

CHEESE BITS



W3CCX

CLUB MEMORIAL CALL



ARRL
Affiliated
Club

SCANNED TO PDF BY BERT, K3IUV, 2013

VOLUME XLII

December 2000

Number 12

The PREZ SEZ

It is now December as I write this, and we are now moving into prime antenna work season. As I am now (again) travelling at 30k+ feet, I am looking forward to a jaunt at about 30 feet to put up my 10 gig dish. I am sure it will be down to the wire! With many irons in the fire, as the January contest approaches, I fear my improvements will be minimal. I changed jobs within the company to cut down on travel, and it backfired! I got assigned to a project running from California, and here I go again...

Well, from them mobile office atop the clouds, I must report that the awaited Leonids seemed to be a bust. I completed only one HSMS try, even though it should have been easy on SSB. From looking at the reflector, I wasn't alone. I hope I can use the mode for a few grids during the upcoming contest.

I haven't been able to do much radio since the Leonids. I have to admit that I did sneak in a week vacation (involving airports) that was refreshing. I took a HT and a repeater guide to the Caribbean, and then forgot all about it! Oh well, it was only FM. I have tried to keep the procurement process going for the needed improvements for January. I think I found some power for 3456 (so Mark, W2UR your amp loaner should be in the mail later this week (as well as a lead for 7 watts)). I hope everyone is in decent shape with their contest preparations. I look forward to the weekend of pure radio fun. Contact a club officer if you need help.

I am not sure if the plea will appear elsewhere in this months CB, but help is needed to keep the presses rolling for this publication in the future. Harry, W3IIT, will be migrating south for the winter and wishes to relinquish his editor duties. We either need to find a new editor or divide and conquer? It is not an easy job, so I am not sure how this will play out. If there are any willing members, please let me or Harry know. Training will be provided.

73 from the high elevation office. Ed, WA3DRC

MEETINGS

Third Thursday each month at 8:00 PM
Southampton Free Library
947 E. Street Road
Southampton, PA 18966

Pack Rats **CHEESE BITS** is a monthly publication of the
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Southampton, PA

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DEADLINE FOR ARTICLES AND SWAP SHOP IS THE MONTHLY MEETING DATE. NON-COMMERCIAL SWAP SHOP ITEMS-FREE OF CHARGE.

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PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz, Churchville, PA FN20LE

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	N3PLM	(1 Yr) Chris Getman, getmanc@nad.com

PACK RAT BEACONS - W3CCX/B

FM29JW Philadelphia, PA
50.080 144.284 222.065 432.295 903.072 MHz
1296.251 2304.037 3456.220 5760.190 10,368.152 MHz

MONDAY NIGHT NETS

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:30 PM	50.150 Mhz	WA3EHD/K3EOD
8:00 PM	144.150 MHz	N3ITT
8:30 PM	222.125 MHz	W2SJ/N3EXA
8:30 PM	224.58R MHz	W3GXB
9:00 PM	432.110 MHz	W3RJW/WA3DRC
9:30 PM	1296.100 MHz	WA3NUF
10:00 PM	903.100 MHz	N3AOG

COMMITTEE CHAIRMEN

LADIES' NIGHT:	N3AOG	215-443-9965
JUNE CONTEST:	N3ITT	610-847-5490
HAMARAMA:	W3KJ	215-256-1464
VHF CONFERENCE:	KB3XG	610-584-2489



THE AMERICAN RADIO RELAY LEAGUE



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New Cheesebits Editor Needed!!

I'd like to thank everyone that has assisted me and encouraged me as editor of Cheesebits since my first issue of May of 1992. This issue is the 105th one and the final one since I will no longer be in the area (at least during the cold winter months). Even if I was still around, it's time for someone to take over. This job like all of them in the club are not "owned" by their present holder and a healthy organization frequently rotates the jobs. It's been fun overall although it like many jobs can be frustrating at times. Right now, it is not frustrating and I hope that the new editor enjoys the job as much as I have. It has been an honor to serve in the capacity of the editor of Cheesebits.

I'd like to thank the helpers that have been here to help with the less than exciting jobs like collating, stapling, labeling and addressing each issue. Some of these "volunteers" have been Gary, WA2OMY, John, KB3XG, Bruce, WA3YUE, and Walt, N3EVV. Other unsung helpers are Ron, W3RJW and Lynn Whitsel, who are responsible for the excellent preparation of the front and rear covers and getting them printed. The main work however was done by the contributors who with a little arm twisting provided the many excellent technical articles that have appeared over the years.

If you are interested, and please seriously think of taking the job, call Prez Ed, WA3DRC, at 215-322-2105. It is recommended that you have a PC with internet access, a printer, a word processor and a few hours to spare each month - virtually everyone in the club meets these requirements. If you would like to try using a desktop publishing software program, I have one available for you to use, however my judgement is that it helps very little if you have a good word processing program available. For additional information on the job call Harry, W3IIT, at 610-584-4846.

CALENDAR OF COMING EVENTS - DECEMBER 2000

- 1 Only 50 days until the 2001 January Sweepstakes (Jan. 21-22, 2001).
 - 1-3 ARRL 160 Meter Contest See page 98 of the November issue of QST for the rules.
 - 4 Check into the 2 Meter Net on 144.150 MHz at 8:00 PM EST.
 - 4 Check into the 1296 MHz Net on 1296.100 MHz at 10:00 PM EST.
 - 9-10 ARRL 10 Meter Contest. 1800 UTC Saturday until 0200 UTC Sunday. See page 97 of the November issue of QST for the rules.
 - 11 Check into the 220 MHz Net on 222.125 MHz or 224.58/R at 8:30 PM EST.
 - 11 Check into the 432 MHz Net on 432.110 MHz at 9:00 PM EST.
 - 13 Predicted peak of the Geminids meteor shower around 1700 UTC.
 - 14 Packrat board of directors meeting at the QTH of will be at the QTH of Chris Getman, Call 610-368-1005 for directions. All interested parties invited. Meeting starts at 8:00 P.M.
 - 18 Check into the 6 Meter Net on 50.150 MHz at 7:30 PM EST.
 - 18 Check into the 903 MHz Net on 903.100 MHz at 10:00 PM EST.
 - 21 Hanukah begins at sundown.
 - 21 Regular meeting of the Mt. Airy VHF Radio Club at the Southampton Free Library on Street Rd. in Southampton, Pa. Have you qualified to submit a contest log for the January contest for the club by attending the minimum of 2 meetings? Come anyway!
 - 22 Predicted peak of the Ursids meteor shower around 0600 UTC.
 - 25 Merry Christmas to all.
 - 28 LEAP INTO THE MICROWAVES with the Packrats! 903 and above. Every 4th Thursday of the month operate from 8 to 10 PM local time on any band 903 MHz and above. For coordination on those difficult long haul contacts 144.260 MHz is the suggested liaison frequency. So here's your chance to fix what broke in the contest and work all those stations you missed.
 - 28 Check into the 2 Meter Net on 144.150 MHz at 8:00 PM EST.
 - 28 Check into the 1296 MHz Net on 1296.100 MHz at 10:00 PM EST.
- Jan. 2001
- 20-22 THE CONTEST. Everyone's help in getting at least 51 logs submitted this year is necessary to qualify the club for the Unlimited Class in the club competition. See this issue of Cheesebits or consult your contest package for the rules. See the Dec. 2000 issue of QST, page 112 for the rules.

SOLAR UPDATE. Sun watcher Tad Cook, K7VVV, Seattle, Washington, reports: Average solar flux rose almost 25 points two weeks ago from the previous week and then nearly another 23 points last week. Solar flux probably peaked around November 23 at 205.3. It has recently dropped below 190, and the predicted solar flux for Friday through Monday is 190, 185, 180 and 180.

Geomagnetic conditions are expected to remain stable over the next week, barring some unforeseen solar flare or coronal hole. Sunspot group 9246 has quadrupled in size since Tuesday, and if magnetic fields above this rapidly growing active region become more complex, we could see some more geomagnetic disruptions if the energy is directed toward earth.

Earlier this week conditions were quite disrupted. Planetary A index on November 27-29 was 38, 37 and 52, and in the higher latitudes the College A index was 51, 65 and 62. There were some spectacular auroral effects, and some great pictures are at http://www.spaceweather.com/aurora/gallery_26nov00.html.

Solar flux is expected to drop down to 145 December 8-13, then rise to a peak near 200 around December 23-25. Conditions should be good for the ARRL 160-Meter Contest this weekend as well as for the TOPS 80 meter CW Contest. It is still too early to tell, but the ARRL 10-Meter Contest next weekend is during a time when the solar flux may be low, and there could be some higher geomagnetic activity due to recurring coronal holes. Check back next week.

Sunspot numbers for November 16 through 22 were 142, 140, 171, 174, 168, 160 and 136 with a mean of 155.9. The 10.7 cm flux was 154.2, 163.3, 177.1, 174.9, 173.7, 185.4 and 194.9, with a mean of 174.8. The estimated planetary A indices were 4, 4, 6, 7, 9, 9 and 7 with a mean of 6.6.

Sunspot numbers for November 23 through 29 were 141, 134, 110, 95, 121, 154 and 160 with a mean of 130.7. The 10.7 cm flux was 205.3, 197.1, 202, 202.4, 191.7, 195.5 and 188.4, with a mean of 197.5. The estimated planetary A indices were 7, 9, 7, 22, 38, 37 and 52 with a mean of 24.6.

PBS to air Tesla: Master of Lightning: PBS will air the documentary Tesla: Master of Lightning Tuesday, December 12 (check local listings for time and channel) about the life and accomplishments of inventor Nikola Tesla (1853-1943). Actor Stacy Keach will provide the voice of Tesla for the 90-minute presentation. A Web site, <http://www.pbs.org/tesla/index.html>, will serve as the on-line companion to the acclaimed documentary. A contemporary of Thomas Edison and Guglielmo Marconi, Tesla--a Serbian immigrant to the US--is credited with being the inventor of our system of ac power transmission and even of radio. The book, Tesla: Master of Lightning, by Margaret Cheney and Robert Uth, is reviewed in December QST, page 37.--PBS

UK extends 73 kHz authorization: The Radiocommunications Agency in the UK has announced a three-year extension to the 73-kHz Amateur Radio allocation there until June 30, 2003. The allocation has been available to hams in the UK since 1996. It was due to be withdrawn completely at the end of June. The Radio Society of Great Britain says the RA agreed to the extension because experimentation on 73 kHz has been slower than anticipated due to the high-noise floor towards the top end of the allocation. The RSGB said that additional work is under way on how propagation is affected by the current enhanced solar flare activity.--RSGB

Membership News

Randy, NR3CA, Our man in San Jose reports: This spring Della and I are going to NH (and vicinity) to look for a small cottage or similar. Something we can use now and then and where I can also set up a real VHF/UHF station. Gee, I could even be DX then. California is not all that rare, hi hi. We are also going to be leaving San Jose in the next year or so. We have purchased a home in Reno and will make that our full time residence. We have CC&R restrictions so outdoor visible antennas are out of the question unless they "can not be seen to the casual view." I have at least 300 feet of rain gutter that is all connected together. I am also going to "plant" an R7 vertical in the ground when we plant some trees in the same area. I sure have been buying a lot of equipment for here in San Jose and Reno since I am planning on becoming real active again. Finally even upgraded to Extra a few months ago. OK, good to hear from you. 73, Randy, NR3CA.

PACKRAT MONDAY NIGHT 6 METER NET for the Northeastern States. Come join us for our weekly 6 Meter SSB Net every Monday) at 7:30 p.m. (local time) on 50.150 USB. Net Control Station is AI, K3EOD FM29LL, Vineland New Jersey, running a Yaesu 726-R into an Clegg Amplifier 300 watts into a 5 element Telerec antenna 50 feet. I start calling North, then Northeast, Northwest, West, Southwest, South, then return to North. Hope to "see" you there! AI K3EOD.

JUNE VHF QSO Party Results

The results are in to be reported in the January 2001 issue of QST, almost as fast as a Florida election! Congrats. Pack Rats, looks like we did great this year, despite the thunderstorms. We moved up from 5th place last year to 3rd, with a score of 754,364 points, 1663 contacts, and 326 grids - not too shabby!!! Thanks to all who contributed in any way to this tremendous effort!! Operators CALL GRID QSOs GRIDS POINTS at the site were AA3GN, K1JT, KB3XG, KU3T, NE3I, N3EW, N3FUJ, N3ITT, W2SJ, W2SK, W3DFM, W3KM, W3RJW, WA3DRC, WA3GFZ, WA3NUF, and WA3RTL. Now that we've tasted some blood, let's go after a big kill next year! 73 es cul, AI, N3ITT.

January 2001 V.H.F Sweepstakes

Wow guys, I can't believe it's December already. And of course that means the January Sweepstakes is right around the corner. Well I'm sure everyone is hard at work testing gear, making improvements and fixing bugs. It's even cold enough to start working on antenna projects! At my station I can't seem to keep up with all of the stuff breaking. Monday night I found I had no 432 at about 8:45. And I'm still fighting with amplifier problems on 2 meters. So I really have to get cracking to get caught up and turn in a decent score for the club. The projects at work are ramping down a bit, but the amount of time required preparing for the holidays and the contest is more than filling in the void.

We'll be getting the contest packet out within the next few days by e-mail, and following that up with a paper distribution at the December meeting. I hope to see all of you there so we can exchange a few contest pointers and discuss strategy. 73, Joe - AA3GN.

Pack Rats Teams and Captains

The first in each list is the team captain. The next in line should be prepared to assist the captain in helping with any requests for assistance from team members. An effort was made to group each team geographically, to promote cooperation and assistance among team members.

Note: Per ARRL club contest rules, each member must attend at least two meetings a year to participate with the club in the unlimited contest category.

Team #1

C - AA2UK Bob, W2SJ, Al, K3EOD, Russ, K2TXB, Bob, K2UT, Bob, N2SB, Mike, N2DEQ, Mark, W2UR, Paul, W2PED, Dave, WB2VLA, and Rick, WC2K.

Team #2

C - Ed, WA3DRC, Ron, W3RJW, Bill, K3MFI, Phil, KB3IB, Doc, W3GAD, El, K3JJZ, Ernie, W3KKN, Gary, N3EMY, Jim, K3EBZ, and Frank, K2FK.

Team #3

C - Brian, N3EXA, Dave, W3KM, Bill, K3ESJ, John, K3CX, Scott, N3GSA, Bob, W3GXB, Al, N3ITT, John, WU3C, and Warren, WB2ONA.

Team #4

C - Pat, W2SK, Phil, WA3NUF, Dick, N3AOG, Don, N3OZO, Grif, NE3I, Chris, N3PLM, Rick, K1DS, Pete, AA3RE, Don, KA3MGB, and Joe, K3VEQ.

Team #5

C - Joe, AA3GN, Len, N3NGE, Harry, K3AX, Dave, W3DFM, Dave, WA3U, Ben, WA3RLT, Ron, W3OR, Walt, K3BPP, Jeff, WN3A, Tony, W3HMU and Dan, WA3NFV.

Team #6

C - Gary, WA2OMY, Joe, W3KJ, Jerome, K3GNC, Bert, K3IUV, WR3P, George, W3HK, Walt, WA3AQA, Jim, WA3EHD, Harry, W3IIT, Bruce, WA3YUE, John, KB3XG, El, W3RZU, Bill, W0RSJ, and Walt N3EVV.

CHEESEBITS SUBSCRIPTIONS

Cheesebits subscriptions are available to everyone interested in activities and information from the VHF through the microwave frequencies. Subscriptions are for 1 year of 12 issues. For a subscription, send the following information:

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December 2000 Send to: SUBSCRIPTION/ADVERTISING MANAGER:

Bob Fischer, W2SJ, 7258 Walnut Avenue, Pennsauken, NJ 08110

SWAP SHOP:

(send all ads to the editor)

FOR SALE: CALLSIGN HISTORY. Name and address of each holder since 1912. Cost \$20 plus SASE for printed CERTIFICATE. Wanted Call Books before 1970 and QST's before 1940 will buy or trade. Also looking for 1x2 Ham Radio License Plates for my collection. Ron Allen W3OR, PO Box 73, Bethel, De. 19931-0073 or call 302-875-1100.

FOR SALE: In time for January Contest! ICOM IC-560 Multi Mode 6M transceiver, 10 watt, SSB, CW, FM good to excellent condition with Mic, Power cord, Manual, spare spinner knob. Asking \$285. Kenwood TM-721 144 / 440 Dual Bander, 45 / 35 watts Good Condition, with Mic, Duplexer, Power cord, copy of manual, and mounting bracket. Asking \$290. Contact Bruce Loss, WA3YUE, 610 831 5107

TID BITS

- **VUCC Award Checking:** If you want QSL cards checked for your initial VUCC Award or an update, contact Harry, W3IIT at 610-584-4846 or hbrown@voicenet.com.
- The latest edition of **OZ50MHz DX Bulletin #00-040** is now uploaded at <http://www.qsl.net/oz6om/>
- Packrat Harry, **K3AX** is up to 425 grids and friend of the Rats, Craig, **K3CWH**, is up to 275 grids on their 50 MHz VUCC.
- The **December 432 and Above EME** newsletter by Al Katz, **K2UYH**, is at <http://www.nitehawk.com/rasmit/em70cm.html>
- Friends of the Packrats, Joe, **W3JO**, is up to 123 countries and Herb, **W3BO** is up to 112 countries for 50 MHz DXCC.
- The latest **VE7BQH antenna G/T Simulation** table is now uploaded to my webpage www.qsl.net/sm2cew. Recent addition is the **WB9UWA 12 element yagi.. 73/Peter SM2CEW**.
- **Dual 8877 2 Meter Amp.** Chris, **KL7FB**, stuffed a pair of 8877's into an old Motorola Quarter Kilowatt chassis and has shared some photos with us. You can see them at: <http://www.angenent.org/W7IUV/amp-pix.htm>. Larry, **W7IUV**. From the AMP Reflector.
- **Winter 2000/2001.** Just a note on **Backscatter's** coat (Ron's horse), not real heavy not too light. The prediction is just for an average winter. My antennas are in need of revamping and a lot of equipment is out of service especially the 2304 trac-29, can't get it to amplify. Gives the same output as I put into it. 73 Ron **W3OR**.
- Hello All! I am again after 13 months available for skeds on 144 MHz EME for activity weekend for December 2000. Please let me know if you would like a sked and I will forward your calls to Lionel **VE7BQH** so he can arrange skeds via the vhfsked mechanism so that there are no time/frequency conflicts. I do not yet know whether or not I will be available for January-March EME activity weekends, but December is clear. I have as before moonsight from 20 degrees after moonrise until 10 degrees before moonset here, 2 x 2 2m x p20, 8877 at 1.5 kW. I am in a high noise semi-urban location...that is the Achilles' Heel here. And now, back to monitoring AO-40 telemetry (doesn't take the EME array to do that)... 73, Roger Rehr, **W3SZ**, FN20ah, 2 Merrymount Road, Reading, PA. 19609-1718, <http://www.epix.net/~rrehr/w3sz.htm>

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2000 IEEE MTT-S International Microwave Symposium CD

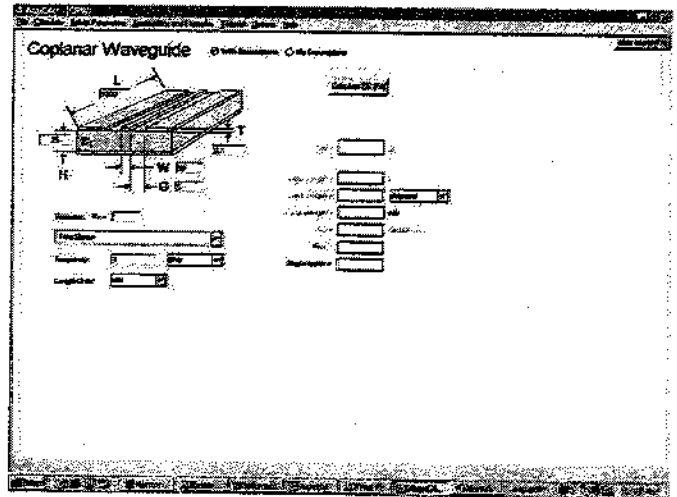
Harry, W3IIT

For those of you that got the 2000 IEEE MTT-S International Microwave Symposium CD as a door prize at Microwave Update 2000, there are some computer programs on it that you should find very useful. Go to the IMSOO/Other/lagniappe directory and you will find the following programs listed:

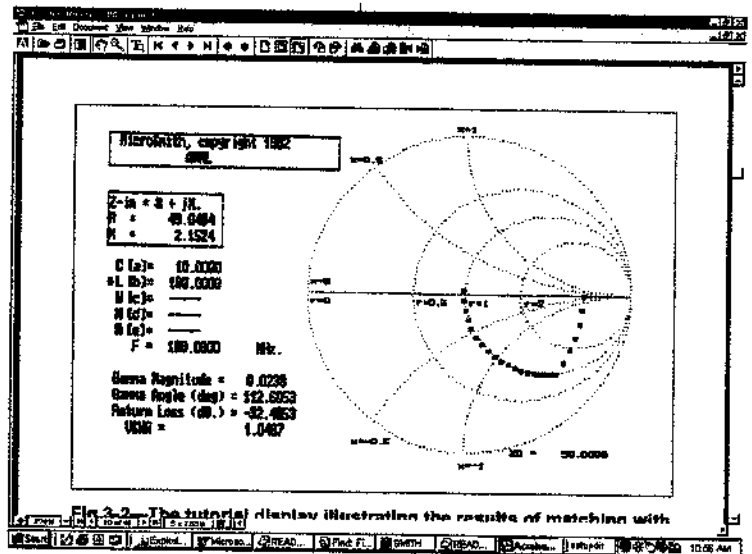
AppCad
MicroSmith
MWTLC
Puff 2.1
Sonnet

• Sonnet was provided as a handout so most attendees should have gotten a disk for it.

• AppCad is a free program by Hewlett Packard (now Agilent) that has several useful features as well as a built-in web browser to get to Agilent web pages. The Program covers several areas: Active Circuits (biasing, detectors, MMIC's), Passive Circuits (Stripline, Coplanar Waveguide, Stripline, Parallel Lines, Circular Coax, Rectangular Coax, and Trough Lines). A page from the Coplanar waveguide area is shown here. There is a section on Signals and Systems that has a Reflection Calculator and a Noise Calculator (not complete in the version provided). There is also a section on engineering constants and standard component values that are useful but not all that exciting. The program should be available on the Agilent web site (it was listed as www.hp.woodshot.com in the program) and it is free.



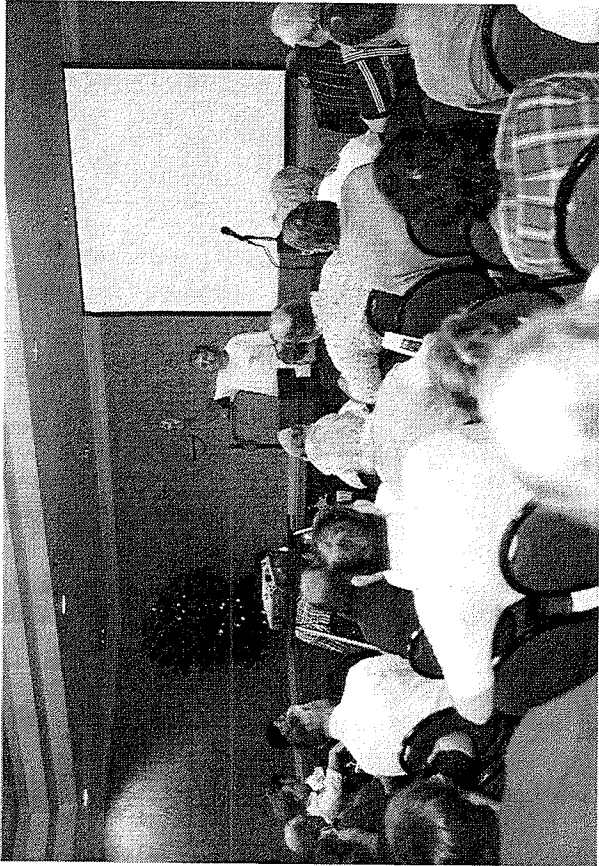
• MicroSmith Version 2.31 is a DOS program written by Wes Hayward, W7ZOI. The program will run on most windows operating systems. The disk includes an extensive 46 page manual in an Acrobat format and there is a tutorial. John, KB3XG, may be able to provide some suggestions on which is more useful this program or Motorola's MMIC Program. The screen dump at the left shows matching using an L Network



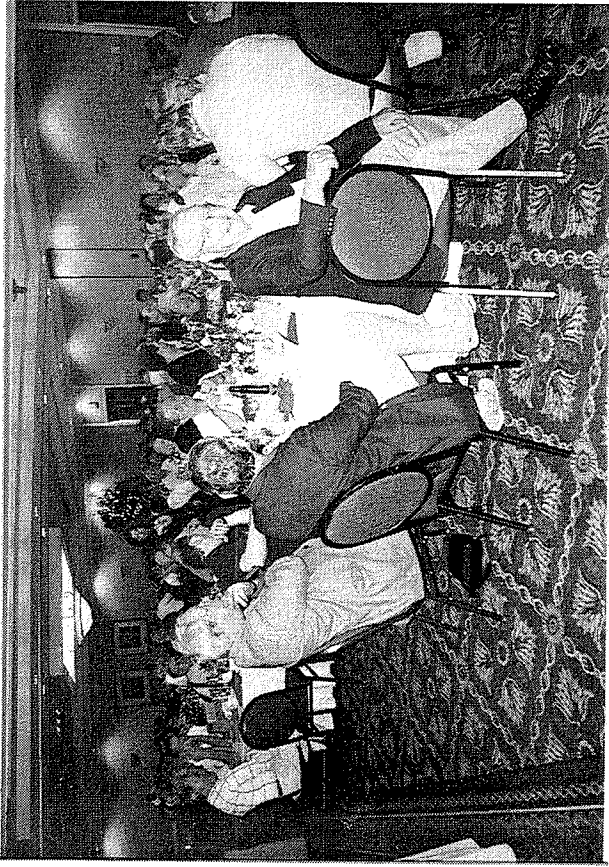
• Microwave Transmission Line Calculator (MWTLC) is a DOS program with many of the capabilities of the HP AppCad Program. It calculates the electrical and physical dimensions for Microstrip Single Line, Microstrip Coupled Lines, Stripline Single Line, Stripline Coupled Lines, Coplanar waveguide, Twisted Wire Lines, Coaxial Lines and provides the characteristics of common substrate materials.

• Puff 2.1 is a very simple program for designing microwave circuits. There is not enough room to describe its capabilities in this issue. I'll try to give a more detailed description in the future. The German/English language magazine, DUBUS has had several articles on the use of PUFF for ham applications during the last year.

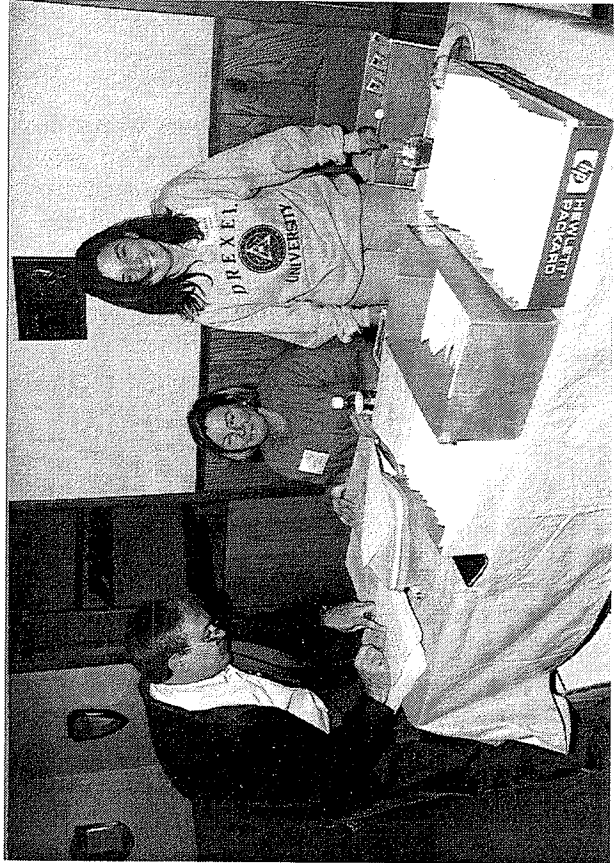
MICROWAVE UPDATE 2000



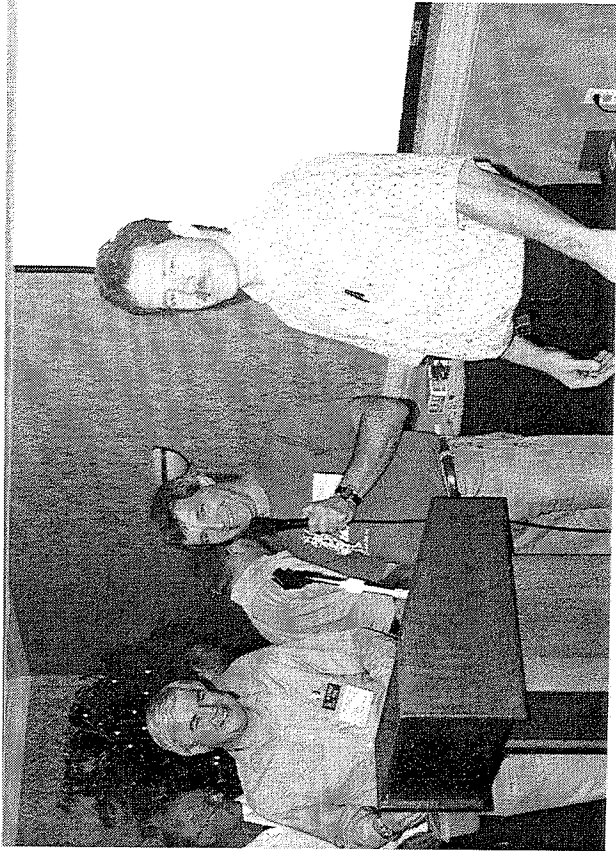
Kent, WA5VJB Auctioning Microwave Gadgets



The Crowd at the MUD 2000 Dinner

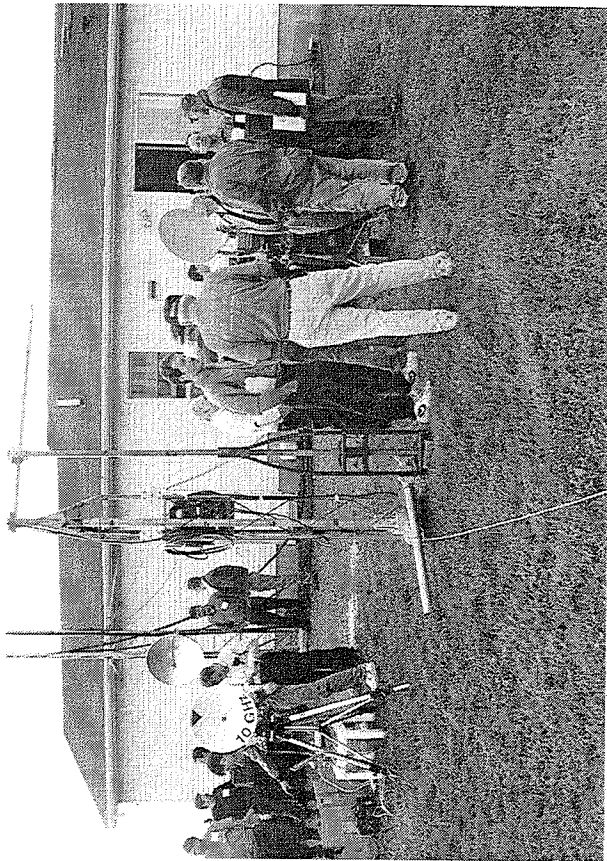


Celeste and Michele signing In Attendees

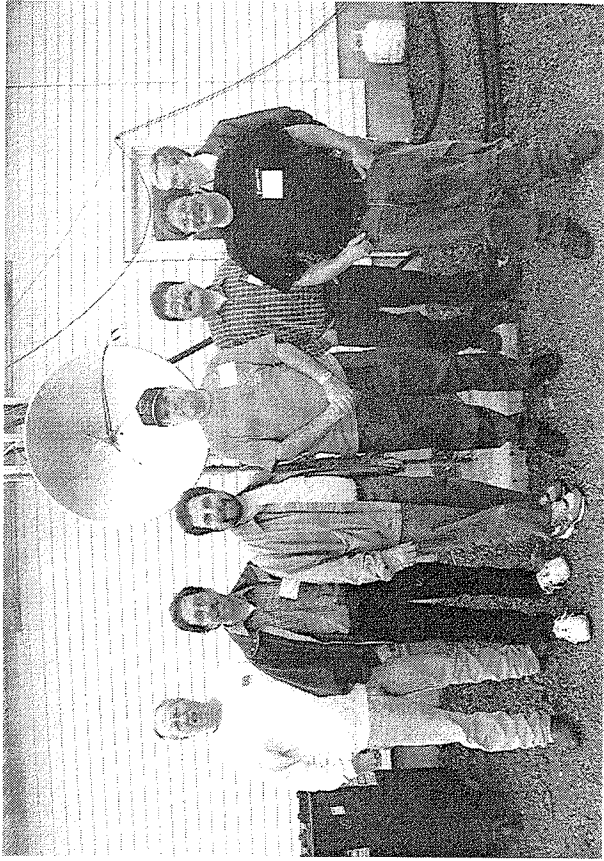


Phil, WA3NUF, John, KB3XG and Paul, W2PED Up Front

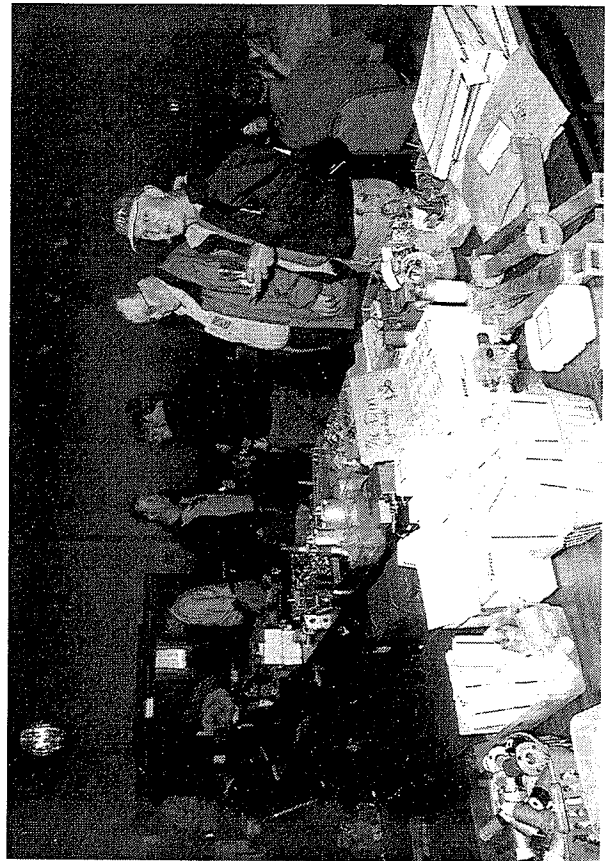
MICROWAVE UPDATE 2000



10 GHz Minimum Discernable Signal Setup



The RAT Lineup (they're ALL guilty)



The Flea Market in the DEM Annex

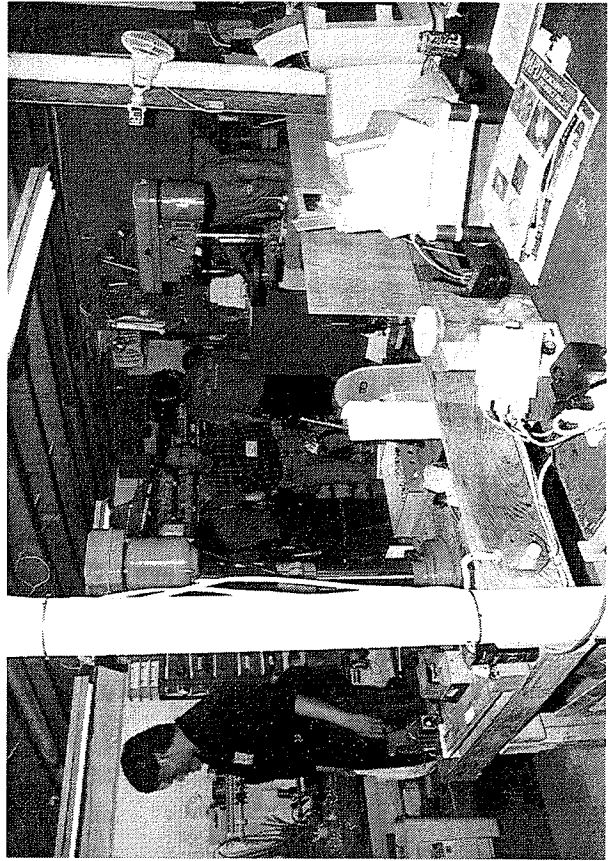


Auctioning by Kent, WA5VJB

MICROWAVE UPDATE 2000



Inside View of K6LEW/Mobile FN20



Secret Down East Microwave Facilities



K6LEW Mobile Setup



Mystery Contest Photo. Who are they/When/What Band/Where?

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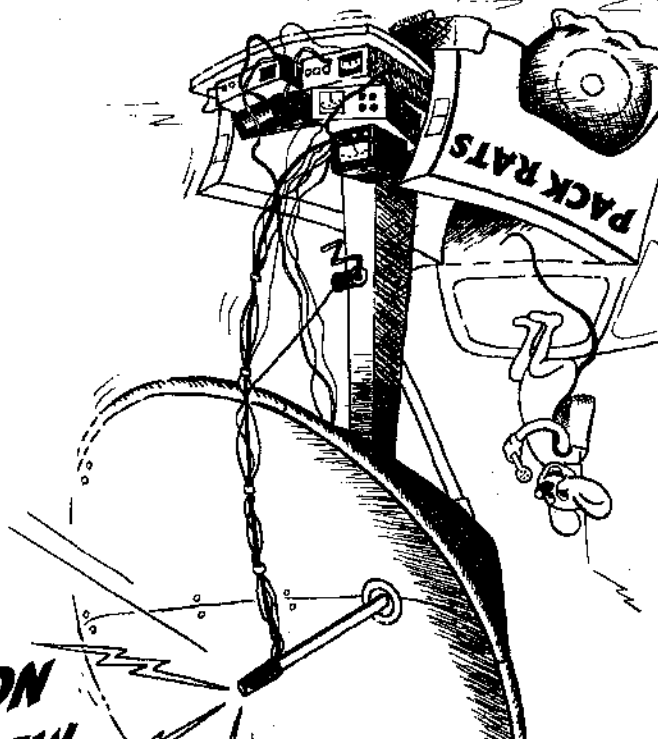
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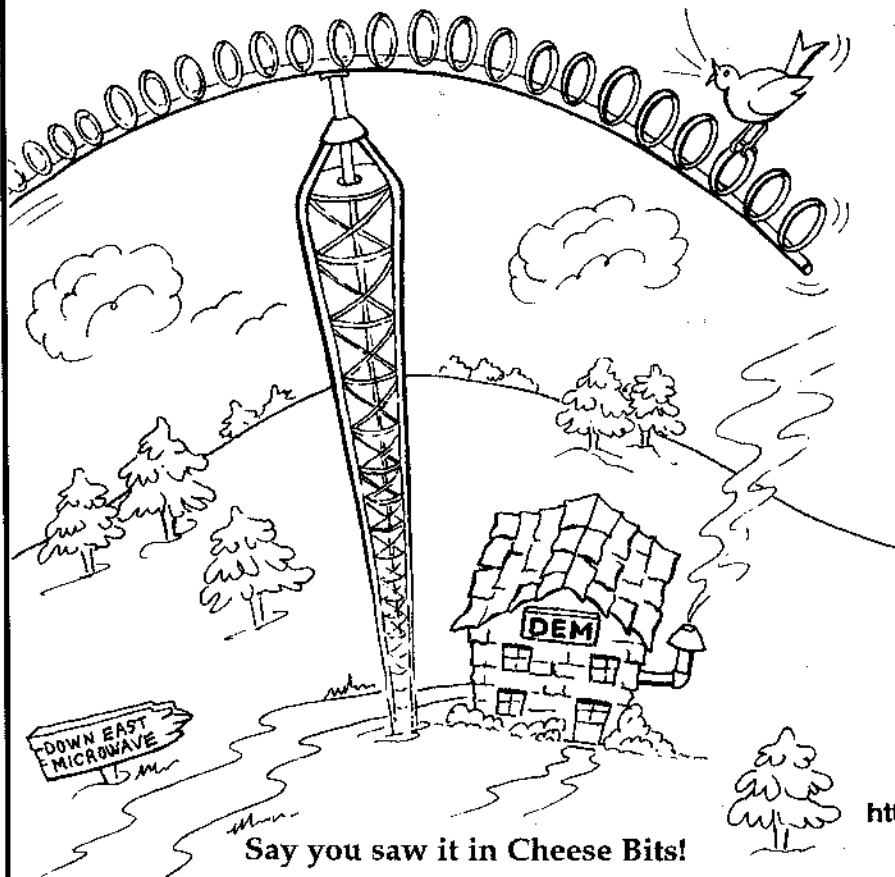
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