

PACK RATS'

SCANNED TO PDF BY BERT, K3IUU



CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC.

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA
50.125, 144.150, 220.125, 432.110, 1296.110 Mhz - W3CCX - Repeater 222.98/224.58 Mhz

ARNS

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 19866

VOLUME XXVI

OCTOBER, 1987

NUMBER 10

THE VICE PREZ SEZ

First I would like to thank Paul, WB3JYO for a very interesting program on microstrip techniques (directional couplers at 10 Ghz 3 Ghz.)

Secondly, I hope to see you all turn out for the VHF Conference/Hamarama. Get in touch with Pat, WB3DNI (672-5289) if you can spare an hour or so to help with the Hamfest; i.e. parking, ticket sales, talk-in, etc. We would like to have some other people help with this project, come out it's fun!!

Thirdly, how about more people coming to the general meetings! I've been in the Club for five years and only have met 15 or 20 members. We would like your input. Come out and be a "Rat" again.

Fourthly, our new band, 902-928 Mhz. Activity is slowly growing on the band. 903.1 Mhz is the weak signal frequency and 9:00 P.M. Friday nights is the activity time. Get on and make some noise. If you need information on equipment or building ideas, ask WA3AXV, WA3JUF, N3CX, N2SB and our Mainiac W3HQT. There are kits now available.

Fifthly, if anyone hears any band openings, get on the repeater and make some phone calls and let people know. I am sure they will do the same.

Finally, check your antenna projects before the weather gets bad. If you need help, please contact me. N3CX, and we will try to get you some help. Don't be shy!!

73, Dave, N3CX

* * *

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SWAP SHOP ITEMS - NO CHARGE

DEADLINE FOR ARTICLES IS THE GENERAL MEMBERSHIP MEETING: THE THIRD THURSDAY OF THE MONTH.

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609-783-9478

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W3CL, HARRY B. STEIN

MONDAY NIGHT NETS

7:30 PM - 50.125 MHz
8:00 PM - 144.150 MHz
8:30 PM - 222.98/224.58
8:30 PM - 220.125 MHz
9:00 PM - 432.110 MHz
9:30 PM - 1296.1 MHz

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CALENDAR OF COMING EVENTS

By Harry Brown, W3ILT

OCTOBER

- 4 Yonkers Amateur Radio Club Electronics Fair at the Yonkers Municipal Parking Garage. Talk-in on 145.865R, 440.150R, and 145.52.
- 4 Waterbury, Conn Amateur Radio Club Hamfest at the Connecticut Higher Education Center, Exit 18 off I-84.
- 8 Pack-Rat Board of Directors meeting at the QTH of WB3DNI; for directions, call Pat at 215-672-5289. All interested parties always welcome.
- 10-11 Pennsylvania QSO Party. See September QST Page 87 for Rules.
- 10 11th Annual Mid-Atlantic States VHF Conference, Warrington Motor Inn, Warrington, Pa. Street Road and Rte. 611. 9 AM to 5 PM. The conference is an all day affair with talks by well known VHF'ers. A cocktail hour and get-together will be held in the Pack-Rat hospitality suite with a buffet dinner at 7:30 P.M.
- 11 16th Annual Pack-Rat Hamarama, Bucks County Drive-In, Rte. 611 and Street Road, Warrington, Pa. 4 miles North of the Pa. Turnpike. Talk-in on 146.52. Registration is \$4.00 each or \$7.00!!!! per carload. Tailgating is \$6.00 per space - bring your own table.
- 11 Bergen Amateur Radio Assn. Flea Market at the Bergen County Community College on Paramus Road, Paramus, N.J. Talk-in on 145.19/.79.
- 15 October Pack-Rat Meeting at the Southampton Free Library on Street Road in Southampton Pa. All interested VHF'ers are welcome. Meeting starts promptly at 8 P.M. Program: WA3IWT, Rich Prim (Engineering Supervisor - KYW) will talk about TV News gathering using microwave systems. Mario's Raffle, Frankie's Silent Auction, Refreshments.
- 17-18 ARRL International EME Competition, Part 1. See September QST, Page 87 for Rules.
- 17 32nd Syracuse Hamfest in the Arts and Home Mansion at the New York State Fairground. Talk-in on 146.31/91 and 147.90/30.
- 18 Queens, New York. Hall of Science ARC Hamfest at the Hall of Science parking lot at Flushing Meadow Park. Talk-in on 144.300 or 223.60.
- 18 Carlisle, Pa. 4th Annual Cumberland County Hamfest at the Carlisle Fairgrounds. Talk-in on 145.27, 145.52, and 433.3.
- 25 Framington ARA Annual Fall Flea Market at the Framingham Civic League Building, 214 Concord St., Rte 126. Talk-in on 75/15.

NOVEMBER

- 1 RF Hill ARC Hamfest in Sellersville, Pa.

LETTER TO PACK-RAT PREZ, N3SB

Dear Bob:

Enclosed is a copy of letter petitioning the ARRL CAC for a June Contest Rules change. Upon reading, it is self-explanatory.

I've been told others have written them. Independent of my letter with the same beef. Further, the June Contest write-up, when it appears in QST will solicit inputs on this issue from the "Community."

While my effort speaks for just me personally, I'd like to ask you to read this letter to the Board of Directors and on my behalf, as a member in good standing, request that a Club petition letter supporting this position be considered for authorization.

Something really needs to be done to alleviate the problem - a letter from the Pack-Rats will carry considerable weight with the CAC.

Thanks for listening.

73,

Jim Holt, N3AHI

(Note: Copy of letter referred to above,
available at W3CL)

* * *

VISITORS - SEPTEMBER 17, 1987
MEETING

WB2JHG - Mark Adams, Medford, N.J.

KLHTV - Rich Zwirko, Glenn Dale, MD.

VOTED TO MEMBERSHIP

9/17/87

WB2JHG - Mark Adams XYL - Alison
24 Branin Road
Medford, N.J. 08055
Phone: 609-654-4441

* * *

TID BITS

Sunspot No. for August 1987 = 38.6 Smoothed No. for February 1987 = 19.3

Atlantic Director, Hugh A. Turnbull, W3ABC, and Atlantic Vice Director James M. Mozley, W2BCH were declared elected for another term. Congratulations!

Congratulations to the Pattisons, Jorgeann and Rich (K3ACR) on the marriage of their daughter, Kaye. Best wishes to the bride and groom.

N3CX, Dave Hackford, our Vice Prez, conducted the September meeting in fine style due to Bob N2SB our Prez, being out of town.

WB3JYO, Paul Drexler gave an excellent technical presentation at the September meeting. You will be hearing more from Paul on other matters; he accepted the appointment as Chairman for the January VHF SS.

Russ, N2CIA located in North Jersey will be the Net Control on 28.350 Mhz every Sunday morning at 11:00 A.M. (1500 UTC). Check-in with Russ.. He has been a friend of the Pack-Rats for many years.

* * *

SWAP SHOP

FOR SALE: 1 Each KLM 50 Mhz 7 element light duty Yagi \$75. 1 each 432 Mhz "D" band amplifier cavity - 10W in - 250W out \$65. 1 each TA-33 Jr. 3 element triband Yagi - 10/15/20 \$40. 1 each Wilson Sy-33 3 element triband Yagi \$100. 2 each 30 x 60 office desks, walnut and black \$75 each. Speaker system - Dalquist DQ-10 with sub-woofer, passive crossover and stands \$1050. Motorcycles - Honda 550F and Honda CB900C - Call for price.

CONTACT: Steve, KF6AJ/1

Phone: 203-746-1459 and leave message.

FOR SALE: Tubes, speakers, 8 trk tapes, 15 in. sears color tv, HO train stuff, large capacitors, reel to reel stereo, tape recorder/player & tapes, cassette players, panel meters.

CONTACT: Doc, K3GAS

Phone: 215-635-1078 for appointment.

FOR SALE: From Estate of Bob Elmer, K3ZPQ.

Heath Shawnee 6M xcvr & P/S, Ameco TX642 xmtr, Swan 350, Electronic measurements Cap - V/O mtr. Model 102, Philco Electronic Circuit Master V/O Mtr. Model 7001, H.B. Band switched VHF'r, 5 position coax switch, stethoscope type ear phones, 6 porcelain ant. insulators, Kodak Brownie Movie Camera, Bell & Howell movie projector & screen. The following books: Branwell New Encyclopedia of Machine Practice - 1941; Morecroft-principles of Radio Construction - 1921, FM by Rider - 1940, David Grimes - Meet the Electron - 1944, ARRL Antenna Book - 1954; SSB for the Amateur - 1958; Handbooks 1941 - 1964, License Manual - 1962, Sams Extra Class Handbook - 1965, VHF Manual-Tilton - 1965, I.C. Projects Handbook - 1965, Kodak - How to Make Good Pictures - 27th Edition.

CONTACT: Doc, K3GAS

Phone: 215-635-1078 for appointment

* * *

COMMERCIAL AD

LOOP YAGIS: 902 Mhz and 1296 Mhz \$77 kit, \$93 assembled and tested. 2304 Mhz \$67 kit and \$80 assembled. Also, 2 and 4 way power dividers and stacking frames. LINEAR AMPLIFIERS. 1296-10W in 35W out \$295. Call for special Pack-Rat discounts and prices on complete arrays! NEW!! Microwave Transverters and preamps by LMW ELECTRONICS. 2304 Mhz deluxe transverter Model 2304 TRV2D; 144 Mhz I.F. Power out 2 watts, includes separate GaAsFET preamp, NFI db and built-in T/R sequencing circuit, relative output meter and built-in I.F. Attenuator to match inputs from 100 MW to 10 watts. Price complete \$569; 1296 deluxe transverter, model 1296TRV6D similar to 2304 unit 6-7 watts out. 7db N.F. price \$489. Stripped down versions available at lower cost, also available in kit form. 902 Mhz version coming soon. Universal local Oscillator Kit model ULO. Multiple outputs in 1 and 1.2 Ghz range depending on xtal. \$33.75 less xtal. Write to obtain complete catalog. DOWN EAST MICROWAVE, Bill Olson, W3HQT, Box 1655A, RFD #1, Bernham, ME. 04922. Phone: 207-948-3741.

* * *

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FOR SALE: NOW AVAILABLE -- Johnson 6n2 meter w/EICO modulator VFO, \$35; Gonset G50 6 mtr. xcvr, \$75; Hammurlund HQ-145X Gen. Cov. Rcvr, \$99. Hammurlund HQ-170 Ham Band rcvr, \$99. Hallicrafter Amplifier for H.F. (10-80) needs work, \$125. National NC-303 rcvr needs work \$95. Johnson Adventurer novice xmtr, mint, \$75. Drake R4B rcvr, \$175. Drake 2B rcvr w/Q multiplier \$175. Drake SPR4 shortwave rcvr, \$275. Have a successful VHF Conference and see you at "HAMARAMA

CONTACT: Tony Musero, K3UKW

Phone: 215-271-8898

* * *

WANTED: Table saw complete with rotary blade and motor.

CONTACT: Johnnie Allen, W3CXU

1119 Highland Avenue

Abington, Pa. 19001

Phone: 215-885-9839

* * *

FROM ARRL LETTER

" The amateur community was surprised to see a proposal by Forest Industries Telecommunications (FIT). This group had filed supporting comments in FCC Docket 87-14 which proposes to delete two MHz of amateur spectrum and reallocate it to the Land Mobile Service. In fact, FIT's comments not only supported the proposed reallocation, but suggested that the proposal did not go far enough, and that an additional one Mhz should be deleted from the Amateur Radio Service as well!!

Our comments asked the FCC not even to consider the FIT proposal: "...it can hardly be said that FIT is in any position to be appointed guardian of the amateur radio call sign assignment system. FIT's interests are in direct conflict with those of the Amateur Radio Service, and even the filing of its proposal is an affront to those who honestly seek to serve amateur radio in this proceeding. An entity such as FIT cannot be counted on to have in mind the best interests of the Amateur Radio Service when it is at the same time attempting to take away the frequencies on which that service operates."

* * *

NATIONAL DISASTER MEDICAL SYSTEM DRILLS

Again this fall, Districts 1, 3 and 4 in Eastern PA's ARES will participate in exercises testing the National Disaster Medical System. The purpose of NDMS is to assist state and local authorities in dealing with the medical and public health effects of major peacetime disasters. While this exercise will involve hospitals in 7 southeastern PA counties, hospitals in Lebanon Co. (Dist.2) and Luzerne Co. (Dist. 6) are also part of the total NDMS plan. Eastern PA is one of 71 reception centers in the U.S. which could provide care for casualties resulting from a disaster elsewhere, that overwhelms or destroys local medical facilities.

ARES's responsibility in NDMS exercises is to relay patient information to the hospitals waiting to care for them.

1987 Drills will take place on 3 dates, chosen by NDMS and local authorities, not by ARES leadership. All Amateurs wishing to participate are welcome, whether or not they live in a participating county. Please contact the county ARES Emergency Coordinator or the District Emergency Coordinator to volunteer.

DATE	County	ARES EC	ARES DIST.
September 26:	Philadelphia County.....	Mike McLaughlin WB3JHX	1
	Delaware County.....	Vic Tenaglia KD3DE	1
October 10:	Chester County.....	Rich Eckenrode WB3AAC	1
October 31:	Berks County.....	Eric Olena WB3FPL	3
	Lehigh County.....	Evan Richards WB3HVJ	4
	Bucks County.....	Dan Mignogna WB3IPX	1
	Montgomery County.....	Tom Gibson W3EAG	1

District Emergency Coordinator 1: Bob Rhoads KC3B (@ K3PGB)

District Emergency Coordinator 3: Carl Zimmerman W3EEK

District Emergency Coordinator 4: Tom Teel KB3UD (@ KB3UD)

Yes, that's a new name as ARES Emergency Coordinator for Bucks County. Ed Andrews WA3TRX has "retired," with our best wishes and thanks,

(Thanks - Kay Craigie, KC3LM)

PROPAGATION REPORT

Paul Drexler, WB3JYO

Well, if you've been sitting by the pool or spending all your time at the shore this summer, then you probably missed out on some really good openings. We'll attempt to recap a few.

The six meter band produced what seemed to be almost daily openings during the month of June. Many of these openings lasted for hours at a time - the larger E skip openings were observed on the 3rd, 9th, 10th, 14th, 15th, 22nd, 29th, and 30th of June. Six meters was 'the band' during the June VHF contest. Openings on the 17th, 21st, 22nd, and 23rd of July were also observed. Grids to the south and midwest were commonplace with an occasional double hop to the west coast. WA1QUB, W2IDZ and others have reported contacts to Europe during June and July.

June and July were also marked by a number of two meter E skip openings. In particular, EM12, EM13, EM15, EM16, EM32, and EM88 were worked by this author on the 30th of June; most signals were over S9.

The 14th of August produced openings from 144 MHz through 432 to TN, GA, and SC. Additionally, WB2NPE reports excellent results on 220 MHz during the Perseids meteor shower on the 13th. Rick worked a number of midwest and southern grids including EN16, EM84, and EM75. Bursts of 30 second durations were common. The August UHF contest had average propagation. On the 25th of August a very strong Aurora was present.

More recently, another good opening to VE1 land and the northern MI area took place on the 1st of September. 'NPE reports contacts with EN's: 83,84,64,65, and 75. Propagation through 1296 was observed at times. Rick worked WB1DU (EN83) on 1296 with good signals. VE1AKT (FN64) and VE1UT (FN74) were worked by a number of locals on 2. A shorter, less intense opening was observed on the 5th of September. The September contest was comparatively uneventful although propagation was not terribly bad. The author worked K2UOP (FM17) on 1296 with Tom running only 6 watts.

There you have it, see you guys on the bands! You might want to dust off those rigs before the January contest!

CONFERENCE '87

- 0900 MOUNTAIN TOP CONTESTING: John Lindholm, W1XX, has operated most of the VHF contests of the past several years from the outdoors. John will talk about his experiences on the mountain tops and how to make operating outdoors fun. This presentation will have a slide show and will cover equipment necessary and locations from which to operate.
- 1015 6 METER BAND PLAN/DX WINDOW: Rick Connor, WB2NPE, will moderate a panel discussion on the 6 meter dx problem. Considerable controversy has been raised in recent years over the use of 6 meters in contest and other active situations. Active and knowledgeable amateurs will be on the panel. Your input is REQUESTED!
- 1115 SHF RECEIVING SYSTEMS: Geoff Krauss, WA2GFP, will discuss receivers from 2304 and higher in detail. Geoff will cover the front end through the if and will show some circuit diagrams for the components. Some of these receivers have been used at W2SZ/1 in the recent contests.
- 1215 LUNCH
- 1315 3.4 and 5.7 GHz SYSTEMS: Ron Whitsel, WA3AXV and Dave Mascaro WA3JUF, have designed and built several transceivers for SHF frequencies. Construction of lo's, amplifiers, and other components to make a complete system will be covered in detail. The transceivers which the Packrats used at Spruce Knob this year will be on display.
- 1430 902 AMPLIFIERS: Ken Schofield, W1RIL, has spent considerable time developing reproducible tube type amplifiers for 902 MHz. Some examples will be on hand and construction will be covered in detail.
- 1415 Afternoon break
- 1530 GASFET UPDATE: Joe Reisert, W1JR, Editor of the VHF and UHF world in Ham Radio Magazine, will present new circuits for gasfet amplifiers for VHF thru 1296. Joe will cover some theory and will have considerable practical information. Some examples will be shown.
- 1645 CONFERENCE ENDS
- 1830 COCKTAIL PARTY Hospitality Suite hosted by the "Packrats"
- 1930 Buffet Dinner Conference Room

The details for the 11th annual VHF CONFERENCE are being finalized. There is something in the program for everyone this year. In fact there are programs for just about all frequencies from 6 through 5760. The conference is at the WARRINGTON MOTOR LODGE on Saturday, October 10th. Hope to see you all there.

73, Gary Hitchner, WA2OMY - Conference Chairman

INSTRUCTIONS FOR CONVERTING F196/U CAVITY TO 220

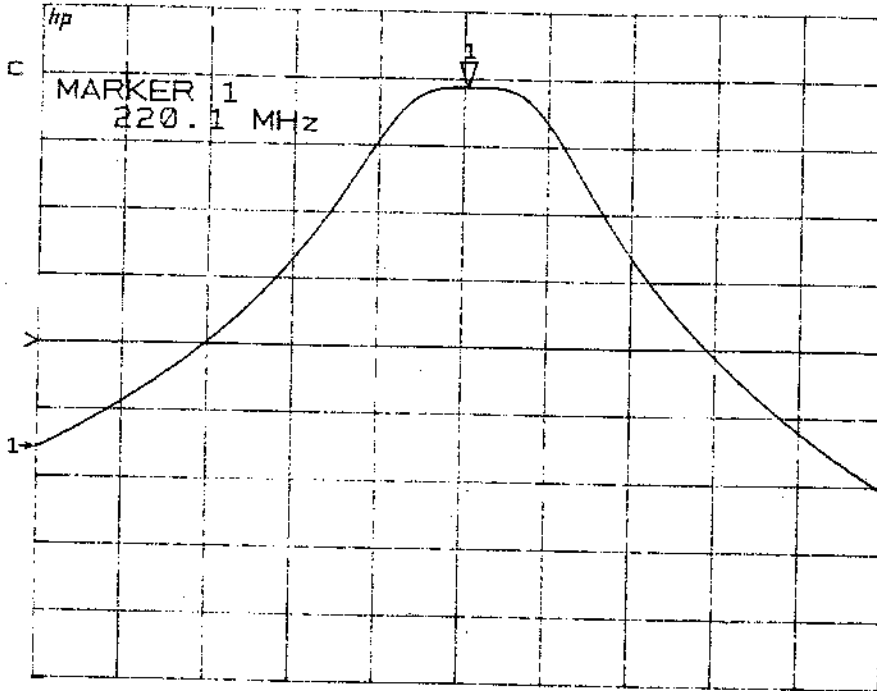
THESE UNITS ARE AVAILBLE FROM FAIR RADIO SALES IN LIMA OHIO.

- 1) PLACE UNIT ON BENCH AND REMOVE 12 3/8 INCH NUTS ON BACK OF CAVITY. (2 NUTS ON EACH SHAFT).
- 2) REMOVE BACK OF UNIT BY PULLING PLATE OFF OF THE SHAFTS. THE CAVITY TUBES MAY ALSO COME OFF AT THIS TIME, IF NOT ALSO REMOVE THEM.
- 3) INSPECTION WILL SHOW THAT THERE ARE TWO CUPS IN EACH CAVITY. ONE CUP IS STATIONARY ON A SHAFT THAT CONNECTS TO THE BACK WALL AND ONE CUP ON A SHAFT THAT TURNS, CONNECTED TO THE FRONT KNOB.
- 4) SINCE THE CAVITY NEEDS TO RESONATE A LITTLE HIGHER IN FREQUENCY LESS CAPICITY IS NEEDED. REMOVE THE CUP THAT IS CONNECTED TO THE FIXED SHAFT ON THE BACK WALL. THIS MAY BE DONE BY EITHER REMOVING THE SCREW ON THE BACK WALL AND REMOVING THE CUP AND SHAFT OR REMOVING THE CUP OFF THE SHAFT, DEPENDING ON HOW YOU INTEND TO NARROW THE CUP.
NOTE: THESE SCREWS HAVE SOME SORT OF LOCKTITE IN THEM, USE A PROPER SIZE SCREWDRIVER!
- 5) IF A LATHE IS AVAILBLE TURN THE CUP DOWN TO 1/2" OR USE A HACKSAW AND A VISE. IT MAY BE HARD TO MAINTAIN ACCURACY WITH A HACKSAW HOWEVER SHOULD WORK OKAY. IT WOULD BE BETTER TO HAVE LESS THAN A 1/2" THAN MORE.
- 6) WHEN DONE THE CUP SHOULD MEASURE 1/2" BY 1 3/4". THE OTHER CUP SHOULD BE 7/16" X 1 1/4" .
- 7) REASSEMBLE CUPS ON THE SHAFTS AND REASSEMBLE CAVITIES. NOTE THE SLOTS IN CORNER OF END PLATES TO REASSEMBLE PROPERLY.

CAVITIY SHOULD TUNE TO 220. ENCLOSED IS A PLOT OF PASSBAND RESPONSE AND RETURN LOSS. THE INSERTION LOSS SHOWS APPROXIMATLY .7 DB AND GOOD RETURN LOSS. WHEN TUNING THE FILTER ADJUST BOTH KNOBS A COUPLE OF TIMES TO GET BEST PEAK. FOR THE SIZE OF THE UNIT IT HAS GOOD PERFORMANCE AND I THINK ITS A BARGIN!

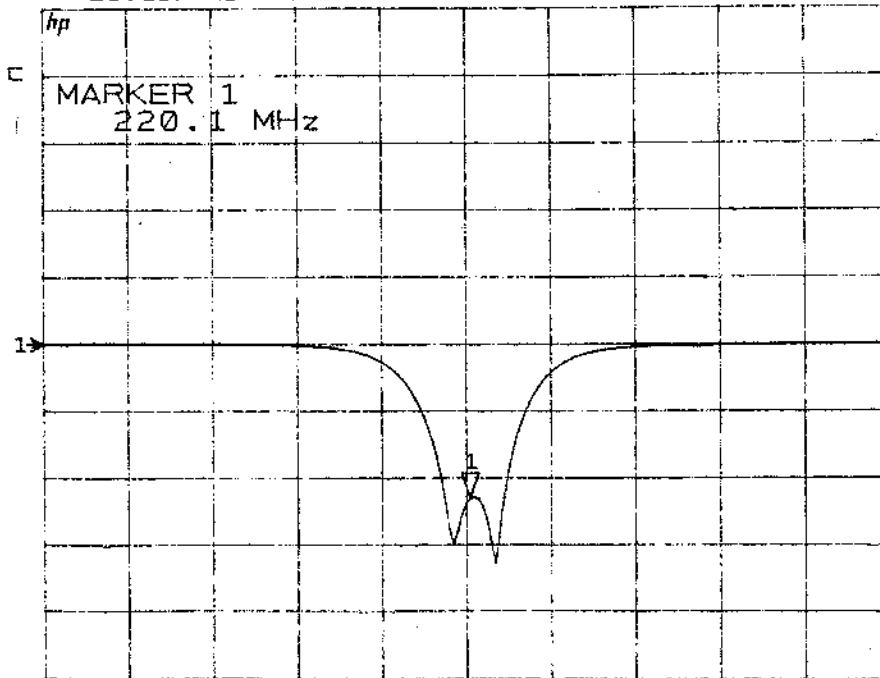
GARY HITCHNER, WA2OMY

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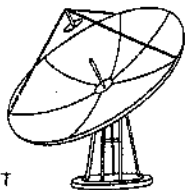
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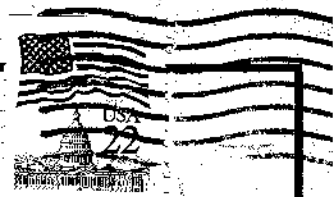
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