

# PACK RATS'



**PACK RATS**

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

# CHEESE BITS



MT. AIRY VHF RADIO CLUB, INC., PHILADELPHIA, PENNSYLVANIA ARNS  
50.125, 144.150, 220.125, 432.110, 1296.110 MHz-W3CCX-Repeater 222.98/224.58 MHz  
Affiliated Club: AMERICAN RADIO RELAY LEAGUE  
Meetings: Third Thursday of each month at 8:00 P.M.  
Southampton Free Library, 947 E. Street Road  
Southampton, Pennsylvania 19866

VOLUME XXXI

AUGUST, 1989

VOLUME 8

## THE PREZ SEZ

It was nice to see the turn out for the postponed White Elephant Sale. For those who couldn't make it you missed a lot of nice goodies for those construction projects, plus some nice boat anchors. I guess the best deal was a Swan 6 mtr transceiver for --- it was cheap (working).

The latest information we have received on the 902 MHz band plan vote is "THE VUAC HAS VOTED TO KEEP THE INTERM PLAN THAT IS IN EFFECT NOW", good work men. That reminds me, being on the subject of 902 MHz. Hey members let's get that 902 MHz gear going. Starting with the September meeting we're going to take calls for the 902 MHz club project, let's get the band populated so we don't lose it. There is all kinds of new ckts, easy to build and I'm sure you'll like building the transceiver.

Because I've been named president I have to express my concern on the activity of the membership. Come on folks, let's get active and how about digging out the club constitution and reading page #1. If you don't have a copy, here are the club OBJECTIVES:

- (1) TO FORM A BODY OF MEN AND WOMEN INTERESTED IN THE USE OF THE VERY HIGH FREQUENCY RADIO SPECTRUM AS A MEANS OF COMMUNICATION.
- (2) TO ENCOURAGE PARTICIPATION IN COMMUNICATION CONTEST WITH OTHER RADIO AMATEURS AND RADIO CLUBS IN THE UNITED STATES AND OTHER COUNTRIES.
- (3) TO ASSIST IN EVERY HONORABLE WAY THE DESIRES OF OUR FELLOW CLUB MEMBERS TO SECURE BETTER AND MORE RELIABLE RADIO COMMUNICATION AND TEST EQUIPMENT.
- (4) TO ENCOURAGE APPLICATION OF THE HIGHEST ENGINEERING KNOWLEDGE AND STANDARDS IN THE DESIGN, CONSTRUCTION AND USE OF RADIO COMMUNICATION EQUIPMENT.
- (5) TO PROMOTE AN INTERCHANGE OF IDEAS AND TECHNICAL INFORMATION BETWEEN MEMBERS AND TO ASSIST EACH OTHER IN THE DESIGN, CONSTRUCTION AND ADJUSTMENT OF RADIO EQUIPMENT.

What you just read was the objectives of our club. Let's go membership - come on out to some meetings and put forth some input on all your activities.

(continued on Page 3)

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PACK RAT REPEATER 222.98/224.58 MHz - W3CCX  
LOCATED IN CHURCHVILLE, PA.

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MONDAY NIGHT NETS	NET CONTROL
7:30 PM - 50.125 MHz	W3CL
8:00 PM - 144.150 MHz	W2EIF
8:30 PM - 220.125 MHz	WC2K
8:30 PM - 224.58 MHz	K3GAS
9:00 PM - 432.110 MHz	WA3AXV
9:30 PM - 1296.1 MHz	WA3NUF

\* \* \*

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CALENDAR OF COMING EVENTS  
By Harry Brown, W3IIT

AUGUST

- 5-6 ARRL UHF Contest, 220 MHz and up. See July QST, page 93 for rules.
- 6 Red Rose Computer Fest, McCaskey High School, Lancaster, PA. SASE to: Computer Fest Committee, P.O. Box 5092, Lancaster, PA 17601 for details.
- 12 Annual Pack-Rat Summer meeting and family picnic at QTH of N3CX. All Pack-Rats, wives, kids, friends, etc. invited. Call Sylvia Hackford, 215-679-7293 if you can bring covered dish to share. Start time is 12 noon. Bring swimsuits and lawn chairs. Rain date August 26.
- 12 Predicted peak of Perseids meteor shower - the best shower offered by Nature! Listen for activity on 6, 2, and 220 from 8/10 through 8/14. Tune 3818 (75 meters) to listen in on sked-making and reporting. This is a great opportunity to work a new DX state or grid on VHF/UHF!
- 13 Mid-Atlantic Amateur Radio Club Hamfest, at the Bucks County Drive-In Theatre on Route 611, Warrington, PA (site of Hamarama). Talk-in on 147.66/.06 or 146.52 by WB3JOE.
- 19-20 First weekend of ARRL 10 GHz cumulative contest. See page 102, June QST for rules. Second weekend is Sept. 16-17.
- 19-20 NJ QSO Party. See July QST, page 95 for rules.
- 20 Delmarva Hamfest at Delaware Technical Community College, Georgetown, Del. Talk-in on 147.075 rprr/146.52/224.84 rprr.
- 27 Gloucester County ARC Hamfest, Gloucester Co. 4-H Grounds, RT 77, Mullica Hill, NJ. VEC Testing. Talk-in on 146.52/147.18 rprr. For info: contact 609-772-6352.

OF POLITICS AND HAM RADIO  
Rick, WC2K

No doubt, you have observed the vast paragraphs in Cheese Bits which pertain to FCC-ARRL-amateur matters. Unfortunately our hobby has been threatened by major political influences and decision making from the regulating agency and groups of our own. As much as W3CL and I would like to fill the newsletter with good news of technical and operating nature, it is our responsibility to the Pack-Rats and readers to keep you informed of the sticky issues. Amateurs have never been burdened with the volume of adverse political effects as we are currently experiencing. So, carefully read about these matters and do what you can to support our interests. Come to our meetings and be vocal with your ideas and opinions. Hopefully, these obstacles will be overcome soon by the VHF/UHF weak signal operators.

\* \* \* \* \*

THE PREZ SEZ (continued) There are alot of members in our club who will help you get into the latest technical stuff; DON'T BE SHY!! I hope to see alot of you at the picnic at my QTH on August 12th. Well, that's all for now... hope you catch that good tropo opening.

73, David T. Hackford, N3CX

PROPAGATION REPORT  
Paul Drexler, WB3JYO

It's been a busy month for the serious VHF'er. Propagation is HOT - there's been lots to work on the bands, as indicated by this month's report.

On June 18th WC2K reports working CO2 and HI8 on 6. For Field Day weekend on the 24th and 25th, 6 opened several times briefly to the west. On July 2nd we had some good tropo conditions, N3CX reports 432 trop to NC, SC. WØRSJ was in the right spot to catch some very short duration 144 Es to NC, SC, and GA at 2250 GMT, Bill says the opening lasted all of about 10 minutes! Good Going, Bill! On the 5th 144 really opened up, with over 2 hours of solid Es to south FL! Signals from grids EL86, 87, 88, 94, 95, 96, and 97 were S5 to over S9 for most of the opening. The FL boys worked as far north as New England and as far west as Ohio. Rick, WC2K also reports working HI8PM on 6. Our New England representative WALYHO reports Es again on the morning of the 9th around noon; the opening moved from south GA up as far north as MN, Gary worked 7 new grids during the opening! At 2000 GMT on July 9th WC2K reports working EA8/G3JVL, CR8LN (CT1LN with a special call prefix), and CT4KQ, all having 57-59 signals. Hal, W3HFY reports double hop on 6 to the west coast, and then short skip on 28 and 50 MHz. Later that evening, K4QIF was S9 on 144; the band showed some signs of enhancement but nothing seemed to come of it. On the 18th, 6 again opened to the west coast with double hop to W6/W7 land, and simultaneously with single hop to WØ/W5/W9. Propagation then shifted south to FL and CØ2, WC2K reports working CO2KK with 599 signals. The same evening New England had a coastal duct to VE7 land on 144 (and possibly higher), WC2K notes that the duct reached our area just past midnight, Rick worked VELYX (FN74), and VELALQ (FN65). Rick notes that Bob, VELYX, well known to 6m, had a nice 25W signal on 2. Bob is the only active station in FN74, and plans to remain active on the bands (TNX WC2K).

TID BITS

- Doc, K3GAS & Al, K3EOD are home now recuperating from surgery. Our good wishes, guys!
- Steve, KF6AJ was sorry he missed the June VHF QSO Party on FNØ1 - he spent a number of weeks in Germany on business.
- Bert, K3IUUV & El, K3JJZ visited St. John, U.S. Virgin Islands. They were scouting out the competition in the Caribbean!

LETTER FROM ED, K3ZCY

Hi Harry, W3CL,

Had a nice vacation and got to visit many friends back East from Landsdale to Allentown.

Enjoyed Pack-Rat check-in on Monday nite, on 144, 432, and 1296. Rag-chewed with N3CX long time that evening on 1296, was portable in Montgomery County, and he was +20 over, without a preamp! Hi!

Got a surplus 20 watt 11 GHz repeater, and for winter project, modify it for 10 GHz and then pick a hilltop, have 24V from (2) car batteries, and try to work the Pack-Rats on 10 GHz running 20W from TWT, with 3' dish next June!

Best 73,

Ed, K3ZCY, FMØ9 AV

(Ed's note): Pictures of Ed's mobile UHF arrangement and view of his favorite FMØ9 hilltop appeared in the May issue of VHF/UHF and Above Newsletter. His car sports a PA license plate which reads "1296-DX"!

### SWAP SHOP

FOR SALE: Yaesu FT-736R w/50 MHz, 144 MHz 220 MHz, & 432 MHz modules like new condx - \$1600. Yaesu FT-221R 2 mtr all mode good condx - \$200. SSB LT23S 1296 transverter 10 w out excellent condx - \$325. Homebrew 903 transverter 8 w out - \$220. RF concepts 220 amp 30 w in 120 w out w/GaAs FET - \$195. Cushcraft 4218 2 mtr boomer - \$90. KLM 14 element loop yagis w/divider, frame & harness - \$130.

WANTED: KLM 50-52-11 11 element 6 mtr antenna.

CONTACT: MIKE, N3BBI at 215-767-5891 8 AM to 2 PM or 717-325-3580 4 PM to 9 PM & weekends.

FOR SALE: NC 303 rcvr, very good condx, xtal calib, spkr - \$65.

CONTACT: DOC CUTLER, K3GAS  
PHONE: 215-635-1078

FOR SALE: Kenwood DG-5 frequency counter for TS 520S. Mint condx - \$125.

CONTACT: PAUL, WB3JYO  
PHONE: 215-441-1402 (w)  
215-598-3934 (h)

FOR SALE: KLM 2 mtr linear amp. - 10 w in - 160 w out - \$125.

CONTACT: SUE SMITH, K3YL  
PHONE: 215-547-7181

### COMMERCIAL ADS

HAM RADIO MAGAZINE: HR is the leader in Amateur Radio state-of-the art! Projects for every interest. Plus Joe Reisert, W1JR. Act now. Don't miss another exciting issue! Greenville, NH 03048 (603) 878-1441.

LOOP YAGIS: 902 MHz 33 element \$82 kit, \$99 assembled and tested. 1296-45 element \$82 kit, \$99 assembled and tested. 1296-55 element (New "Super Looper") \$99 kit, \$119 assembled and tested. 2304-45 element \$67 kit, \$80 assembled and tested. Also available: Element and hardware kits for above. 2 & 4 way power dividers. Discount on complete arrays. Solid State linear amplifiers, 13.8 VDC: 1296 MHz, 8 W in 35 W out \$305, 1 W in 20 W out \$55. Coming soon; 65 W Solid State Linear for 1296. GaAs FET preamps 902 MHz .8db NF \$80, 1296 .8db \$80, 2304 1db max \$125. Universal 1 GHz LO kit \$48 less xtal, 700-800 MHz LO kit \$48. Xtals available. Write for complete catalog: DOWN EAST MICROWAVE, Bill Olson, W3HQT, Box 2310 R.R. 1 Troy, ME 04907 - 207-948-3741.

MICROWAVE PARTS FOR SALE: All prices shown are POSTPAID. Check with a Ham Callsign accepted. 10 GHz Gunn Sources: All work the same. They run on +7.5 vdc, put out about 5 milliwatts, come on 10.525 GHz, but tune down to 10.1 GHz or lower w/no modification. They include a Detector Diode to allow for transceive operation. SOLFAN STYLE \$20. ROUNDHORN STYLE lightest, either 5" or 8" long, ur choice \$20. Most of the time, we also have odd units around, like FLATPLATE UNITS, OR SQUAREHORN UNITS WITH MOUNT TABS, OR GUNN SOURCES WITHOUT HORNS, OR WITHOUT DETECTOR DIODES, from \$10-\$20, SASE if interested. SPARE GUNN DIODES FOR ALL ABOVE \$5 each. BEGINNER MICROWAVE 10-PAGE BOOKLET describes fuzzbuster-busters, listening thru walls, doppler, and our experiment using K-Mart and auto radios for audio links. Don't expect too much! \$2 pp. SHF MICROWAVE PARTS CO., 7102 W. 500 S., La Porte, IN 46350.

### FLASH

Congrats to Jo (W2EIF) and Dolly who were married on July 23rd - Have many years of happiness!

VISITORS AT THE JULY MEETING

Loretta Cutler, XYL K3GAS, Elkins Park, Pa.

Ben Brown, K3CQZ, Philadelphia, Pa.

Bill Pileggi, KA3AIS, Abington, Pa.

John Ungerman, no call, Hatboro, Pa.

Carolanne Gearshka, WB2LKR (YL N2SB), Edgewater Park, NJ

Dale A. Van Aken, KA3UYQ, Washington Crossing, Pa

Gerd Meigel, WA3GHM, Levittown, Pa.

Carol Meigel, XYL WA3GHM, Levittown, Pa.

The Packrats wish to thank the Zimmermans for another FB summer meeting and White Elephant Sale!

ARRL MOTION FOR PART 15 STAY DENIED

From ARRL LETTER

On June 19, 1989, FCC denied the ARRL Motion for Stay of the effective date of the Part 15 revision. In the Motion for Stay, the League demonstrated that irreparable harm would occur if the new Part 15 standards are allowed to go into effect as scheduled on June 23, 1989.

Part 15 devices are unlicensed, low power transmitters, such as garage door openers. The League argued that the general radiated limits for Part 15 devices are too high and warns against the co-location of Part 15 devices and amateur stations due to the interference potential. See June and July QST Happenings columns and July Cheese Bits for history and info.

In the denial of the FCC motion, FCC states "Although we appreciate the League's fears of increased interference..., they are unfounded. For instance we (FCC) are unaware of any interference to amateur operations from Part 15 devices in operation between 1.705-30 MHz. The large numbers of licensed users effectively preclude the general operation of Part 15 devices... Similarly, it not likely that this situation will change. Within the band 30-900 MHz, the low emission levels permitted for Part 15 transmitters effectively preclude the operation of these devices except in relatively shielded areas or on vacant bands. Thus the potential for Part 15 transmitters to cause interference to amateur operators is self-limiting!" FCC stated that interference "does not appear" to be a problem for these devices.

ARRL Counsel Chris Imlay commented on the denial at a June 24 Executive Committee. He noted that according to FCC statistics, interference complaints resulting from inadequacies in the design and manufacture of consumer electronics equipment and involving amateur stations appear to be declining. "There are several possible explanations for this, including the fact that it is difficult to lodge a complaint with the FCC owing to staff shortages and overloaded telephone lines." He recommended the collection of data to demonstrate that the problems that had led Congress to adopt Public Law 97-259 have not been solved.

The Court of Appeals denied the motion on June 21. Thus the new FCC Part 15 rules are now in effect.

SUMMARY OF ZF2NV/ZF8 6-METER DX-PEDITION  
By Harry Schools, KA3B

Upon my arrival on Little Cayman Island on Sunday afternoon, June 4th, it was learned from Ron Sefton, ZF8AA (my host) that the 5 element beam and rotor which I had shipped to him a month earlier had not arrived. Ron had the shipping bill in hand from the cargo company but the items could not be located. This proved to be a major setback as Little Cayman is an island of only 25 permanent residents, no stores, one public telephone, and a grass air strip with flights only a few days in and out each week. Getting another antenna shipped in was out of the question due to the time element involved of my stay and the availability of cargo space on arriving aircraft. On Monday, June 5th, a wire dipole was fashioned utilizing PVC tubing as its support. This antenna was meant to be a temporary quick-fix in hopes that the beam would arrive later in the week - it never did!! A few days later we attempted to construct a 3 element wire beam using PVC as supports, however I wasn't happy with its performance. In addition, since the rotor never showed up, it was a pain to continually run 150 feet to the antenna while fighting mosquitoes in order to tweak the beam on incoming signals. For this reason I opted to stay with the dipole. Unfortunately, the first 5 days of operating were frustrating. I would sit on 28.885 MHz. listening to Europeans working crossband non-stop while sporadic-E in our part of the world was practically non-existent. And when the sporadic-E did appear, it was almost "scatter-like" with 10 to 15 seconds of extremely strong signals and then complete fade-outs. This strange type of phenomenon was also present during the ARRL June VHF Contest. The long awaited wide-spread E-skip with the 30 dB over S-9 signals never did materialize. All week long ( and during much of the contest weekend) making contacts was hit and miss. The E-skip just couldn't seem to evolve into a solid opening without fear of the band dropping out. Suddenly on Friday June 9th, I experienced a major scare. All of a sudden my IC-551 stopped transmitting. I was able to key the transmitter but there was no power output. After shouting obscenities and climbing the walls as if there was a conspiracy against me (no beam, no rotor, no propagation, and now no rig for the rest of my stay), I cooled down enough to put the rig on the workbench. Without a schematic and little electronic savy (I am not a technician) I managed to squeeze a few hundred milliwatts out of the rig. Apparently there was a problem with the driver section, or so I think. With this low power, I was able to squeeze about 5 watts out of my 100 watt linear. This wasn't much power, but it was enough to get me back on the air although I didn't fair too well in making contacts. Even when the band did open, most CQ's went unanswered as my signal was too weak. The only saving grace of my operation was the double-hop E-skip into W1, W2, and VE3 on my last night of operation, Tuesday, June 13th. This night saw the only decent opening of my entire operation. My hat is off to all of those stations that were able to copy my weak signal via double-hop and who had the patience to work me under less than optimum conditions. To illustrate the overall poor conditions, there were no openings to the west coast or much of the Midwest for that matter.

ZF2NV/ZF8 TOTALS: 142 stations worked in 6 countries and 73 grid squares.

Harry has operated a number of successful 6-meter DXpeditions and usually doesn't suffer from Murphy's influence! He may be heading out soon for a VP9 Bermuda operation. Keep us informed of your 50 MHz travels, Harry.  
-Asst. Ed.

FCC DECLINES TO RECONSIDER ITS 220 MHZ DECISION  
From WESTLINK REPORT

The ARRL says it will go to court to stop the reallocation of 220-222 MHz after the FCC acted on June 15 to reaffirm its decision to reallocate the 220-222 MHz band from the Amateur Radio Service to commercial land mobile interests. In doing so, the FCC rejected arguments presented in some 700 petitions for reconsideration that its original decision had failed to adequately consider the impact of the reallocation on radio amateur volunteers who supply public service and disaster communications services to government agencies and to the general public. The ARRL was among the parties requesting reconsideration.

"The Commission's action today is a disappointment, but not a surprise," commented ARRL Executive VP David Sumner. "The entire history of this proceeding is one of the Commission ignoring evidence that did not support its preconceived position. Now it will be up to the federal Court of Appeals to determine whether, by doing so, the Commission overstepped its bounds." Sumner observed that the ARRL Executive Committee had already decided to ask the US Court of Appeals for the DC Circuit to review the FCC decision in the event the Commission refused to reconsider on its own.

On June 7, Congressman Bob Wise (chairman of the subcommittee hearing to review the FCC decision) wrote to FCC Chairman Patrick urging consideration of four compromise scenarios in which essential interests of all parties to the allocations dispute would be preserved. Rep. Wise stated his desire "that the Commission make sure that every possible compromise solution is considered before it takes action on the pending petitions for reconsideration." ARRL Counsel Chris Imlay observed: "Despite Commission statements to the contrary, it was apparent today that no substantive consideration had been given to those alternatives. The US Court of Appeals for the DC Circuit has repeatedly held that an agency's stating a factor has been considered is no substitute for considering it."

In the course of discussion, the Commissioners did indicate that they would be willing to entertain, in some future proceeding, the possibility of some shared use of the 216-220 MHz band. "We don't hold out much hope of this coming to pass," Sumner said. "The way for the Commission to demonstrate sincerity would have been to deal with this possibility now, rather than relegate it to some uncertain future time."

NUKES, ABORTION, TAXES... 220?

Radio amateurs have marched to protest the FCC action that resulted in the relocation of 220-222 MHz to commercial interests on July 9th. Since protest activities such as marching on federal buildings is not something that hams are accustomed to doing, organizing such an activity, especially on a nationwide scale, had hit and miss results. Perhaps the biggest success story was in Omaha, Nebraska where more than 50 people turned out for the "Hams Great March to Save 220". John Gebuhr, WBØCMC, notes that all of the media - including radio, TV, and newspapers - were there to cover the Omaha protest march, and everyone there felt a commitment to the activity. In Cincinnati, Paul Oldaker, NS8I, reported that his city's march was also a relative success, with about 50 participants and some media coverage. Chicago saw about 20 hams and supporters show up and reports are that the troops were very upbeat. Creating that kind of unity was one of the goals of the marches. Many participants across the country have agreed to meet again to share ideas on how to further the cause. (TNX WESTLINK and K9XI's 220 NOTES)



CONGRESS GETS INTO THE FREQUENCY ALLOCATION BUSINESS  
From WESTLINK REPORT

A proposal in Congress to enact new laws dealing with spectrum allocation will probably bring mixed blessings to amateur radio. According to the June 1989 edition of Federal Communications TechNews, House Energy and Commerce Committee Chairman John Dingell (D-MI) is circulating draft legislation that would reallocate at least 200 MHz of federal government spectrum to the private sector for commercial purposes, with special attention paid to new technologies.

Titled the "Engineering Telecommunications Technologies Act of 1989", the bill recognizes that approximately 40% of the assigned spectrum is currently held in reserve for federal government use, but many of these valuable spectral parcels are lying unused. The legislation notes that a scarcity of spectrum impedes our nation's productivity and its drive to develop new services. It directs President Bush, the Commerce Department, and the FCC to take steps to correct these deficiencies.

Specifically, the draft bill requires that within 24 months of enactment the Commerce Department must identify and recommend for reassignment all unneeded frequencies that are most likely to have the greatest potential for commercial use. A preliminary list of re-assignable frequencies would be due a year after enactment of the legislation. Also required would be for the Commerce Department to convene a Private Sector Advisory Committee composed of US-owned radio manufacturers, carriers, licensees, the FCC and all interested members of the general public who possess knowledge about the uses of the electromagnetic spectrum. This committee would be mandated to meet monthly to advise the Commerce Department and review the frequencies identified as re-assignable.

The plan reserves a significant portion of these frequencies for distribution ten years after enactment of the legislation and gradually distributes the remainder over the course of not less than ten years. The Dingell bill also contains provisions that permit the government to reclaim reassigned frequencies that the FCC might fail to reassign, and if reassigned, the government could still get them back, but only after supplying both timetables and estimated costs to users of the reassignment.

While this proposed legislation will bring spectacular fireworks in the private sector with manufacturers and government agencies jockeying to provide proof that particular spectrum is needed for a given purpose, this legislation would also be a double-edged sword for amateur radio. On the upside, the release of government spectrum for commercial use may help alleviate short term pressure for reallocation of amateur spectrum as was the case with the recent loss of 220-222 MHz to land mobile. But, it should be remembered also that some prime amateur bands are shared between various government agencies with ham radio the secondary user. Among these are 1900-2000KHz, 420-450MHz, 902-928MHz, 2300-2310MHz, and 2390-2450MHz as well as 5.650-5.925GHz. If the government were to decide in the long term that any of these shared bands were expendable, then it could mean their loss to the Amateur Radio Service as well. It is hoped that the ARRL will find itself selected to serve on the Private Sector Advisory Committee and thereby be in a position to lobby against reallocation of the dwindling VHF/UHF/SHF ham spectrum.

Well, that's enough politics to last us a while. Next month we'll get back on track with some good ole' VHF operating/technical reports and info. Plus there will be photos and diagrams of all the modifications we will have performed on N3CX's antenna system and shack during the Club picnic!

10 GHz EME AT WB5LUA  
DE 432 and Above EME NEWS

Al Ward, WB5LUA, joined the select group of 10 GHz EMEers by QSOing on May 30, 1989 WA7CJO at 1215Z and now holds one end of the EME distance record for that band - 888.5 miles. Al used a 9.5 ft., 3.3 f/d, spun aluminum, perforated dish with .090" diameter holes. The dish is mounted on a standard TVRO mount with a sighting tube for manual tracking. He had about 28 watts from a Litton TWTA and estimates about 18 watts at the feed due to 8 ft. of flexible waveguide (.8 dB loss) and two small coaxial jumper cables (1.4 dB loss). One ft. of 141 semirigid coax has 1 dB of loss at 10 GHz. On receive, he used a 3 ATF-13135 preamp through 10 ft. of 141 cable to a 2 ATF-13135 amplifier and a bandpass filter followed by a double-balanced mixer with a 1.6 dB noise figure. The addition of two TR relays for isolation increased his system noise figure to 2.25 dB. Al set up his system on May 29 and measured 12 dB of Sun noise and 5 dB of sky to a 50 ohm load noise. (The Sun noise figure is quite impressive as WA7CJO and KY7B report only 11 dB with their 16 ft. dish).

After getting the dish properly aligned, Al copied WA7CJO solid with an aurora sound quality; some tone was occasionally heard. They ran out of Moon window before a complete contact was made. He tried again next day and was perplexed to hear nothing from CJO despite such good signals on the previous try. The dish was properly aligned with the sighting tube. Al wondered if a tropo opening then in progress could be affecting the Moon signals. He tried aiming the dish slightly off the Moon and with the dish sighted two Moon diameters high, he began to copy WA7CJO solid. From then on, Al peaked the dish on CJO's signal and by the time they completed the QSO, the dish was tracking according to the sighting tube.

Al's feed is constructed from a monopole made from the center conductor of 141 coax. A tuning screw located diametrically opposite the monopole was used to obtain a better than 20 dB return loss. Al has also experimented with circular polarization using two monopoles at right angles, but notes that the quadrature hybrid coupler and extra line add at least .5 dB of loss. Al wants to express his thanks to Dave, KY7B for his help in getting him on 10 GHz EME. K2UYH is presently constructing a 10 GHz EME system which will utilize a dish and equipment apart from his present 432/1296 system. They hope to be on and running tests with WA7CJO/KY7B as you read this issue of Cheese Bits. Dave, WA3JUF, may be particularly interested in watching Al's progress as it is thought that they are using a 16 ft dish like the one he owns.

1989 AMATEUR OF THE YEAR NAMED  
From ARRL LETTER

Mayer D. Zimmerman, W3GXX, of Randallstown, Maryland, was named 1989 "Amateur of the Year" at the ARRL Atlantic Division/New York State Convention in Rochester, NY. The award recognized outstanding service to Amateur Radio, based on nominations from the Amateur community. Zimmerman has served as an officer and newsletter editor for the Baltimore Radio Amateur Television Society (BRATS) since 1974, helping stimulate the club's growth to over 250 members. He was one of the creators of the club's program of on-the-air activities and he frequently participates in public service events. "It's easy to find someone to do all these things until the novelty wears off. It's another matter to find someone who can perform these services well with sustained commitment" said Director Turnbull as he announced the award.

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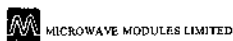
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