

PACK RATS



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY V.H.F. RADIO CLUB, INC., PHILADELPHIA, PA. ARNS
(50.2, 145.2, 221.4, 432.03 & 1296.3 Mc)
AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE
MEETINGS: THIRD WEDNESDAY OF EACH MONTH AT 8:00 P.M.

VOLUME XV

APRIL, 1973

NUMBER 4

THE PREZ SEZ

Greetings for the month of April and well wishes for Spring. I would like to thank the photographic crew for the excellent job on the photos in last month's issue of Cheese Bits. The recognition by photo turned out to be an ample reward for the presentation of projects. The member participation was above average and the projects were very relevant to what is happening in V.H.F. today. The home brew equipment area seems to be just as active now as it was ten years ago. The areas of construction change as do the interests of the V.H.F. ham. I think this may be one of the major forces that keep a group like ours going; the quest to do something just a little different, a little better, higher in frequency, or just to do it ourselves. The benefits provided by being a home-brewer are much deeper than they obviously appear to be at the surface. There is a tremendous amount of self confidence instilled upon the successful completion of a project, also an avenue is provided for the exercising of the creative potential we all have. The learning experience is tremendously increased when coupled with the actual construction of the items that are being studied. Also, there is a change in the personality type, that is from a viewer to a doer.

I am pleased to announce the appointment of W3ZD as the Chairman of 1973 Hamarama and 1976 Atlantic Division Convention. Committees on both of these projects are busy making plans. Details will appear from time to time. If you are interested in this type of activity, please get in touch with the Chairman.

W3CJU is the Picnic Chairman this year and is looking for helpers.

Aluminum for the 20 foot dish was at my door step today -- moonbouncers take note.

73,

Walt, K3BPP

NOTE: MEETING THIS MONTH MOVED TO 4TH WEDNESDAY, THE 25TH!

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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PRESIDENT: K3BPP, Walt Bohlman
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WA3AXV, Ron Whitsel
WA3NGK, Harry Brown
K1SFF/3, Tony Souza
K3ZSG, Bill Murphy
K3CIV, Ralph Hersh
(Ex-Officio)

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. K3IUU
1296.3 - 10:00 P.M. K1SFF/3

FRIDAY NIGHT NET: NET CONTROL

439.250 ATV NET - K3ZKO/WA3AXV
19:00 Hrs.



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CALENDAR OF COMING EVENTS

Syllabus by Lee, K3MXM

APRIL

- 2 Monday Evening - .79 repeater Hamfest on Wheels. A roller skating party will be held at the Pike Rollerama - County Line Rd. and Second Street Pike, Southampton, Pa. The cost will be \$1.50 and skates will be available. Meet the fellow you talk with. Tickets at the door.
- 4 Wednesday Evening. June QSO Committee Meeting, QTH, W3CJU, Don Hampton. 8 P.M. There are still many tasks to be done so join in the fun!
- 8 2nd Annual Greater Baltimore Hamboree, Calvert Hall College, Towson, Md. Directions available from many club members.
- 11 Directors Meeting - QTH of WA3AXV, Ron Whitsel.
- 14-15 Space Net Contest Honoring Apollo 13 and 16. Same rules as before with a new power category for 5 watts and under. WB2MTU, Tony, sponsor.
- 25 General Club Meeting - NOTE CHANGE OF DATE - Topic, Converters, how and why they work and don't work. All the latest hardware will be displayed and explained.
- 27-28 Dayton Hamvention, Wamplers Convention Center, Starts 12 Noon Friday Bus Trip, The Penn Wireless Club is sponsoring a bus trip to the Dayton Hamfest. Leaves Friday Nite April 27th, returns Sunday morning April 29th. \$25.00 round trip (normal bus fare \$66.90) Contact, WA3OUM, Don Palace, Telephone: 295-2436.
- 28 Emergency Drill - ARPSC Participation. WA3HIT will give more info on Pack Rat Nets and AREC Net on Thurs. evenings at 8:30 p.m. on 50.7 MHz
- 29 Potomac Area Hamfest - Agricultural Park, Westminster, Md. Sponsored by Potomac Area VHF society.

MAY

- 5 Saturday Nite - LADIES NITE - Buck Hotel, Feasterville, Pa. Many more details to come both in Cheese Bits and on nets. W3HK Master of Ceremonies.
- 16 General Club Meeting - ARRL NITE, Guest Speaker, W1SL, Mr. Tom McMullen, Assist. Technical Editor QST, FM and Repeater information. All area hams invited. Here is your chance to meet someone from headquarters as well as the Director of the Atlantic Division, Harry A. McConaghy, W3SW.

JUNE

- 9-10 JUNE QSO Party and Contest - Hilltown, Pa. K1SFF/3, Chairman
- 23-24 ARRL Field Day

TID BITS

Dues are due and payable. Get your check to Doc, K3GAS or see him at the meeting. Last Call!!!

Please return the postcards you received last month--filled out completely. This is an important part of the club's service. "License Alert Renewal Date" (LARD for short for those who like abbreviated names - de K3MXM)

We wish to make a correction in an item that appeared in the March issue of Cheese Bits. We said that the League "is in the process of obtaining a full time lobbyist." We were advised "It is true a committee is evaluating the suitability of our present liason with Washington people and agencies, but no such decision has yet been made."

Doc, K3GAS was in charge of registration at the Philadelphia Sheraton In March for the Greater Philadelphia Annual Meeting of the County Dental Society (over 5,000 participants)

The Pack-Rat 220 MHZ repeater frequencies have been assigned by the repeater frequency coordinator, K3ADS. They are as follows: 222.98/224.58 MHZ.

W3ZRR and XYL Eleanor, have been vacationing in Florida. They visited Tom & Mildred Mathews ex W3WIJ now K4IJC in Largo, Florida.

Many thanks to K2UYH, Al Katz for his fine presentation on his Moonbounce experience at the March 21st Meeting. The Pack-Rat Moonbouncers kept Al until after 11:00 P.M. with a bombardment of questions.

On Sunday, March 18th, Tony, WB2MTU, Director of the Space Net held an open-house at his QTH in Sicklerville, N.J. It was a mini-hamfest with about 40 participants. The Pack-Rats were represented by the following: W3KKN, WA3LNH/3, K1SFF/3, W2EIF, K3GAS, WA3HIT and W3CL. Awards were presented, refreshments served, TV tape recordings played back, speeches made, eyeball contacts, An FB afternoon. Tnx. Tony.

VISITORS AT MARCH 21ST MEETING

K2UYH, Al Katz, West Windsor, N.J.	WA3SPR, George Kugler, Phila., Pa.
K2QOS, Mike Fekete, Trenton, N.J.	WA3HOW, Bob Patton, Warminster, Pa.
WA3PUL, Mike Nesson, Phila., Pa.	WA3LTM, Doug Moser, Cranberry, N.J.
K1JDY/3, Bill Olson, Ottsville, Pa.	
K3ATL, Frank Hormann, W. Chester, Pa.	<u>New Member:</u> WA3SPR, George C. Kugler 6124 N. 4th Street Phila., Pa. 19120 (XYL, Anna)

NOTES ON THE PHILA. 6 METER WA3KUR REPEATER

Transmits on 52.64 MHZ and 443.8 MHZ. Transmitter has a 3 second <u>on</u> delay and a 5 second <u>off</u> delay. Elapsed time for call letter identification is 3 seconds; repeated every 3 minutes during QSO's. The WA3KUR hourly time transmission cycle as follows:	
Energized at :59:27	Time Signal at :59:47
Transmits at :59:30	Drops Off at :00:12
Call Letters at :59:35	Transmitter off at :00:17

Ed, W3HKZ

The activity on the VHF bands has been somewhat diminished possibly due to the fact that this season of the year is the poorest from a propagation standpoint. There are practically no openings on six meters and the coastal openings occur infrequently. Activity has continued on the low end of 2 meters to Ohio and occasionally Michigan. This type of operation appears to be rather steady and not dependent on weather conditions. The 2 meter net has enjoyed good participation but will probably drop off as the spring and summer arrive.

The bands were given a "shot in the arm" so to speak on the weekend of March 10-11 which featured the Ichykoo Park Club of Hagerstown, Md. was of interest to a number of Pack Rats. The contest used counties and states as multipliers, and it was noted that it created activity up through 220 MHz. Chuck, WA3LNH/3 made a tremendous score on six meters, and a number including W3CL, K1SFF/3 and W2EIF did pretty well on 2 helped along by a fair coastal opening on the evening of the 10th. The activity is starting to build up again with the people getting on the low end of 220 on Tuesday nites. I have been working W1QAK, K1PXE in Conn., and WA1NQE/1, K1AQP/1 near Boston. K1SFF/3 and myself seem to be the only ones active locally. The activity has been noticed to the South and West. Don't forget that the six meter openings will start soon and particularly after the first week in May. The activity on 432 has been low except on net nights and 1296 is progressing rather slowly with one new station on in North Jersey. Activity on 1296 may be picking up in Ohio judging by the number of requests received for the 1296 converter information that was distributed to Pack Rats late last year.

* * * * *
ANNUAL PHILADELPHIA COUNTY EMERGENCY MEDICAL EXERCISE
(OPERATION DOWNCRAFT)

Woody Haldeman, W3PST attached to the Phila. Office of Emergency Preparedness announces a coordinated medical emergency exercise to be held on Saturday, April 28th from 10 AM to about 4 PM.

The basic requirements are five fixed stations and three walkie talkies, all independently powered if possible. The anticipated operational frequencies 52.64 FM (WA3KUR) Repeater, .16-.76 FM Phila., Repeater (WA3BKO) and 50.7 AM. Participation in the week-day exercise the following Thursday (May 3rd) from 12 noon to 3 P.M. will be also appreciated. This is the full blown medical alert involving many more hospitals and includes the four suburban counties. TV coverage by local stations is anticipated.

The communication requirements for both events are being coordinated by Paul, WA3HIT and Woody, W3PST. There will be other activities in the week embraced by April 28th and May 4th, but only the two foregoing days will require ARPSC (AREC) and RACES involvement.

Monday, May 1st - Between 11:30 a.m. and 1:30 p.m. John F. Kennedy Plaza, 16th and Arch Streets, Display of Emergency Rescue Equipment. Special Feature on hydraulically operated "Jaws of Life". (Device used to extricate a person trapped in a vehicle)

Wednesday, May 3rd - Hospital Disaster Day. Internal Hospital disaster exercise. No communications necessary.

EAST COAST HURRICANE and SEVERE WEATHER WATCH NET

ESTABLISHED JUNE 1971

3.950 MHZ

This net was started in June of 1971 in the wake of a hurricane on the east coast of the United States. The net at that time met only during a hurricane. The net is now moving to a daily operation on 432 mhz, 220 mhz, 2 meters, 6 meters, 10 meters, 40 meters, 75 meters all modes of AM, SSB, CW, RTTY and FM. The local time (LT) will remain the same but GMT will change.

The following are dates when each session of the net will begin.

April 1, 1973

Monday, Friday	3.950	01:00 GMT / 20:00 LT
Saturday & Sunday	3.950	02:00 GMT / 21:00 LT
Monday	50.41	03:00 GMT / 22:00 LT
Thursday	50.41	00:00 GMT / 19:00 LT
Sunday	50.41	00:00 GMT / 19:00 LT
Wednesday	145.3	00:00 GMT / 19:00 LT

May 1, 1973

Tuesday	50.41	00:00 GMT / 19:00 LT
Friday	50.41	00:00 GMT / 19:00 LT
Saturday	50.41	17:00 GMT / 12:00 LT
Sunday	50.41	17:00 GMT / 12:00 LT

June 1, 1973

Daily	7.275	19:00 GMT / 14:00 LT
Monday	145.4	03:00 GMT / 22:00 LT
Tuesday	145.3	03:00 GMT / 22:00 LT
Saturday	145.3	01:00 GMT / 20:00 LT
Sunday	145.3	01:00 GMT / 20:00 LT
FM only	146.52/146.52	01:00 GMT / 20:00 LT
Tuesday	146.58/146.58	01:00 GMT / 20:00 LT
Thursday		

July 1, 1973

Wednesday	221.4	00:30 GMT / 19:30 LT
Sunday	221.4	01:30 GMT / 20:30 LT
Wednesday	432.03	01:00 GMT / 20:00 LT
Sunday	432.03	02:00 GMT / 21:00 LT
FM only		
Saturday	52.525/52.525	00:00 GMT / 19:00 LT

August 1, 1973

Daily	3.680	03:00 GMT / 22:00 LT
Daily	7.075	20:00 GMT / 15:00 LT
Saturday	51.6 RTTY only	19:00 GMT / 14:00 LT

28.600 will be only used during the emergency. Maybe if activity is high I will start a net on 28.600.

73, Gene Bond, Jr., WB2UVB/ WA7UJW, Director
Gene Bond, Sr., WA3MGV, Assistant Director

NEW PRODUCTS OF INTEREST TO HAMS BY Lyn, W3NSI

1. Regency Frequency Counter: The new EC 175 counter, a six digit LED display unit is good over the range 5 Hz to 175 Mhz. An oven controlled crystal is used as the time base, and a 100 Kc harmonic generator is built in for direct calibration to WWV. A 10.7 Mhz crystal oscillator is also built into the EC 175 for use in IF alignment work. The unit can be used on 115v AC or on 12v DC. Cabinet size is the same as the HR2A two meter FM T/R. Price, \$449.00 7707 Records St., Indianapolis, 46226.

2. G.E. Varistor (MOV): When used in voltage sensitive circuits, these Metal Oxide Varistor units will perform in a manner similar to back-to-back zener diodes, that is, they will clamp the incoming voltage spikes or pulses at a predetermined value. Due to their instantaneous response, the MOV units provide excellent transient protection for both diodes and transistors. Price approximately \$1.50 - 3.00. GE Semi, Prod. Dept. Elec. Park, Syracuse, New York.

3. RP Electronics Synthesizers: The MFA-2 Synthesizers provide crystal channels over the entire two meter band in 10 KHz jumps. Available in either kits or ready to go, in either single or double units, the MFA-2 is adaptable to 6,8,12,16,24 or 48 Mhz output in transmitter use, and up to 50 Mhz to cover most receiver units with IFs of 10.7, 11.7 and 16.7 Mhz. Output impedance in either case would be 50 ohms. Frequency setting is by means of leverwheel dials. Case size is 6 1/2 wide, 9 deep and 2 1/4 high. Price, Kit, \$180.00. Assem. \$210.00. Box 1201 Champaign, Ill. 61820

* * * * *

OSCAR VI BY BILL MURPHY K3ZSG

In this article I will deal with three topics: 1. Orbital prediction and antenna tracking; 2. Ten meter downlink reception; and 3. two meter up link transmission.

1. Oscar VI Orbital Prediction: Oscar VI completes one orbit approximately every 160 minutes; however, making exact orbital predictions can be tiresome and at best inaccurate. Guy, K2EFB, Denellen, N.J. has for the past few months used a computer to compile a monthly schedule. Sample info. printed is as follows: Orbit number and GMT that Oscar passes over the equator and the degree in longitude at which this occurs. This info. has been available on a weekly basis on the Monday night Pack Rat Net on 145.2 Mhz at 7:30 p.m. Some copies are in circulation among the club membership. You now have the necessary info. on the orbit. Remember it tells you only when Oscar crosses the equator and not at what time you will first be able to hear Oscar. This will vary from 2 to 40 minutes after the time listed on the schedule. In my early days of Oscar listening, I missed many passes by not being in the right place at the correct time. Harry, WA3NGK located info. published by the Astronautical Society of Australia on Oscar VI. With this chart you will be able to know exactly when the satellite can first be accessed. The chart has three columns of info. which I shall explain. AscN 60 W; means if Oscar were crossing the equator at 60 W you must add 2.0 minutes to the equator crossing time on the computer run by K2EFB. Note: That 153 at 0 elevation is approx. where your antenna should be pointing. Now all you do is simply add; 2,4,6, minutes, etc. to the equator crossing time and let the chart tell you where to point your antenna. The elevation is not important unless you intend to track with an A Z L type mount. Also, don't expect to be able to access Oscar when elevation readings are 40 or higher if you are using a horizontal or vertical beam unless you have a way of tilting it toward the vertical. This computer run is not centered on Phila. but instead on Washington D.C.; so headings may vary slightly. You now have all the necessary info. to

CONTINUED

OSCAR VI CONTINUED BY BILL MURPHY, K3ZSG

accurately and successfully track Oscar VI.

Next month - 10 meter down-link; 2 meter up-link.

SAMPLE ORBITAL INFORMATION

February	<u>ORBIT</u>	<u>GMT</u>	<u>LONG.</u>
25	1657	0:23	51.7
	1658	2:18	80.5
	1659	4:13	109.2
	1660	6: 3	133.0
	1661	8: 3	166.7
	1662	9:53	195.5
	1663	11:53	224.2
	1664	13:43	253.0
	1665	15:43	281.7
	1666	17:33	310.5
	1667	19:33	339.2
	1668	21:28	8.0
	1669	23:23	36.7

REPORT ON APOLLO 14 SPACE NET CONTEST
By Chuck, WA3LNH

The recent Space Net Contest honored the Apollo 14 flight which was launched January 31, 1971 and splashdown February 9, 1971. The contest was held the 3rd and 4th of February, 1973. The Pack Rats had fifteen (15) participants who turned in logs and at least four (4) others gave out contacts. The Mobile Sixers were out in force as they turned in 25 logs and won the first Place Club Plaque, while the Pack Rats received the 2nd Place Club Award.

The following is a summary of the 1st and 2nd places, of the three (3) power categories.

CLASS I - 100 to 1,000 Watts

<u>Call</u>	<u>Contacts</u>	<u>Zips + 10</u>	<u>Score</u>	<u>Club</u>
WA3NUG	155	105	32,550	Mobile Sixers
WA3LNH	142	93	26,412	Pack Rats

CLASS II - 10 to 100 Watts

K3GQC	151	110	33,220	Mobile Sixers
W3KKN	138	89	24,364	Pack Rats

CLASS III - 1 to 25 watts

K1FJY	124	111	27,528	Mass.
WA3HOW	122	109	26,596	Warminster ARC

The Clubs in first and second place as follows

<u>CLUB</u>	<u>SCORE</u>	<u>HIGH SCORER</u>
Mobile Sixers	169,266	K3GQC
Pack-Rats (Mt. Airy VHF)	123,760	WA3LNH

The next contest will be honoring Apollo 13 and 16 on April 14-15, 1973. The rules will be the same as previous contests except there is a fourth

CONTINUED

ASTRONAUTICAL SOCIETY OF AUSTRALIA - SATELLITE PREDICTIONS

SATELLITE - OSCAR 6

PLACE - WASHINGTON DC

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

30° 50' N, 77° 00' W

ASCN NODE	5. W.	ASCN NODE	10. W.	ASCN NODE	15. W.	ASCN NODE	20. W.	ASCN NODE	25. W.
ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL
20.0	38 1	16.0	58 0	14.0	69 0	12.0	79 0	10.0	91 0
22.0	26 1	19.0	48 2	16.0	58 3	14.0	70 4	12.0	82 4
24.0	15 1	20.0	38 3	18.0	47 5	16.0	58 7	14.0	72 8
		22.0	28 3	20.0	34 5	18.0	45 8	16.0	57 11
		24.0	13 2	22.0	22 5	20.0	31 8	18.0	43 12
				24.0	10 2	22.0	19 6	20.0	29 10
						24.0	8 3	22.0	15 7
								24.0	5 3

ASCN NODE	30. W.	ASCN NODE	40. W.	ASCN NODE	50. W.	ASCN NODE	55. W.
ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL
10.0	96 4	6.0	118 1	6.0	135 2	4.0	144 5
12.0	86 9	8.0	112 6	8.0	132 9	6.0	141 12
14.0	74 13	10.0	102 14	10.0	126 17	8.0	138 27
16.0	56 18	12.0	89 21	12.0	110 27	10.0	126 35
18.0	39 15	14.0	71 26	14.0	97 32	12.0	104 51
20.0	24 13	16.0	69 27	14.0	64 45	14.0	54 55
22.0	11 9	18.0	54 19	16.0	51 60	16.0	45 66
24.0	2 4	20.0	43 17	18.0	41 24	18.0	38 24
		22.0	3 10	20.0	30 18	20.0	24 16
		24.0	356 3	22.0	354 9	22.0	353 9
				24.0	350 2	24.0	347 2

ASCN NODE	60. W.	ASCN NODE	70. W.	ASCN NODE	80. W.	ASCN NODE	85. W.
ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL	ADD MINS	AZ EL
2.0	153 7	2.0	171 2	2.0	180 2	2.0	199 2
4.0	152 7	4.0	173 10	4.0	194 9	4.0	204 18
6.0	151 16	6.0	178 10	6.0	202 17	6.0	214 16
8.0	148 27	8.0	182 12	8.0	205 25	8.0	227 21
10.0	143 44	10.0	198 19	10.0	219 35	10.0	245 27
12.0	120 67	12.0	211 56	12.0	234 58	12.0	265 29
14.0	24 69	14.0	304 56	14.0	294 43	14.0	269 25
16.0	355 46	16.0	354 43	16.0	310 24	16.0	306 19
18.0	350 28	18.0	332 23	18.0	326 19	18.0	314 12
20.0	347 17	20.0	336 13	20.0	329 8	20.0	326 6
22.0	346 6	22.0	339 5	22.0	334 2	22.0	332 2
24.0	345 1						

ASCN NODE	215. M.	220. M.	225. M.	230. M.	235. M.	240. M.	245. M.	250. M.	255. M.	260. M.	265. M.	270. M.
ADD MINS	42	42	42	42	42	42	42	42	42	42	42	42
EL	0	0	0	0	0	0	0	0	0	0	0	0
ASCN NODE	95.	95.	95.	95.	95.	95.	95.	95.	95.	95.	95.	95.
ADD MINS	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
EL	7	7	7	7	7	7	7	7	7	7	7	7
ASCN NODE	105.	105.	105.	105.	105.	105.	105.	105.	105.	105.	105.	105.
ADD MINS	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
EL	0	0	0	0	0	0	0	0	0	0	0	0
ASCN NODE	110.	110.	110.	110.	110.	110.	110.	110.	110.	110.	110.	110.
ADD MINS	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
EL	0	0	0	0	0	0	0	0	0	0	0	0
ASCN NODE	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.	210.
ADD MINS	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
EL	0	0	0	0	0	0	0	0	0	0	0	0

ASCN NODE	215. M.	220. M.	225. M.	230. M.	235. M.	240. M.	245. M.	250. M.	255. M.	260. M.	265. M.	270. M.
ADD MINS	42	42	42	42	42	42	42	42	42	42	42	42
EL	0	0	0	0	0	0	0	0	0	0	0	0
ASCN NODE	215.	215.	215.	215.	215.	215.	215.	215.	215.	215.	215.	215.
ADD MINS	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
EL	0	0	0	0	0	0	0	0	0	0	0	0
ASCN NODE	220.	220.	220.	220.	220.	220.	220.	220.	220.	220.	220.	220.
ADD MINS	58	58	58	58	58	58	58	58	58	58	58	58
EL	3	3	3	3	3	3	3	3	3	3	3	3
ASCN NODE	225.	225.	225.	225.	225.	225.	225.	225.	225.	225.	225.	225.
ADD MINS	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	230.	230.	230.	230.	230.	230.	230.	230.	230.	230.	230.	230.
ADD MINS	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
EL	7	7	7	7	7	7	7	7	7	7	7	7
ASCN NODE	235.	235.	235.	235.	235.	235.	235.	235.	235.	235.	235.	235.
ADD MINS	49	49	49	49	49	49	49	49	49	49	49	49
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	240.	240.	240.	240.	240.	240.	240.	240.	240.	240.	240.	240.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	245.	245.	245.	245.	245.	245.	245.	245.	245.	245.	245.	245.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	250.	250.	250.	250.	250.	250.	250.	250.	250.	250.	250.	250.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	255.	255.	255.	255.	255.	255.	255.	255.	255.	255.	255.	255.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	260.	260.	260.	260.	260.	260.	260.	260.	260.	260.	260.	260.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	265.	265.	265.	265.	265.	265.	265.	265.	265.	265.	265.	265.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2
ASCN NODE	270.	270.	270.	270.	270.	270.	270.	270.	270.	270.	270.	270.
ADD MINS	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
EL	2	2	2	2	2	2	2	2	2	2	2	2

ASCN NODE	275. M.	280. M.	285. M.	290. M.	295. M.	300. M.
ADD MINS	47	47	47	47	47	47
EL	1	1	1	1	1	1
ASCN NODE	275.	275.	275.	275.	275.	275.
ADD MINS	35.0	35.0	35.0	35.0	35.0	35.0
EL	5	5	5	5	5	5
ASCN NODE	280.	280.	280.	280.	280.	280.
ADD MINS	35.0	35.0	35.0	35.0	35.0	35.0
EL	5	5	5	5	5	5
ASCN NODE	285.	285.	285.	285.	285.	285.
ADD MINS	35.0	35.0	35.0	35.0	35.0	35.0
EL	5	5	5	5	5	5
ASCN NODE	290.	290.	290.	290.	290.	290.
ADD MINS	35.0	35.0	35.0	35.0	35.0	35.0
EL	5	5	5	5	5	5
ASCN NODE	295.	295.	295.	295.	295.	295.
ADD MINS	35.0	35.0	35.0	35.0	35.0	35.0
EL	5	5	5	5	5	5
ASCN NODE	300.	300.	300.	300.	300.	300.
ADD MINS	35.0	35.0	35.0	35.0	35.0	35.0
EL	5	5	5	5	5	5

ASCN NODE	305. M.	310. M.	315. M.
ADD MINS	47	47	47
EL	1	1	1
ASCN NODE	305.	305.	305.
ADD MINS	35.0	35.0	35.0
EL	5	5	5
ASCN NODE	310.	310.	310.
ADD MINS	35.0	35.0	35.0
EL	5	5	5
ASCN NODE	315.	315.	315.
ADD MINS	35.0	35.0	35.0
EL	5	5	5

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REPORT ON APOLLO 14 SPACE NET CONTEST
CONTINUED

power category of a maximum of 5 watts!

Most of the action in this low key contest is right here in the Delaware Valley. The division of power classes makes for more interesting competition; the zip code multipliers makes every station location as important as another. Sure Zips up VHF activity and provides a chance to meet a lot of local stations that will remember your call in January.

Tony provides very fb certificates to all participants submitting a log - also special awards. Pack-Rats remember to designate the club on your log entry in future contest participation.

The schedule for Space Net Contests besides April 14-15 are as follows:

July 21-22, 1973	Apollo #15
Sept. 15-16, 1973	Apollo #10
Dec. 15-23, 1973	Apollo #8 and 17

1973 ARMED FORCES DAY COMMUNICATION TESTS
"SERVING THE NATION"
(FROM - CHIEF - NAVY - MARINE CORPS MARS)

Each year, on the third Saturday in May, the Department of Defense sponsors the observance of Armed Forces Day. This years observance, the twenty-fourth, will be held on Saturday, May 19, 1973. Once again the Departments of the Army, Navy and Air Force will conduct communication tests between military radio stations and amateur radio stations to demonstrate the partnership and mutual respect enjoyed between the U.S. amateur radio community and the U.S. military.

The tests will consist of military-to-amateur crossband operations, using continuous wave (CW), voice (SSB) and radio-teletypewriter (RTTY) modes of operation and "CW" and "RTTY" receiving tests. QSL cards, designed especially for this occasion, will be forwarded to those amateurs who establish two-way contact with participating military stations confirming crossband communications. Certificates will be awarded to those who aptly demonstrate their operating ability and technical skill by receiving an acceptable copy of the Secretary of Defense originated "CW" and/or "RTTY" message(s) transmitted during the receiving portion of the communication tests. Interception by shortwave listeners (SWL) will not qualify for a QSL card in confirmation of communications. However, anyone who has the equipment and the ability may copy the Secretary of Defense messages and will be eligible to receive a certificate.

MILITARY-TO-AMATEUR CROSSBAND TEST

The military-to-amateur crossband operations will be conducted from 19/1300 GMT to 20/0245 GMT. The military stations WAR, NSS, NPG, N0NNN and AIR will transmit on military frequencies and listen for amateur stations transmitting in the portions of the amateur bands indicated below. Additionally, consistent with operational and training commitments, U.S. Navy aircrafts using the call signs NSSAM and NPGAM, will conduct crossband operations on frequencies listed below while flying over various cities. The operators at the military stations will specify that portion of the amateur sub-band they are tuning.

CONTINUED

1973 ARMED FORCES DAY COMMUNICATION TESTS
CONTINUED

STATION	MILITARY FREQUENCY (KHz unless otherwise noted)	EMISSION	APPROPRIATE AMATEUR BAND (MHz)
WAR (Army Radio Washington, D.C.)	4001.5	CW	3.5 - 3.65
	4020	LSB	3.775 - 4.0
	4030	RTTY	3.65 - 3.775
	6997.5	CW	7.0 - 7.15
	14405	CW	14.0 - 14.2
	20994	USB	21.25 - 21.45
NSS (Naval Communication Station, Washington, D.D.)	3385	CW	3.5 - 3.65
	4012.5	RTTY	3.65 - 3.775
	4040	LSB	3.775 - 4.0
	6970	LSB	7.15 - 7.3
	7301	CW	7.0 - 7.05
	7380	RTTY	7.1 - 7.15
	7385	CW	7.05 - 7.1
	13827.5	RTTY	14.1 - 14.2
	14385	USB	14.2 - 14.35
	14400	CW	14.0 - 14.1
NSSM (Navy Aircraft)	27900	USB	28.5 - 29.7
	49.692 MHz	AM	50.1 - 54.0
	143.820 MHz	AM	144.1 - 146.0
Aircraft to Depart Washington, D.C. 19/1300 GMT; Providence, RI 19/1400 GMT; Buffalo, N.Y. 19/1500 GMT; Indianapolis, IN 19/1630 GMT; Memphis, TN 19/1730 GMT; New Orleans, LA 19/1830 GMT; Tallahassee, FL 19/1930 GMT; Miami, FL 19/2030 GMT; Jacksonville, FL 19/2115 GMT; Spartanburg, SC 19/2215 GMT; Washington, DC 19/2300 GMT;			
NØNNN (Naval Academy, Annapolis, MD)	4008.5	LSB	3.775 - 4.0
	7350	LSB	7.15 - 7.3
	13975.5	USB	14.2 - 14.35
AIR (Air Force Radio Washington, DC)	4025	LSB	3.775 - 4.0
	7305	LSB	7.15 - 7.3
	7315	CW	7.0 - 7.15
	13997.5	CW	14.0 - 14.2
	14397	USB	14.2 - 14.35

RECEIVING TEST

A "CW" receiving test will be conducted for any person capable of copying International Morse Code at 25 words per minute. The "CW" broadcast will consist of a special Armed Forces Day message from the Secretary of Defense

CONTINUED

1973 ARMED FORCES DAY COMMUNICATION TESTS
CONTINUED

to all radio amateurs and other participants. The "CW" broadcast will commence at 20/0300 GMT with a ten minute CQ call for tuning purposes with the Secretary of Defense message commencing precisely at 20/0310 GMT as follows:

TRANSMITTING STATION

FREQUENCIES (Khz unless
Otherwise indicated)

WAR - Army	4030, 6997.5, 14405
NSS - Navy	4012.5, 7385, 14385
MPG - Navy	4005, 6989, 14375, 49.995 MHz 143.995 MHz
AIR - Air Force	7315, 13997.5

RTTY RECEIVING TEST

A radioteletypewriter "RTTY" receiving test will be conducted for any individual amateur or station possessing the required equipment. This test of the operator's technical skill in aligning and adjusting his equipment, and serves to demonstrate the growing number of amateurs becoming skilled in this method of rapid communications. The "RTTY" broadcast will consist of a special Armed Forces Day message from the Secretary of Defense to all radioteletypewriter enthusiasts. The broadcast will be transmitted at 60 words per minute, beginning at 20/0335 GMT with a ten minute CQ call for tuning purposes followed by the Secretary of Defense message at 20/0345 GMT as follows:

TRANSMITTING STATION

FREQUENCIES (KHz unless
otherwise indicated)

WAR - Army	4030, 6997.5, 14405
NSS - Navy	4012.5, 7385, 14385
NPG - Navy	4010, 7347.5, 13992.5 148.410 MHz
AIR - Air Force	7315, 13997.5

SUBMISSION OF TEST ENTRIES

Transcriptions should be submitted "as received." No attempt should be made to correct possible transmission errors.

Time, frequency and call sign of the station copied as well as the name, call sign (if any) and address, including zip code of the individual submitting the entry must be indicated on the page containing the test. Each year a large number of acceptable copies are received with insufficient information, thereby precluding the issuance of a certificate.

Entries should be postmarked no later than 25 May 1973 and submitted to:

Armed Forces Day Tests
Chief, Navy-Marine Corps MARS
4401 Massachusetts Avenue, N.W.
Washington, D.C. 20390
Mail Stop 394

SOME THOUGHTS OF CONTACTS AND SECTIONS IN CONTESTS

A VHF Sweepstakes contest be it the June or January variety has always meant just one thing... work as many contacts in as many sections as possible, and this will always provide the means for doing the best possible job. No one will argue this point, for it is completely true. There is something about contests that seems to almost hypnotize....if I had only worked that one more section!!!! boy, just think, one more section multiplier times all those contacts times the two points for each complete exchange if in January or just one, two or three points if in June, just think of that increase in score!! Perhaps a bit of pencil work can get us out of that cloud.

I would like to discuss the June contest for the time is getting close, and a real concerted effort this year just may win. To begin with, the thing that is overlooked by many is that each additional contact that does not also mean a new section still multiplies all the sections that we wind up with in the final tally. For this reason a contact made with a local in the early minutes of the contest is worth an extra ration of points equal to our section total on 50 and 144, twice our section total on 220 and 432, and three times the total on higher bands. Last year the numbers were 93, 183, and 279 respectively. Not bad!

Lets look at the other side of the coin. If a new section is worked on any band, we get the same number of points extra as before according to the band, and an extra amount of points equal to our contact total raised by one, two or three depending on the band. The ratio between these point increases for a contact which is a new section and a contact that is not a new section is what I call the VALUE RATIO. I define this as the number of contacts needed to equal working a new section. The exact number will vary with the totals, but using our totals for last year, the calculations show this ratio to be about 9 to 1, 5 to 1, and 3.6 to 1 for the three levels of point count on the different bands. What this means is that if we can scare up four more contacts on 1296....six more on 220 or 432...and ten more on 50 or 144 we would have the same increase as working three more sections, and we would have probably won the contest last year and maybe a lot of others to boot.

The point of all this is not to give up working new sections...what I am trying to say is that every last contact is important, and during a contest you must not focus your eyes on the hole in the doughnut and be deluded by section hypnosis. Keep scratching all during the operating period when you are on the mike. Be sure to work the club on every band from your home QTH, and equally important, scare up a few friends for contacts.

73, Dave, W3ZD

OFFICIAL ARRL BULLETIN NR 419 - MARCH 29, 1973

ARRL has now filed strong opposition with FCC concerning the proposal to raise license fees, Docket 19658. The document points to drops in numbers of licensees as a result of the 1964 and 1970 fee actions. Further, it requests more services to the amateur, including automatic mailing of license renewal forms; free retesting after a failed examination and more frequent examinations at more numerous locations, in justification of present fee levels. The full text will appear in the May issue of QST.

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CONTACT: Bill Murphy, K3ZSG, 215-272-5527

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ARRL BULLETIN #416

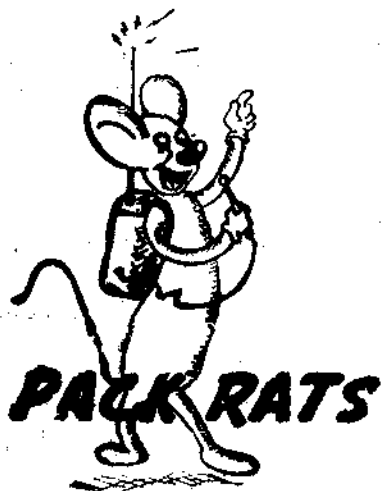
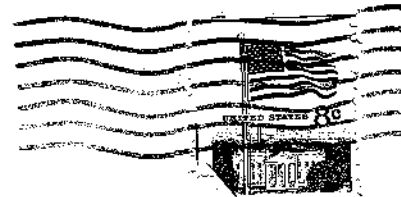
OFFICIAL BULLETIN NR416 FROM ARRL HEADQUARTERS NEWINGTON, CONN.

MARCH 8, 1972 TO ALL RADIO AMATEURS BT

The colorful new ARRL Satellite DX Achievement Award is proving to be a popular
goal for many users of Oscar 6. To date, 38 amateurs in 6 countries have met the
requirements. To qualify, 1000 points must be accumulated. Contacts count
10 points, each new country 50 points and each new continent 250 points.
Contacts via the satellite must have taken place on or after December 15, 1972.
Application forms are available from ARRL, 225 Main Street, Newington, Conn.
Q6111. Further details page 58 December QST. AR

Our own Bill Murphy, K3ZSG, has worked a total of 45 stations through Oscar VI.
He has worked 16 states thus far. Some of these contacts are K7BBQ, Washn.,
W7JIV Wyo., K1HTV, Conn., W3TMZ, Md., K3RYL, Pa., W5SXD, Texas, WA6EIR, Calif.,
W9HTF, Ind., K2LGJ, N.Y., WA8YFN, Ohio, W0PHD, Minn., W9TGB, Ill., W1JSM, N.H.,
WA0TSL, N. Dak., WA4JID, Fla., W9JUJ, Wisc., WB4MJY, S. Carolina. Four
countries have been worked, XE1EA, Mexico, VE3FKU, Canada, LA1HK, Norway and
E5FFC, France. He has well over the 1,000 points required and is waiting
for QSL cards to come in.

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20.

LOOKING FOR RESULTS ?

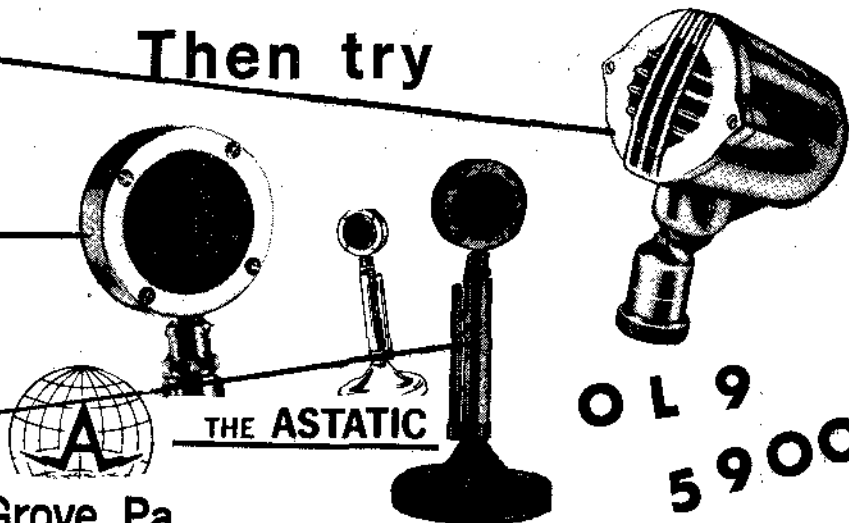
Then try

ASTATIC MODEL GD104
CRYSTAL MICROPHONE WITH
PTT STAND.
REG. PRICE 51.20

25.

ASTATIC MODEL D 104
CRYSTAL MICROPHONE LESS
STAND. FITS G STAND.
REG PRICE 31.00

15.50



80 York Rd. -- Willow Grove, Pa.