

PACK RATS



PACK RATS

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILA., PA. ARNS
50.2, 145.2, 432.1, 1296 MHZ, WR3ACD - 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

5 178

VOLUME XX

MAY 1978

NUMBER 5

THE PREZ SEZ

Many things are happening in our VHF hobby. The FCC has announced new rule changes which will affect the two meter band as we know it. The expansion of repeater spectrum down into the region 144.5 to 145.5 Mhz will populate that region almost overnight. One wonders how many repeaters are really necessary in a given area. The more repeaters there are to listen to, the more difficult it is to communicate in times of emergency. It's like the situation that would exist if every family had its own telephone system. The good news is that Technicians and Generals will be given all of the 6 and 2 meter bands. So the users of the VHF bands for experimentation, dxing and rag chewing will be drawn together with the common band of spectrum assignment despite differences in operator license classes. The VHF'ers get closer together and the communicators get separated onto more repeaters with fewer users per each.

RF Power Transistors are what's happening in VHF also. And we had a close encounter with the state-of-the-art in high power devices at our April meeting. W3RZU, Elio, one of our Pack Rats and Chief Applications Engineer for Solid State Scientific of Montgomeryville, Pa. gave an excellent talk and demonstration of transistor power amplifier techniques.

Elio's technical talk introduced the use of RF power transistors by emphasizing their similarity to vacuum tubes - a slant I had not seen before. I think we all understand transistor characteristics better after Elio's talk. Bill, W3HQT, assisting Elio, put on a demo of a single SSS transistor amplifier running at 250 watts OUTPUT at 146 Mhz!!

This new transistor of theirs really works. We are all very grateful to Elio for such an exciting and informative evening.

Are you part of what's happening in VHF? You can be by taking a more active part in this club's many activities.

The June VHF contest effort is being organized now. Tell Bill, W3HQT of your interests and capabilities. The June Contest effort needs the services of all. Not only radio equipment like antennas, towers, and operators but trucks, truck drivers, coffee makers, tent pitchers, rope stringers, beer openers, trash gatherers, stake drivers, picture takers... etc. There's a job for everyone on this championship team. Let's make it a "hat trick- 3" June Championship in a row.

73,

Tony, W3HMU

* * *

VOTED TO MEMBERSHIP

WA3QWO, Earl W. Downs, XYL, Martha
P.O. Box 333, Valley Road
Jamison, Pa. 18929 215-DI 3-0459

WB3ATA, Brian Mullen, XYL, Nancy
94 East Street
Doylestown, Pa. 18901 215-345-8809

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

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SWAP SHOP ITEMS - no charge.

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING.

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W3CL, Harry B. Stein

OFFICERS: 1977 - 1978

PRESIDENT: W3HMU, Tony Souza
VICE-PRES: W3HOT, Bill Olson
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REC. SECY: WA3NFV, Dan Mitten
TREASURER: K3GAS, Doc Cutler

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K3MXM, Lee A. Cohen (Ex-Officio)
K3MWV, Dick Pierce (2 years)
WB2SZK, Randy Bynum (2 years)
K3IGX, Dick Boyle (1 year)
K3JJZ, El Weisman (1 year)

MONDAY NIGHT NETS:

145.2 MHZ 7:30 PM
50.2 MHZ 8:30 PM
221.4/224.58 MHZ 9:00 PM
432.03 MHZ 9:30 PM
1296.3 MHZ 10:00 PM

NET CONTROL

W2EIF
W3CL
K3GAS
K3IUU
W2EIF

FRIDAY NIGHT ATV NET:

439.25 MHZ 7:00 PM

NET CONTROL

WA3AXV

PACK RAT REPEATER - WR3ACD - 222.98/224.58
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CALENDAR OF COMING EVENTS

Syllabus by Lee, K3MXM

- MAY
- Named for the Latin Goddess of Growth, which means now is the time to get your seeds planted for those Summer vegetables, etc...
- 3 SUN DAY - Solar Week Events - look to your local papers.
- 4 First Hidden Transmitter Hunt, 220 Mhz, full details on the nets. Starting time 7:15 p.m. from shopping center lot, York & Street Roads, Hatboro, Pa.
- 7 Tri-County Radio Association Hamfest, Stirling, N.J. (North) Info: Harry, 1-201-381-1595
- 8 The Potomac Area VHF Society Hamfest, Baltimore Area. Howard County Fairgrounds, Routes I-70 and Routes 32. Info WA3NZL
- 11 Board of Directors Meeting, QTH, WA3AXV, Ron Whitsel. Directors and interested parties always invited.
- 14 Warminster ARC Hamfest, Wm. Tennent High School Yard, Warminster, Pa. (Just off Street and Centennial Rds. in ZD's backyard) All outdoors, bring your own tables. This is a real fine neighbor radio club and we should make every effort to help support them. It is getting bigger and better each year and very close by.
- 14 Mothers Day. Make a double pleasure of the day. Take in the Hamfest and then take your Lady out to dinner at one of the many great eating establishments in the area.
- 15 50 MHZ and up now open to Technician and General Class.
- 16 WLAW, Qualifying Run, See April QST.
- 18 General Club Meeting, "ARRL Nite". Special Guest Speaker from the League, Oscar Manager, Bernard Glassmeyer, W9KBR. Meet and talk with Connie Mac, W3SW, your Atlantic Division Director and Vice Director W3KT. An open meeting to all hams, potential hams, friends, neighbors, etc. The Frankie Silent Auction, The Mario Raffle and, of course, refreshments.
- 19,20,21 Rochester Hamfest, Monroe County Fair Grounds, Rte. 15A, Rochester, N.Y.
- 20,21 Fourth Annual Eastern VHF Conference, the New England Center, University of New Hampshire, Durham, New Hampshire.
- 20 Armed Forces Day, Special broadcasts and contacts.
- 20 Ladies Nite and the Pack Rat Banquet, The Country Squire Inn, 680 Easton Road, Horsham,, Pa. A real fine place to eat. Club Festivities. Dancing, Cash Bar, etc. Send your reservations to Doc, K3GAS, \$25.00 per couple.
- 20,21 EME Contest, 2nd part, W3CCX/2 will be operating from QTH of Alan Katz, K2UYH
- 30 Traditional Memorial Day
- JUNE
- 10-11 ARRL, VHF QSO PARTY, Hilltown, Pa. Pack Rat Picnic on Sunday at this site.
- 18 1st Annual Frederick Amateur RC Hamfest, Frederick Fair Grounds, Frederick, Md.
- 24,25 ARRL Field Day
- JULY
- 15,16 VHF Space Net Contest

NEW PRODUCTS OF INTEREST TO HAMS

By Lyn, W3NSI

1. ANTENNA MATCHING NETWORK: Drake Co. is selling a new version MN-4C antenna tuner/SWR meter/power meter. The unit covers 160-10 meters and matches coax fed, long wire, or balanced line antennas. Outputs of up to 250 watts may be used with the MN-4C, which can be switched out of the circuit when desired. The front panel switch also permits selection of several antennas. Price \$165. 540 Richard St., Miamisburg, Ohio 45342.
2. SYNTHESIZER FOR 220 MHZ: Engineering Specialties is now selling (direct mail) their Synthacoder #509 which can be connected to rigs such as the Midland 509, for coverage of the 220-225 Mhz band in 20Khz steps. Three wires connect the unit to the T/R. Unit is supplied wired and tested. Price \$130. P.O. Box 2233, 1247 Commercial Ave., Oxnard, Ca. 93030.
3. UHF FREQUENCY COUNTER: DSI Instruments has just come on the market with a very inexpensive frequency counter. The model 3600A includes an oven timebase and coverage to 600 Mhz without external prescaler. Sensitivity is rated at 20 Mv. on 146 and 222 Mhz, and 100 Mv. on 450 Mhz. This should allow readings using only a pickup wire connected to the input. Display is an 8 digit 1/2" LED. Unit is assembled and tested. Price \$190 (direct). 7914 Rinson Road, No. G, San Diego, Ca. 92111.

* * *

VHF/UHF REPORT

By Jo, W2EIF

There has been a small noticeable increase in activity on the 2 and 6 meter bands. Have heard a few getting ready for the coming DX season which should be in full swing by the second week in May. I hear a lot of misinformation being handed out about how great the E season will be due to the upturn in the sunspot cycle. Usually, the E skip drops off during the high sunspot period. If you remember some of the best E skip on six has occurred in the last couple of years of the low part of the cycle.

There have been several auroras lately which were useful on 50, 144 and 220 Mhz. The dates were April 3,4,10,11 and 13 that I was able to take advantage. There may have been some other dates that I missed.

W3HQT, K3BPP and W3HMU have set up for the EME Contest. They are using the facilities of K2UYH and are operating under the club call W3CCX/2. Look for them for the April and May weekends of the EME Contest.

* * *

VISITORS AT THE APRIL 20, 1978 MEETING

WA3GHM, Gerd, Levittown, Pa.	W3HAO, Dan McGovern, Holland, Pa.
Ian Janssen, Churchville, Pa.	K2URC/3, Frank H. Bremer, Phila., Pa.
WA3IWT, Rich Prim, Feasterville, Pa.	WA3QWO, Earl W. Downs, Jamison, Pa.
Bill Tohlok, Phila., Pa.	WB3EFO, Ed Lee, Huntingdon Valley, Pa.
Bill A. Tollok, Phila., Pa.	W3CQA, C.W. Hackenyo, Phila., Pa.
WB3KNU, Hugh Odhner, Huntingdon Valley, Pa.	W3BNQ, Sam Santoro, Blue Bell, Pa.
WB3DAD, Joe Colussi, Ambler, Pa.	WB3ATA, Brian Mullen, Doylestown, Pa.
WB3JFC, Jim Colussi, Ambler, Pa.	

* * *

PRESS RELEASE

The Foundation for Amateur Radio, Inc., a non-profit organization with its headquarters in Washington, D.C., announces its intent to award five scholarships for the academic year 1978-79. All amateurs holding a license of at least the FCC General Class or equivalent can compete for one or more of the awards if they plan to pursue a full-time course of studies beyond high school. The scholarship awards range from \$250 to \$750, with preference given in some of them to residents of various areas. Additional information and an application form can be requested by a letter or postcard, postmarked prior to June 1, 1978 from:

FAR Scholarships, 8101 Hampden Ln., Bethesda, MD. 20014.

The Foundation is devoted exclusively to promoting the interests of amateur radio and to scientific, literary and educational pursuits that advance the purposes of amateur radio.

* * *

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mike. \$300

CONTACT: Earl Downs, WA3QWO

Phone: 215-DI3-0459

FOR SALE: 27B, Mint condition \$200

CONTACT: Charlie Buono, WA2IRO

Phone: 609-877-3645

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CONTACT: Richard Pierce, K3MWV

Phone: 215-785-0058

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CONTACT: Tom Gibson, W3EAG.

Phone: 215-631-0561 Mon thru Fri 9-5

FOR SALE: Clegg 27B with mobile lock. \$200

CONTACT: Charles Zeager, WA3OQR

Phone: 215-533-9277 after 4 PM

WANTED: Rohn #25 tower (40-50 ft) in good condition. Tbp section & base section if possible.

CONTACT: Bob, K3SRO

Phone: 215-822-7474 after 6PM weekdays.

* * *

TID BITS

Welcome home to the Jim Perkins (W3SMK & Sally) after a number of months sojourn to the Orient and the South Pacific.

The Phila. Inquirer of Sat. April 8, 1978 carried an FB PR story for Ham Radio. Pack-Rat Howard Sherer, WA2RBG/3 was instrumental in organizing the shipment of a life saving drug to doctors of a Venezuelan woman. Some of the events to accomplish this were almost unbelievable. Good show Howie!!

Rich Albert, K3HIN is in the Albert Einstein Medical Center, Northern Div., Room 1132. Phila., Pa., undergoing therapy after some surgical work. Drop a card or phone 215-329-0700.

Pack Rats, W3HMU, W3HQT, K3BPP and WA3JUF participated in the April 15-16, 1978 EME Contest on 432Mhz from K2UYH QTH in N.J. Made some excellent contacts. Will try again on May 20/21, 1978.

A nominating Committee has been appointed as follows: K3MWV, K3IUV and WA3AXV. Election of officers and director at the June meeting.

Chairman Bill Olsen, W3HQT, announces the following band captains for the June 10/11 VHF QSO Party: 50 Mhz - WA3AXV, 144 Mhz - W3HQT, 220 Mhz - WA3JUF, 432 Mhz - W3HMU, 1296 Mhz and up K3BPP.

* * *

NOTICE

The Montgomery County Two Meter RTTY Net has been reactivated and is operating on the 146.235/835 repeater on Wednesday evenings at 2000 hours local time. This repeater, while still available for phone operation, has been modified to a RTTY preferred configuration. When RTTY signals are received the modulation is obtained from a local AFSK oscillator rather than the accessing station's audio which provides accurate tones at the output and eliminates any extraneous hum or noise that might be present in the incoming signal.

In the RTTY mode, a tape reperator is activated which punches a paper tape of the repeater activity rather than the magnetic tape recorder which is used to record phone activity on the repeater.

Discussions are in progress with the Harrisburg RTTY repeater group with the intent of linking the two repeaters. With a little luck this should be accomplished late this Summer.

* * *

OFFICIAL BULLETIN NR 704 FROM ARRL HEADQUARTERS NEWINGTON CT APRIL 20, 1978 TO ALL RADIO AMATEURS BT: In a special revision released on April 5, 1978 the FCC reminded American Amateur radio operators of the restraints on international third party communications. The United States now has third party agreements with Argentina, Bolivia, Brazil, Canada, Chile, Columbia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Ghana, Guatemala, Guyana, Haiti, Honduras, Israel, Jamaica, Jordan, Liberia, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad & Tobago, Uruguay and Venezuela. A special agreement with the ITU permits certain third party communications with 4ULITU. The Commission further reminded U.S. Amateurs that transmission or delivery of international third party messages is prohibited unless an agreement under Section 2 of Article 41 of the ITU Radio Regulations has been announced by FCC. See QST League Lines and Washington Mailbox for further details. AR

THE WAY IT GOES

By Julian Jablin, W9IWI
From the Circuit Board

Solid-state gear may have its virtues, but the oldfashioned tube equipment had advantage that a handful of ICs on a printed circuit board can't match.

When a transistorized piece of equipment does not work, it just does not work. No clues. No way to start finding out what's wrong. No helpful hints out of the gear itself.

Now an ancient radio with a bunch of 6AG7s, a lot of condensers (that's right... condensers) and resistors under the chassis and a power transformer off in the corner was a gold mine of information when it stopped going. Did the tubes get warm, to begin with? If one or more were cold, there you were right away--yank it out, check the filament. And all those resistors; nothing was as handy as a resistor burned black to point to the trouble. Replace the resistor! If the new one burned up too, look a little further.

And if you had to get really scientific, a VTVM that could tell the difference between 25 volts and 250 volts was about all you needed.

Back in the very early days, I learned a lot from one of the first receivers I built, a regendetector (look that up, you young guys) preceded by an RF stage with an audio amplifier after it. Now a regenerative detector has to oscillate before it can detect--that's basic. There were a lot of ways to get my detector to go into oscillation, but the surest was to pick up one corner of the rig and drop it gently on the table. Signals!!!

Over the years, I (and thousands of other old timers) learned that one of the best forms of therapy for ailing gear was a gentle (or not-so-gentle) thump on the box. In the Army I stole a rubber mallet from the motor-pool sergeant just to keep a BC-375 in operation.

Solid-state gear does not respond to this kind of treatment. I suspect this is because engineers (the type with hairy ears) design transistors. Ics, and other components to withstand shock. How helpful do they think that is?

I built a little speech compressor...etched the board, stuck in all of the parts just like the diagram said, plugged in the necessary cables, and -- nothing. No compression. In fact, no speech. And there the thing sat, just looking up at me. I banged it a little, just to settle things in place. Still no action. To be sure that I was on the right track, I banged it a little harder, with no more success. Finally I threw it across the shack. Nothing broke, came loose or shorted out. Nothing worked, either.

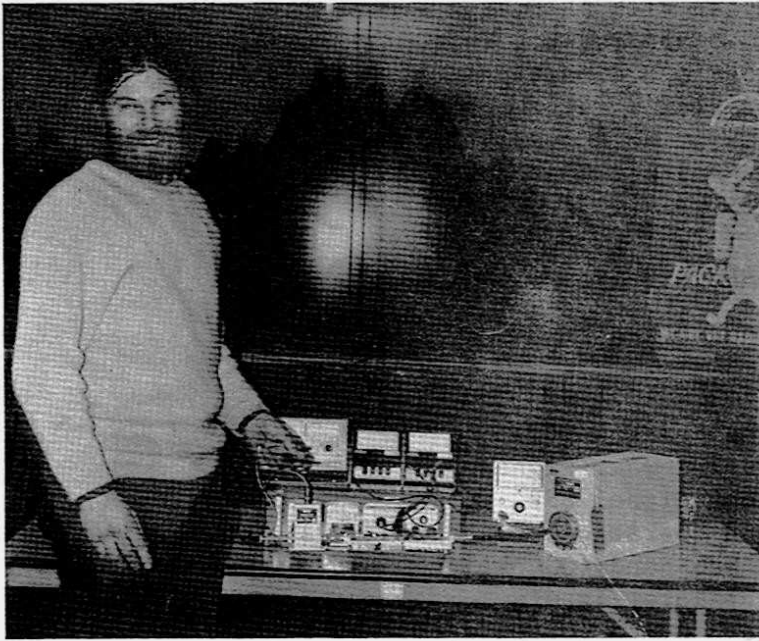
And, when it came time to investigate the trouble the way the book said, I was faced with measuring .6 mil, 3.8 volts and no power at all. With what?

They can send all the transistors back to Japan -- or to Texas. For my part, I'm in the market for a few 12AT7s and sockets to go with them, plus a spool of #24 stranded hook-up wire.

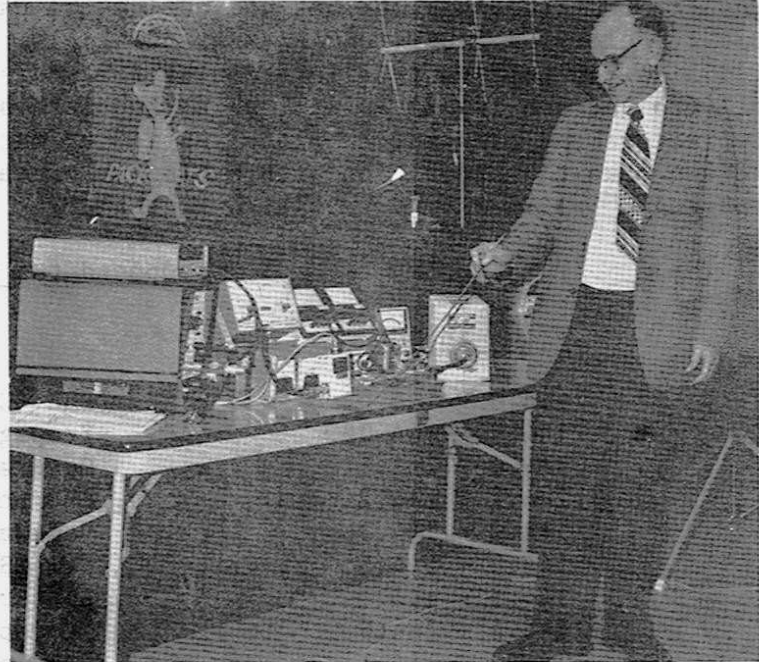
* * *

OFFICIAL BULLETIN NR 702 FROM ARRL HEADQUARTERS NEWINGTON CT APRIL 6, 1978 TO ALL RADIO AMATEURS BT: The 29th Annual Armed Forces Day Communications Tests will take place on Saturday, May 20. Military stations will make crossband military to amateur contacts from 1300Z May 20 through 0245Z May 21. The secretary of Defense receiving competition will begin at 0300Z May 21, on cw at 25 wpm, followed by 60 wpm RTTY at 0335Z. Both tests will be conducted by WAR on 4030, 6997.5 and 14405 kHz and by AIR on 7315 and 13997.5 kHz. NPG, however, will send cw on 4005, 6989 and 14375 kHz, and RTTY on 4010, 7347.5 and 13922.5 kHz. Copy exactly as received should be sent to the address transmitted by the station during the on the air instructions preceding the actual proficiency run. The schedule for the crossband military to amateur contacts will have military stations transmitting as follows, specifying listening frequencies in the amateur bands. NPG 14356 SSTV, NMH 7301 cw 14470 ssb 20954 cw. WAR 4001.5 cw 4020 lsb, 4030 RTTY 6997.5 cw 14405 cw 4010 cw 6989 cw 7347.5 RTTY 7365 cw 13922.5 RTTY 14375 cw 14389 usb 20983 cw 20998.5 usb 49.995 143.995 and 220.0 am usb and cw 148.4 and 148.95 fm and RTTY. Air 7305 lsb 7315 cw and 13997.5 cw. Amateurs are reminded to use caution to insure that their transmissions remain inside the amateur bands, and the appropriate subbands, at all times. AR

250 WATTS SOLID STATE AT 2 METERS



IT WORKS SEZ BILL, W3HQT



THE TRANSISTOR MAESTRO, ELIO, W3RZU



W3HQT, W3ATA, W3AXV, & W3KES ADMIRE THE NEW DEVICE
BY SOLID STATE SCIENTIFIC, MONTGOMERYVILLE

From Northeast VHF News

VUAC Proposed TWO Meter Band Plan: Joe Reisert, the Chairman of the ARRL's VHF/UHF Advisory Committee, has distributed a proposal for a new two meter band plan to take effect on May 15, 1978, which is the effective date of the Report and Order in FCC docket 21033. The immediate effect of this action by the FCC is to expand Technician privileges to all of two meters and to create a new repeater sub-band from 144.5 to 145.5 Mhz. The following proposed plan is the result of discussions Joe has had during the past year with ARRL, the VUAC, other VHFers, the CSVHF Society, S.W.O.T, OSCAR/AMSAT officials, VRAC members, etc. To quote from Joe's memo "... I'd like you to give this information the widest possible dissemination ... Send back to me all pro and con inputs as well as appropriate suggestions. Let's see how fast we can get this two meter band plan put in place "as is" or with justifiable modifications so that (on May 15) we can make the transition with a minimum of hassle and not miss any of the activity or openings."

Proposed two meter plan

<u>Freq. in MHz</u>	<u>Use</u>
144.0 - 144.05	EME (CW)
144.05- 144.06	Propagation beacons (CW)
144.06- 144.1	General CW and weak signals
144.1 - 144.2	EME and weak signal SSB
144.2 - 144.3	General SSB operation, suggested calling freq. 144.210
144.3 - 144.5	New OSCAR Sub-band (OSCAR 8 command plus Phase 3 sats.)
144.5 - 144.6	Linear translator inputs
144.6 - 144.9	FM repeater inputs (outputs 600 KHz higher)
144.9 - 145.1	Weak signal and FM simplex
145.1 - 145.2	Linear translator outputs
145.2 - 145.5	FM repeater outputs
145.5 - 145.8	AM, miscellaneous and experimental modes
145.8 - 146.0	OSCAR sub-band
146.0 - 148.0	FM repeaters on 600 KHz as presently configured

220 MHz and 420 Mhz band plans are also under study: At its January meeting, the ARRL board of directors ordered studies of the band plans for the 1-1/4 and 3/4 meter bands. If you want to have a voice in this process, communicate your ideas to your VUAC representative: W1JR, K2RIW, W3HMU, W1GXT, K2QPF, and N3AA. (There are very few NEVHF members outside of the first three call areas.)

* * *

Editors note: Many of you remember that the Monday night two meter Pack-Rat net originally was at 144.2 MHz until the Technician Class group came into being when we moved to our present 145.2 MHz spot. It is now proposed that we return to the original frequency. The board of directors of the club has started airing this idea. In view of the above band plan it might be desirable to pick another spot.

* * *

The recent FCC action continues to allow repeater operation 220 MHz and up with the exception of 220.0 to 220.5 MHz, 431 to 433 MHz and 435 to 438 MHz reserved for weak signal work.

* * *

The general membership meeting of PARA will be held at the Valley Forge Freedoms Foundation, Valley Forge, Pa. The date is JUNE 19, 1978 - 8 PM. Listen to PARA's Bulletin for further update.

(215) 717-5052

W3CL

HARRY B. STEIN ASSOCIATES

COMMUNICATIONS CONSULTANTS

HARRY B. STEIN

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AMERICAN RADIO RELAY LEAGUE

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DIRECTOR, ATLANTIC DIVISION

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