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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 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

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NUMBER 11

THE PREZ SEZ

It was nice to see the turn-out at the last monthly meeting (20 plus). Thanks again to Pat, WB3DNI and John, KB3XG for the Conference and Hamarama efforts.

Now it's on to the next major Pack Rat event - the January Contest. Bob, WB2YEH, is Contest Chairman and anyone who is in need of antenna or equipment work should let him know.

Don't forget to come to the November club meeting and bring those preamps. A representative from Hewlett Packard will be the guest speaker and will bring the latest NF machine for testing our pet preamps.

Once again I want to express the need for everyone that needs help in preparing for the VHF Sweepstakes to determine problems now and contact WB2YEH. Bob will get some club members to help you with questions and work.

CU on the bands; let's get those cobwebs out of the rigs and talk it up! Call me if you need help with the 903 construction.

Listen for the weak ones...

73, Dave, N3CX

DOC, K3GAS, SILENT KEY

It is with deep regret that we report the passing of Dr. Isadore "Doc" Cutler, K3GAS. The Mt. Airy VHF Radio Club extends condolence to the Cutler family.

Pack Rats CHEESE BITS is a publication of THE MT. AIRY VHF RADIO, INC. Philadelphia, PA. and is published monthly. SUBSCRIPTION RATE - \$5.00 PER YEAR

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215-672-5289

<u>MONDAY NIGHT NETS</u>	<u>NET CONTROL</u>
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

NOVEMBER

- 5 Predicted peak of the Taurids meteor shower at 0100 UTC.
- 7 Election Day.
- 4-5 ARRL November CW Sweepstakes. See Oct. QST, page 86 for rules.
- 9 Pack Rat board of directors meeting at the QTH of Ron, WA3AXV. Call 215-355-5730 for directions. All interested parties invited.
- 11 Veterans Day.
- 16 Regular meeting of the Mt. Airy VHF Radio Club at the Southampton Free Library on Street Rd. in Southampton, Pa.
- 17 Predicted peak of the Leonids meteor shower at 0938 UTC.
- 18-19 ARRL November Phone Sweepstakes. See Oct. QST, page 83 for rules.
- 18-19 ARRL International EME contest, second weekend. See Sept. QST, page 84 for rules.
- 23 Thanksgiving.
- 25-26 CQ World-Wide DX Contest, CW. See Sept. QST, page 85 for rules.

TID BITS

- Subscribers to Cheese Bits should send renewals to the club treasurer Bruce Loss, WA3YUE.
- Rich, K3ACR, will serve as NCS for the Monday evening 220 FM Pack Rat net on the club's repeater.
- Dues for 1990 may be sent now to Bruce, WA3YUE, or see him at any club meeting.
- Have you attended at least two club meetings this year? Remember, the ARRL requires all those who participate with a club in the January VHF SS to meet this minimum requirement.
- Several letters of sympathy for the loss of K3GAS have been received by the Pack Rats from other radio clubs. Among those clubs are the Maple Shade ARC and the Suburban ARC. Thank you for your concern.
- Guy, W4PSJ, attended the conference and Hamarama and sez, "The conference and fleamarket were great... and it's nice to find a fleamarket these days that is not dominated by sellers of computer stuff."
- Although the hamfest was a huge success, the help provided by club members was slim. Once again the parking of cars and sale of tickets was performed by a skeleton crew. We cannot continue to function this way! Hamarama provides the club with funds from which we all benefit! Those who continue not to invest even an hour of time to their club, cause the project to remain a great burden on those who do! Remember, this is our bread and butter!!
- KB3QM, Ron, has his upcoming star race horse, Backscatter, trained down to very competitive times. He's really rippin' up the track!
- This month's technical artical consists of page 4 which was missing from KB3XG's conference handout. In addition, a page of schematic diagrams pertaining to John's presentation are included.

PROPAGATION REPORT
Paul Drexler, WB3JYO

As the solar flux numbers continue to rise and the K index continues to fall, F2 propagation on 6 becomes more of a reality. Look out for that long haul DX in the days to come!

On October 14th at 1446 GMT WC2K worked on HC2 on 6; Rick commented that the propagation sounded more like Es than a solid F2 opening. During the same week the solar flux index reached 230, with the K index around 0 to 1. After 3 days or so of that type of solar activity, 6 opened up for several days of widespread, long haul propagaion to about every part of the US, but neglecting the East Coast! The West Coast reports working JA's and VK's, KH6 has been worked into the Mediterranean, and VA briefly got in on some JA, VK propagation. W3JO is reported to have worked a ZS6 (South Africa) on the 20th! (tnx WC2K)

On the 20th, 21st, and into the 22nd a strong aurora existed, WC2K reports propagation up thru 220 at times. Rarely do auroras last for this length of time; perhaps we'll see more of this in the near future. (As a side note it should be reported that K1PXE observes that auroras often correspond to the times of NASA shuttle missions! Pete has done extensive work documenting this phenomenon and perhaps will be giving a talk on the subject at next year's conference. With shuttle missions planned for the Thanksgiving and Christmas time frames, we might look for another good buzz in the near future!) Hi Hi!

On the 22nd at 1550 GMT, HC2GE (FIØ7) was worked by a number in the area on 6. Running a mere 2 watts Jim's signal was S3 and S5 in the Philadelphia area for nearly a half hour! This goes to show that you don't have to run BIG power on 6 to be able to work the DX when conditions are right.

During the week of the 24th a large, stable high pressure system pointed to a possible tropo opening. Conditions were above average on the Monday evening nets, but nothing completely unusual was reported. Perhaps as this report is being typed something will have happened... CU on the bands!

MORE TID BITS

-Ervin "Er" Hall, WD4GSM, has three beacons operating from EM87. They're on 144.054, 432.073, and 1296.075. Copied the 70 cm beacon in Tabernacle at 339 on evening of October 24th.

VISITOR AT OCTOBER MEETING

Ed Keener, W3AJS - Orelan, Pa.

IT'S OFFICIAL: ARRL GOES TO COURT FOR 22Ø

On September 28, ARRL filed a "Petition to Review Agency Order" with the United States Court of Appeals for the District of Columbia Circuit. The petition requests the Court to set aside the FCC reallocation decision in Docket 87-14 and remand the matter to the FCC for redécision.

The petition contains only a brief overview of ARRL's argument that the Commission's action was arbitrary, capricious, an abuse of discretion, and not in accordance with the law; the substance will come later, in the League's statement of issues and pleading. Tnx ARRL letter.

SWAP SHOP

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CONTACT: Charlie Giannetta, WA3RSQ
PHONE: 215-266-1552

FOR SALE: Pair of 19 el RIW 432 yagis w/KLM pwr divider, \$100.

CONTACT: Chuck, WA2ONK
PHONE: 609-586-7180

WANTED: Uniden HR-2510 10m xcvr.

CONTACT: Charlie, WA3RSQ
PHONE: 215-266-1552

FOR SALE: Complete 4 X 19 el RIW 432 ant. system w/yagis, phasing lines, H-frame, pwr divider - \$1000.

CONTACT: Ron Whitsel, WA3AXV
PHONE: 215-355-5730 (h)
215-441-2777 (w)

FOR SALE: Uniden HR-2510 10 mtr xcvr USB/LSB/FM/AM/CW 25 watt.

CONTACT: Gus, K3GYS
PHONE: 609-767-3628

WANTED: Kenwood TS-120 or TS-130 10 - 80m xcvr.

CONTACT: Gus, K3GYS
PHONE: 609-767-3628

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LOOP YAGIS: 902 MHz 33 element \$89 kit, \$109 assembled and tested. 1296 MHz 45 element \$89 kit, \$109 assembled and tested. 1296 MHz 55 element "Super Looper" \$99 kit, \$124 assembled and tested. 2304 MHz 45 element \$75 kit, \$89 assembled and tested. Also available: element and hardware kits for above. 2 and 4-way power dividers. Discount on complete arrays. Solid State linear amps, 13VDC: 1296 MHz, 8W in 35W out \$315; 1W in 20W out \$265, 4W in 70W out \$695. GaAs FET preamps: 902 MHz .8db NF \$90, 1296 MHz .8db NF \$90, 2304 MHz 1 dB max NF \$140. SHF Systems no tune xvrtr kits w/144 MHz I.F. now available for 902-3456 MHz. Write for complete catalog. DOWN EAST MICROWAVE, Bill Olson, W3HQT, Box 2310 RR-1, Troy, Maine 04907. For information and orders, call (207) 948-3741.

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

MORE MICROWAVE: All prices still post-paid; Ham call w/check OK. All items similar, w/about 5mw output on 10.525 GHz, w/detector diode and horn antenna. Solfan style, round-horn style (as in recent 73 Magazine) either 5" or 8" long or 50's style which has mouning tabs on large end of horn. I have a few Alpha units which are small, light, and don't come w/any horn, but have a good detector, \$20.ea. I also have two new horn antenna syles in stock, in quantity They are metalized-plastic, very pretty and light, w/regular 4-hole mount. The 8db one is \$9, 14db unit is \$14. WBFM modulator/pwr supply kit is \$16. Spare Gunns for all \$5ea. SASE for latest flyer. SHF MICROWAVE PARTS CO., 7102 W. 500 S., La Porte, Indiana 46350.

MICROWAVE GROUP, an amateur club from San Diego supplies a list of 10 GHz items available from them. 30 MHz IF strip w/pwr supply and modulator for use w/ GUNN oscilator/detector, includes board and TDA-7000 FM rcvr chip \$10. Project book cover IF systems, xcvr, ant. systems, test equipment etc. 119 pages including artwork \$15. CW EPROM IDer, includes chip w/your call like "DE N3CX/B" etched board \$12. Impatt cavity 10 GHz oscillator w/WG-16 filter, 30MW \$30. 50-100MW Gunn devices \$5ea. 100MW+ devices \$10ea. SAN DIEGO MICROWAVE GROUP, c/o Chuck, WB6IGP, 6345 Badger Lake, San Diego, CA 92119.

HAMARAMA'S HARD WORKERS

We wish to thank the following Pack Rats who donated their time to assist WB3DNI in the 1989 Hamarama:

John, KB3XG	Bob, WB2YEH	Gary, WA2OMY
Dave, WB2VLA	Wil, K3PHY	Jennifer, XYL-OMY
Bob, N2SB	Frank, W3BRU	Don, KA3MGB
Dave, KA3KSD	Bill, K3ESJ	Dorene, YL-MGB
Chuck, WA3IAC	Dave, WA3YDZ	Frank, AK3O
Bruce, WA3YUE	Paul, WB3JYO	Phil, WA3NUF
Dave, WA3JUF	Dave, N3CX	Bob, W3GXB
Gus, K3GYS	Dick, N3AOG	

MORE ON PROPAGATION

As the month of November begins, DX opportunities on six meters should come alive. You read much about daily predictions and the WWV propagation forecast numbers are tossed around, often with a degree of misunderstanding.

WWV, the time signal station in Boulder, Colorado, broadcasts propagation forecasts each day at 18 minutes after the hour on 2.5, 5, 10, 15, and 20 MHz. The forecast includes a brief announcement of values for solar flux index, A-index, and K-index. The solar flux index is a measure of the sun's radiation and the higher the number, the better for 50 MHz DX. Along with that high SFI, we need a low K-index. This value is a current (updated every 3 hours) measure of the activity of the geomagnetic field. A low value of 2, 1, or 0 indicates a quiet field, needed for DX conditions. The A-index is the least important value to watch as it is simply a recent history of the K-index. What we look for is a SFI of roughly 200 or greater and a K-index of less than 3. As sunspot activity increases, the numbers rise and fall like a rollercoaster and many times a "settling period" is needed before conditions are good. High solar activity causes the SFI to increase, however as a result of the solar disturbances, the K-index soars also. In the days following a disturbance, the SFI may creep lower in value, while the K-index drops abruptly. That's when it's a good time to call CQ DX on 6. One conciliation of the high K-index condition is the occurrence of Aurora when values exceed 4. Last March in the "Great Aurora" the K-index reached its highest recorded value ever - 9. That value gave us a 2 day Aurora with propagation up to 432 MHz!

F-2 conditions are best during local daytime hours and openings will follow the path of the sun. Early morning openings provide propagation to Europe and Africa, and late afternoon yields paths to Alaska, Hawaii, Japan, and Australia. This condition can be observed now on 10 meters as that band requires less extreme values for world-wide communications. Listen for WWV reports while tuning the 50 MHz band and pay attention to 28.885, the international 6 meter DX reporting net frequency. On the days when the K is at 3 or 4, try some deer hunting or a walk in the park with the family. Recent editions of the ARRL Handbook give additional details of WWV forecast interpreting and DX propagation tracking.

DOC CUTLER, K3GAS, 1915 - 1989

The Mt. Airy VHF Radio Club suffered a great loss on the morning of Saturday, October 7, as news came of the sudden passing of Isadore "Doc" Cutler, K3GAS. Those in attendance at our VHF Conference received the shocking news from an announcement delivered by Harry, W3CL. Doc died early that morning before he was to leave to attend the event.

Doc was a member of the Pack Rats for thirty years and held the office of President for two terms in 1965 - 1966. He was among the most dedicated members in the history of the organization. K3GAS was an active operator on 50 through 1296 MHz SSB and CW. His station was both a thrill and challenge to work on 1296 during the annual January VHF Sweepstakes contest! Since the installation of the club's 220 repeater, Doc has been NCS for the Monday evening 220 FM net. For the past nineteen years, Doc has been the guardian of the funds for the Pack Rats, serving as club treasurer. Recognizing the need to acknowledge the women in the lives of active Pack Rats, Doc organized and ran the Ladies' Night Banquet for over twenty five years. He served as Publisher/Subscription Manager for Cheese Bits since the day he became a member, and assisted at every conference and Hamarama. Those who participated in the Hilltown VHF contest expeditions will remember the food prepared and delivered to the site by K3GAS. We will all miss his ingenious, often exotic projects which he constructed and entered in our yearly "Homebrew Night" His intriguing experiments usually earned him a 1st Place award!

Doc's obituary revealed a life with which many of us may not be familiar. His nickname stems from his profession, a dentist for 45 years. He graduated first in his class at Temple University Dental School in 1940 where he also served as class president. Doc later became a U.S. Army captain in World War II. He was a member of several professional associations and societies and was an active member in Sigma Epsilon Delta, a dental fraternity. Doc also taught as an adjunct professor for the University of Pennsylvania School of Dentistry for 24 years.

K3GAS was indeed a busy man and yet his priorities were with his family, synagogue, and friends. Pack Rats who had the pleasure of Doc and Loretta's hospitality at summer general and executive board meetings will miss his kindness, patience, and that classic ham shack which was a great joy to visit. Doc Cutler leaves us with many great memories.

FROM THE ARRL PLAYBOOK - THE SCREEN PASS

The ARRL has asked the FCC to authorize 50 experimental station licenses for operation from 216.0 to 216.85 MHz and 217.15 to 222 MHz using all conventional emission types. It has also requested that 217.15 - 222 MHz be designated for the use of AXX, GXX, JXX, and FXX emission modes. These latter are forms of spread spectrum used for voice data from between 1.2 and 56 kb/s.

At the time that it reaffirmed its decision to reallocate 220-222 MHz to land mobile operations, the Commissioners invited the ARRL and the amateur radio community to petition for secondary access to the spectrum from 216 - 220 MHz. It is believed that the request for these experimental licenses is to provide data for that petition while, at the same time, testing the FCC on the sincerity of the offer. That is, if the Commission is sincere, then there should be no reason for it to deny the permits for the test stations. It is also expected that the ARRL would use this same data to refute claims or protests from broadcasters who are fearful of heavier occupation of the nearby spectrum by hams and the interference that this operation might generate. TNX Westlink Rpt., FCC TechNews.

HOW NOT TO BUILD A TRANSMITTER

(or How Not to Make Friends on the Bands...)

Paul Drexler, WB3JYO

1. Drive your mixer really hard so that during normal voice you always see the BIRD move, and don't forget to turn up the mic gain!
2. Operate each transistor near compression for maximum power.
3. Use as little bias current on each amplifier as possible - remember heatsinks are expensive.
4. Use class C transistors - that's about all you can get your hands on anyway.
5. Don't worry how clean your LO is; why waste a voltage regulator on an oscillator?

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