Dave Ginden, Phila., Pa.
W3CIL, Pete Cummings, Wyndmoor, Pa.
WA3MHF, Ed MacDonald, Malvern, Pa.

K3VYG, Gordon Vogt, Glenside, Pa. WA3HOW, Bob Patton, Warminster, Pa. WA3NDE, Hy Ecksel, Phila., Pa. K3SPS, Murray Bevitz, Spring House, Pa. K3PHY, Will Burns, Willow Grove, Pa. W3SOB, Bob Sutter, Abington, Pa.

\* \* \*

CHEAP AND EASY??? 220 REPEATER RIG, By Bert, K3IUV

Recently, the Pack Rat FM Repeater became operational on the 220 band (222.98 in, 224.58 out). While I have not been overenthused about FM operation in general, as a loyal Pack Rat I felt a duty to get some gear going and add the capability of using the repeater to my station. Since I try to minimize expenditures on my gear (translation - "I'm cheap"), I looked around for an inexpensive way to get the FM system going. I reasoned that there is an ample supply of surplus 440 FM gear around - and 220 is just half of 440--as if I could cut a 440 rig in half I would have one for 220 (or maybe two!), right?

I decided to use a Link model 2975 rig for the attempted conversion. This unit was designed in 1952 and is essentially worthless today. At least 30 were acquired for \$15.00 each by club members in a group purchase about 8 years ago and there should be quite a few still in basements. If you're interested in a similar attempt, follow along with me as I wander through the conversion.

The receiver partial block diagram is shown in Figure 1. At each point I have listed two frequencies; the upper ones apply to 443.8 operation (the frequency I used to monitor), while the lower ones apply to 224.58 operation (Pack Rat Repeater). Note that in the first case the local oscillator is below the received signal, and in the second case it is above. For SSB operation this would invert the sidebands, but for FM it is immaterial. The advantage of this choice of oscillator frequency is obvious by comparing the frequencies present at each multiplier stage. Except for the output of V119, all frequencies are close enough to the original design center so that simple retuning will accommodate them.

For V119 a more drastic change is required; namely, changing a tripler to a doubler. Of course, the tuned circuits of the RF amplifier must also be changed. To simplify the conversion, I retained the original crystal mixer. It's an inefficient, but adequate, circuit. Thus we see th simply changing the input and output tanks of V101, and the output tank circuit of V119, we shoul be able to receive 224.58. Figure 2 shows the modified circuit areas. Components shown but not identified are original values. All other receiver components remain unchanged.

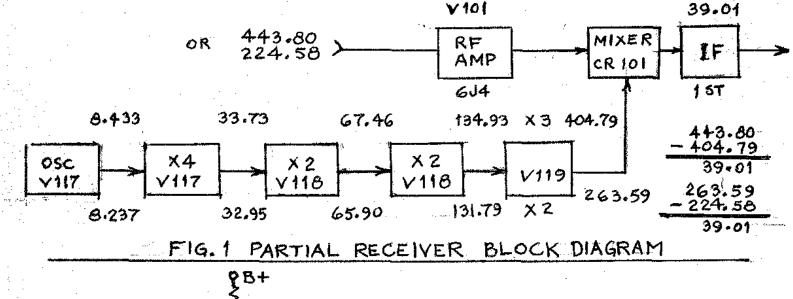
So, you may ask, what happened when I applied power? Well, after peaking, tweaking, and tuning, I measured a sensitivity of 1 microvolt to open the squelsh, and 3 microvolts for full quieting. Not bad for a 22 year old \$15.00 rig. With my 220 antenna connected, the repeater was heard 5-9. In fact, a short piece of wire down in the basement provided reception!

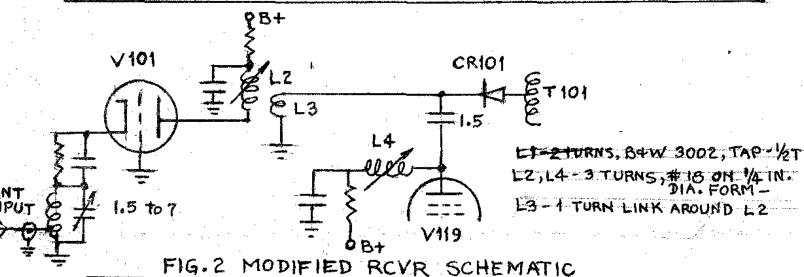
Well, the receiver wasn't too hard a job as let's see what can be done to the transmitter. The existing design has a 5894 final straight thru at 440, and a 5894 push-pull tripler from 146.6. Homm, suppose I remove the final and change the tripler to a doubler. If the input frequency is dropped to 111, out should come 222, right? This will be a little harder than the receiver change (how do you make a push-pull doubler?) but not impossible. If I've whetted your interest, watch for part 2, next month.

\* \* \*

#### PROJECT PHASES

1. Wild Enthusiasm. 2. Total Disillusionment. 3. Mass Confusion. 4. Contractor Consternation. 5. Redefinition of Requirements. 6. Reorganize the Program. 7. Redesign the Equipment. 8. Renegotiate Contracts. 9. Reassignment of Personnel. 10. Search for the Guilty 11. Persecute the Innocent. 12. Promote the Non-Participants.





Board of Directors Mt. Airy VHF Radio Club 103 Peabody Drive Stow, Mass. 01775 March 20, 1974

#### Dear Sirs:

I would like to send my greetings to the Board of Directors and the general membership of the clui

The 65 members contributing to the club score accomplished a real bang-up job in the January VHF Sweepstakes and Rich, K3ACR, certainly provided an outstanding leadership job as the 1974 chairman. Furthermore, the choice of Walt, K3BRP, as the 1974 VHF QSO Party Chairman is excellent I chailenge Walt to motivate the Pack Rats into the 3rd consecutive Atlantic Division record score.

I would like to recommend that the club issue to Alan, 8P6EN a club certificate, if this has not been done. He provided a number of the Pack Rats with Barbados as a new 50 MHZ country during his stay in Barbados. I personally had contacts with him on two separate occasions and with both my KØZZM and WA3LNH calls. Among the membership, I am aware of the following who had contacts with him:

KØZZM, WA3LNH W3BRU WA3PIR K3ZSG

Perhaps, there were others since all the above contacts were made in Summer of 1972. This could be a nice expression from our club thanking him for adding a new 50 MHZ country in out logs and QSL files. If this proposal is acted upon positively, I feel the calls of those individuals who CONTINUED

#### LETTER TO BOARD OF DIRECTORS CONTINUED

successfully contacted Alan be listed on the certificate.

The Pack Rats will never have a member with any greater talent in seeing that the goals of our group are met or the ability to critique the Board of Directors intheir actions than K3UJD. Mario Fontana will be missed by all past and present members of the club. During my association with Mario, I appreciated his sincerity in making certain that the club succeeded in every endeavor undertaken. Remember the Pink shorts each year at Hilltown, don't forget the 1296 DXpedition to Cape Hatteras or the tuneup of the 432 converters, Mario was forever in the center of every activity. Condolences to Flossie and the family from my family and I. There'll never be another one like you, Mario -- see you.

Please express my thanks to Tony, W3HMU for keeping me so timely posted on the various club activities. Sounds as though the recent Home Brew Night was a smashing success. That 4-400 amplifier of Tony's really does reach out even during the lousy ground wave conditions we've had in the last six weeks.

I will continue to look for Pack Rats and other contacts in EPA/SNJ/DEL/MD. area on Saturday and Sunday mornings on 50.100 to 50.135. My operational habits are generally 09:00 to 12:00 EDST and often start earlier. In addition to W3HMU, Marv, W3VXJ and WA3NGK, are often heard up here. I worked a total of 14 club contacts during the VHF-SS. My operation was solely on 50 MHz SSB from W. Mass. section, where I totalled only 119 contacts and 19 sections. This included WB4WMT in Ga., WB4JGG in Tenn., W8CCI, K8LEE, WA8PLZ, WB8IGY and K8III (partial) all Ohio, WØRLI in Minn. and WØOYL in N.D.

Best regards to all!

Chuck Benavides KÖZZM/WA1KIR

\* \* \*

OFFICIAL BULLETIN NR 476 FROM ARRL HEADQUARTERS NEWINGTON CT. APRIL 18 1974 TO ALL RADIO AMATEURS  $\overline{\text{BT}}$ : On April 10 FCC issued a public notice stating quote the Commission at this time cannot allow communications between its licensees and any station or stations situated in or over the territory of the People's Republic of China end quote. Article 41 of the international regulations is cited as the basis. Although the situation is complex, there has been concern in Washington that independent unauthorized operation might jeopardize future chances for the support of the amateur service by the People's Republic of China.  $\overline{\text{AR}}$ 

\* \* \*

Bill, KlJDY/3 is going to stay - he is now W3HQT.

\* \* \*

The June 8th & 9th VHF QSO Party committee meeting was held April 24th at the Qth of the Chairman, Dave, WA3JUF. Team captains were chosen (some in absentia) and they will be announced at our May 16th meeting. The next committee meeting will be held at the Qth of DOC, K3GAS in May. (Date to be announced on Nets). The committee will need set-up and material help starting at 1:00 P.M. on Friday, June 7th. It was also stressed that club members work W3CCX/3 that weekend on all available bands from 50 MHz to 2300 MHz.

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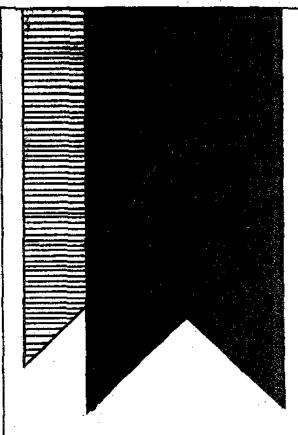


W3FQD Dick Huntzinger 130 Fairhill Drive Churchville, Pa. 18966

MT, AIRY VHF RADIO CLUB, INC.

MEETING NOTICE

FIRST CLASS



# AMATEUR RADIO EQUIPMENT

"Ham" Buerger, Inc.

### STORE

Mon. 9:30 to 5:30 Tue. 9:30 to 5:30 Wed. 9:30 to 9:00 Thur 9:30 to 5:30 Fri. 9:30 to 5:30 Sat. 9:30 to 5:30