

MT. AIRY V.H.F. RADIO CLUB, INC.

CHEESE BITS



W3CCX

CLUB MEMORIAL CALL



ARRL
Affiliated
Club

Volume XLIII

April 2001

Number 4

Homebrew Night Exponential Sez

I'm sorry that I was unable to bring this with me on Homebrew Night, but I wanted to share this project with you. When the new 1GHz microprocessors were made available, I was able to get a few, and adopt these great new chips for use as a source for a stable LO, coupled with my practical work with very-large scale integrated circuits. With a simple filter circuit, the timing chain output can be fed to a counter and display for purity and stability assessment, and once the microprocessor's output can be verified, it can be put to use in the transverter circuit. The problem with making the source and conversion available widely is the fear that it will create a run on the fully functional chips by others more interested in microwaves than computing. The new GK series MMICs can easily be put to work to get to -17dBm, perfect for the DBM LO input. It appears that the fundamental frequency of 126.0 was selected, so that the x4 and x2 multiplier chain would prevent harmonics from appearing in other heavily used commercial frequency allocations. It was easier and less expensive to place the devices in asynchronous parallel oscillation, rather than develop additional multiplier circuits. Lead length is critical, especially at these frequencies, and one attempt was made to super-glue the three chips together for minimal lead length, but the heat dissipation then became a major factor. The easiest way to accomplish this task is to take the 288 MHz output from the receive mixer output, and feed that into a VHF gated device that effectively filters the odd cycles to allow the residual 144 MHz signals to be demodulated. Hopefully this will stimulate others to get on the gigahertz bandwagon, and make the best use of this new century's technology, and show off their projects at next year's homebrew night. For those who wish to share and compare technical notes, I may be reached via email at: fail4it@1april.com

June 9 & 10 VHF Contest—It's time to start thinking Warm!

Spring finally seems to be here! Don't know about you, but the coming of the warm weather always gets me thinking about the Packrats annual June VHF contest effort! Plans are in full swing for the club to again field a first class multi-op station from our superb site at the top of Camelback mountain. At this time most of the major jobs have been filled, but we are still in need of more members to help set up, operate, and tear down. Even if you cannot come up for the entire event, any time you can spend to help the effort will be appreciated, especially on Fri or Mon to help set up or tear down. In addition to running 6m thru 24Ghz, we'll be doing some other things this year. Joe (K1JT) will be doing an even more ambitious HSMS effort this year on 2m. Rick (K1DS) is trying to do some more with laser QSOs. Walt (N3EVV) is trying to find guys who still have 10 or 24 Ghz Gunnplexers around to get them out and working. If you can help out Joe, Rick or Walt in these efforts let them know, you'll also be helping the club improve our score! So, please try to set aside as much time as you can on June 8,9,10,11 to help make this years June contest the best one yet, oh and by the way we will again have our gourmet food service provided by N3OZO (Don) and W3GAD (Doc), and of course the usual cold beverages. This will not be all work and no play, sure it's lots of work putting all this stuff up and taking it down but in between there's lots of good operating, good food, good friends and of course the usual surprises and "Kodak moments". I guess that's why I still enjoy this every year. If you can spend some time to help out the club at the site be sure to let me know when you plan to be there, so we can plan operating schedules and meals. If you will be operating from home or roving, be sure to work W3CCX. If you will be on for only a limited time, let me know so we can arrange a sked....we need you "in the log!" 73, Al, N3ITT

Pack Rat Website: <http://www.ij.net/packrats>

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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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

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PACKRAT BEACONS - W3CCX/B

FM29jw Philadelphia, PA
 50.080 144.284 222.065 432.295 903.071 1296.251 MHz
 2304.037 3456.220 5763.190 10,368.140 MHz (as of 3/1/01)

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
9:30 PM	1296.100 MHz	WA3NUF
10:00 PM	903.100 MHz	N3AOG
10:30 PM	2304.100 MHz	W3KJ

COMMITTEE CHAIRMEN

June Contest: N3ITT 610-547-5490
 HAMARAMA: W3KJ 215-256-1464
 VHF Conference: KB3XG 610-584-2489

**Cut or Copy and Save:
 New list of 222 Beacons from the
 web at <http://6mt.com/222.htm>**

222.015 K5BYS	EM13mn TX Dallas-FW	100mW to Halo at 1500'
222.050 W0PW	EM26 MO Neosho	10W to turnstile at 1150' asl.
222.050 WA2UMX	FN23xc NY Providence	25W + 2 Big Wheels 1620'ASL
222.052 N6XQ	DM12jr	1W to 6 el yagi pointed north.
222.052 XE2ERD	DM10	6 el yagi pointed north.
222.054 WB4FQR	FM18iq VA Woodbridge	12W to turnstile @ 25'
222.055 VE1SMU	GN03 Sable Island	10W to 5el yagi to west
222.055 W6TOD	DM15dx CA Ridgecrest	20 watts pair Bigwheels 2400' asl
222.056 N8PUM	EN65bx MI Felch	1W to PAR horiz. omni 1400' asl.
222.057 WD4GSM	EM86 VA Wise	300mW to turnstile at 4200' asl
222.058 W2RTB	FN12 NY	10W+eggbeater @450' asl.
222,060 AA5C	EM13 TX	
222.061 W0ZQ	EN34it	18W to turnstile @ 60'.
222.065 W3CCX	FM29jw PA Philadelphia	4W to single loop @ 435'
222.068 K4AR	EM76vj TN Lafollette	3.5W horizon tal omni 3000' asl.
222.070 K3DEL	FM28fn DE	2w yagi beaming NE

Editor's Notes

The harsh weather of March is still upon us as we turn the calendar page, so it's still time to do the work indoors: taxes, spring cleaning, putting new connectors on the rover transmission lines (the coaxial type, not the drive-train), and keeping the batteries trickle-charged to full. It's also the March Madness NCAA basketball season, the one time I really enjoy some sports on TV. We had the treat of the Eastern Regionals right here in Philly at the First Union Center, and I was lucky enough to score a pair of tix for the big events. So I have good excuses for not being on the air very often. I pre-spent my tax return and added some new goodies to the station, like an FT-100D to serve as a new microwave IF rig...although it clearly has the potential to make radio operating on all bands and travel a lot of fun. I also decided to invest in the DB6NT 2304 transverter to improve my capabilities (ability to QSY and use SSB) on that band, and to return the W3KM loaner, so that another club member can now enjoy 13cm.

I was away in FL during the homebrew night meeting, but thanks to digital camera work by our nimble prez Ed, WA3DRC, many of the pictures you see in this edition are for those, who like me, were unable to be there in person. I have spoken to Bill, AA2UK, who was also unable to make it up that night, but both he and I are pledging to bring our rover setups as entries for next year. See some pix on subsequent pages for an eyeful of what he's been up to, and I really mean UP! Congrats to the winners of this year's competition, and I was especially glad to see the activity we have stimulated on laser communication.

As always, contributions to CheeseBits are welcomed, and I do want to thank Harry, W3IIT, for keeping me posted with all the emails and copies of newsletters from other area and VHF groups. Other folks behind the scenes that keep this publication rolling include our treasurer, Dave, W3KM, who provides the mailing lists and handles the financial end, and to Bob, W2SJ, who prints and sends the labels in such a timely fashion each month.

I must say that I am jealous of the hams and school children who have been able to schedule and complete ARISS contacts. I have a keen memory of my first satellite reception, finally converting the proper times and satellite locations in the pre-computer era, and then setting the antennas properly on a tripod, 5 foot off the ground in the back yard for AOS. From there it was a set of cross polarized long yagis on the roof, with a pair of U-100 rotors for az-el, mounted atop my tribander, and I was operational on modes A, B and J for many years. As one of the only hams in RI at the time on the satellites, I was the crowning contact for many WAS awards for others around the country, and got my own WAS #83 on satellite, with the final state being Wyoming for me. With the low flying birds at that time, Hawaii and RI had only a 40 second mutual window once every 20 days. My QSO was arranged with a submarine captain who at that time was on shore leave, and brought his gear down to the beach in his car for our QSO. The dreadful current events in HI involving the sub brought this memory back. When Owen Garriott was on the shuttle and did the first ham-to-ham 2 meter operation from orbit, I set up my gear to give it a try. It was truly a blast to hear his DFQ signal, "We are just coming up on the coast of Florida..." as I ran home from the office one afternoon to catch the historic moment. Although there have been some random QSO's, most of the airtime is reserved for schools and projects, so I have been content to enjoy my SWL space reception cards over the years.

Look below, Sprints are upon us...and we are counting on you to be on-the-air, so we can all have some fun! Who would have known that I could have won a \$100 gift certificate from DEM for my 222 entry last year! And who could have predicted some of the long-haul grids worked on 432 with only 100 watts and a 17 el yagi! C U on the air Monday night, April 9th at 7PM on 144.2 MHz
73, Rick, KIDS

Radio Action in April 2001

SUN	MON	TUE	WED	THU	FRI	SAT
1	2 Nets start at 7:30 PM on 6m thru 2304 each 30"	3	4	5	6	7
8	9 144 Sprint 7-11PM local	10	11	12 Bd of Dir Mtg at QTH of Ernie, W3KKN	13	14
15	16 Nets start at 7:30 PM on 6m thru 2304 each 30"	17 222 Sprint 7-11	18	19 Monthly Meeting ARRL Night-Special Speaker and Club Awards. This is a "Do Not Miss" night at the Southampton Free Library		21
22 Lyrids peak @ 0426 UTC	23 Nets start at 7:30 PM on 6m thru 2304 each 30"	24	25 432 Sprint 7-11			28
29	30 Nets start at 7:30 PM on 6m thru 2304 each 30"					May 5 Sprint 903&up 6A-1P

Microwave Update 2001 Call for Papers

Microwave Update 2001 will be held in Sunnyvale California, September 27 through September 30 (see <http://www.qsl.net/50up/uwave2001/> for more details). We invite all interested amateurs to submit a paper for inclusion in the proceedings whether attending the conference or not. Paper topics can include (but are not limited to):

Microwave

- Contesting
- Propagation
- LNA design/construction
- Power amplifier design/construction
- Antenna design/construction
- Transverter design/construction
- Operating & records

Millimeter Wave

- Operating/records
- Propagation
- Surplus
- Feed design/construction
- Equipment design/construction

Microwave Test Equipment

- Surplus
- Tutorial
- Homebrew

Microwave space communication

- EME station design/construction
- EME operating
- AO-40 equipment
- Future proposals

Paper titles and/or abstracts should be received by May 15, 2001 by either:

Rex Allers, KK6MK, rexa@dnai.com, (408) 377 6848

Gary Lauterbach, AD6FP, AD6FP@pacbell.net, (650) 336-1001

All papers need to be received by July 9, 2001 for inclusion in the proceedings. Thank you and hope to see you at MWU 2001 !

Rex Allers KK6MK

Gary Lauterbach AD6FP

AMSAT DETAILS LIKELY AO-40 FAILURE SCENARIO

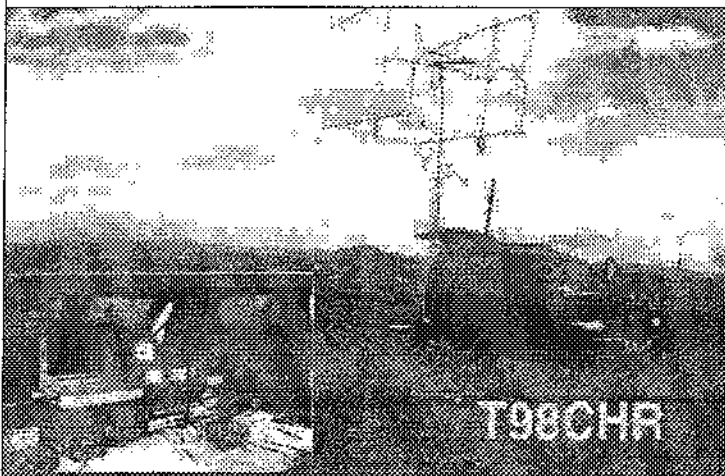
AMSAT-NA President Robin Haighton, VE3FRH, has issued a likely explanation of why AO-40 suddenly went silent in mid-December. Haighton's March 16 statement outlines a three-part failure scenario theorizing that AO-40's problems began with a fault in a helium valve. "Initial thoughts were that the spacecraft was completely dead and that chances of recovery were remote, with the possibility that AO-40 was in multiple pieces," Haighton said. The satellite's 2-meter beacon quit while ground controllers were testing the onboard 400-newton motor system after anomalies with an orbit-shifting burn that lasted several minutes too long. It was almost two weeks before ground controllers were able to reset the onboard computers and restart a beacon on 2.4 GHz. Ground controllers have been somewhat successful in regaining control of the next-generation amateur satellite since telemetry transmissions resumed Christmas Day, but Haighton concedes some onboard systems may not be recoverable. Haighton said that while the Phase 3D team may never know exactly what happened, the likely scenario includes what Haighton told ARRL was "a minor explosion" aboard AO-40, as out-of-place fuel mixed and then ignited as a result of a blocked exhaust port on a helium valve. "We think it was a human error thing," Haighton conceded in an interview with the ARRL. He did not elaborate. Ground controllers have used AO-40's magnetorquing system to reduce the satellite's spin rate to around 5 RPM and are optimistic that they'll be able to re-orient the satellite for communication with Earth. The satellite's omnidirectional antennas appear to be lost, but ground controllers hope the high-gain directional antennas still work and that reorienting the spacecraft will bring about a resumption of signals from other transmitters.

AO-40's heat pipe system—which could not work at the higher spin rates—has begun operating again too, considerably reducing internal temperatures. But ground controllers are pessimistic about being able to restore AO-40's 2-meter and 70 cm transmitters. Yet to be tested is the onboard arc-jet motor, which ground controllers hope to use to reorient the satellite so that the high-gain antennas will face the Earth. "Following the reorientation it will be possible to test the remaining systems on board the spacecraft and to determine which systems and bands will be available for future operations and under what conditions," Haighton said. From the ARRL web bulletin.

From W3ITT: I was looking thru the 2001 Pack Rat Directory (nothing else to do down here except work on my tan) and see a lot of license upgrades. By my count the shift up is as follows:

Class	Jan 2000	Jan 2001
Tech	20	9
Gen.	5	13
Adv	31	22
Extra	37	46

Congrats to all who have upgraded their license classes and technical capabilities. Many others may be eligible for upgrades from Tech to General; any tech licensed before 21 March 1987 can get a "no exam" upgrade to General (they must do this via a VEC and pay the fee) since they took the same written exam as generals did back then and also took the 5 WPM code exam that is required now.



Did anybody work this rover, doing EME?? (from internet)

Eastern VHF/UHF Conference

Due to unforeseen circumstances with Hotel reservations this years conference will have to be moved from August 24, 25 & 26 to August 31, September 1 & 2. We hope that this will not cause any problems for anyone. With the Holiday weekend and an extra day off maybe more people will be able to attend. We are in the process of finalizing the speakers and proceedings. Anyone wishing to present a paper either in person or for the proceedings should please contact the author. The conference will be held in the same location as last year, the Radisson Hotel in Enfield, CT. Further info will be forthcoming and available on the NEWS Web site as it develops. Please mark your calendar with this date. Thanks & 73's Bruce N2LIV

K1JT in the Media

Packrat Joe Taylor, K1JT and his professional colleague, Christopher McKee had an interesting article, "A Blueprint for Astronomy's Next 10 Years" in the January 2001 issue of Sky and Telescope. They headed up a team that recommended Giant Telescopes and Instruments for the next few years. Lots of radio telescope arrays on the ground and in orbit. There were many impressive artists views of what the projects might look like pending budget approvals. (info from W3HT)

An interview with our own K1JT, Nobel Prize winner in physics, is now on the RAIN Report. Hear the first part of a 2-part interview on how Amateur Radio got him started in his work in astrophysics. Requires streaming audio. (Part 2 of the interview should be on line soon). Go to <http://www.rainreport.com> (from the internet via Shelby Ennis, W8WN)

Packrats Score in Sept 2000 QSO Party

The March 2001 issue of QST shows several Rats in the Sept VHF QSO Party write up. Logs from Joe, K1JT, Al, K3EOD, Russ, K2TXB, Ed, WA3DRC, Dave, W3KM, Len, N3NGE, Bob, W2SJ, Gene, KB3IB, Bob, NE3I, AA3GN operating W3CCX and Bill, K1DY (ex W3HQT) operating with K1WHS. Joe, K1JT was number 1 in South Jersey as well as number 6 overall in the country operating in the Single Operator Low Power category. Al, K3EOD with Bob, W2SJ were number 8 in the country in the MultiOp category. The Mt. Airy VHF Radio Club score of 241,701 points with 6 entries was number 6 in the Medium Club competition, just missing the big guys by a few points. (via W3HT)

QST TO GET NEW EDITOR, PUBLISHER

Steve Ford, WB8IMY, will become the new editor of ARRL's official journal QST effective April 2. Ford, who's now QST managing editor and supervises the magazine's editorial staff, will succeed Mark Wilson, K1RO, as QST editor and Editorial and Production Department manager, ARRL Executive Vice President and CEO David Sumner, K1ZZ, announced today.

Ford said that under his leadership QST will maintain its current editorial direction. "QST has been very successful," he said. "The membership clearly enjoys the magazine, and I don't foresee any changes in the near future."

Wilson, who was designated earlier this year as ARRL's chief operating officer, will become QST publisher, a title Sumner now holds. Ford, 46, came to ARRL Headquarters in 1991 as an editor on the Book Team, and he is the author of several League publications. He became assistant managing editor of QST in 1993 and managing editor in 1995.

(Ed note: Mark Wilson was a Packrat and used to multiop with Gary, WA2OMY in the June and September VHF contests.)

New distance record on 76 GHz

A new world distance record on 76 GHz is being claimed by Palo Alto Amateur Radio Association member Bob Johnson, KF6KVG, and his partner, Will Jensby, W0EOM, of the 50MHz and Up Group. The new claimed record for 76 GHz was set February 1. Johnson was located southwest of San Jose, California, on Mount Loma Prieta running 1mW to a 12-inch dish antenna. Jensby was located on Mount Vaca near Vacaville running 5 mW to an 18-inch dish. The total distance covered was 145 kilometers based on the "center of grid square to center of grid square" measurement approach.—adapted from PAARAGraphs March 2001

ARLB008: ARRL Seeks to Expand Amateur Access to 216-220 MHz

The ARRL has suggested that the FCC expand the secondary amateur allocation at 219-220 MHz to provide access to the entire 216-220 MHz band. The League commented this month in response to a Notice of Proposed Rule Making, ET Docket 00-221, that proposes to reallocate 27 MHz of spectrum in various bands, including 216-220 MHz, from government to non-government use.

In general, the FCC seeks to allocate the entire 216-220 MHz band to the Fixed and Mobile services on a primary basis. At 219-220 MHz, Amateur Radio now is secondary to the Automated Maritime Telecommunications System (AMTS). Within the 1-MHz of spectrum, Amateurs may install and operate point-to-point digital message forwarding systems, including intercity packet backbones, but only under strict limitations. While the FCC has promised to protect AMTS and other operations from new interference, it extended no such assurances to amateur operations at 219-220 MHz. In its comments, the ARRL expressed fears that additional co-primary users "will essentially foreclose what limited opportunities there are now for amateurs to make use of the 219-220 MHz segment." The League suggested that permitting amateur access to the entire 216-220 MHz band on a non-interference basis would be one means to accommodate Amateur Radio operations in that portion of the spectrum. Such a move would, the ARRL said, "provide at least some opportunity for amateurs to engineer fixed links into the band, which would not be possible in the 219-220 MHz segment alone."

"The Amateur Service is well-known for being able to make use of bands used by other services, which increases the efficiency of spectrum use," the League said. The allocation could be made "without any adverse impact on AMTS operations, television broadcast reception, or other, new co-primary operations in the 216-220 MHz band, Fixed or Mobile," the ARRL concluded.

2001 North American High Speed Meteor Scatter (HSMS) Contest.

Purpose: To promote the development of skilled HSCW operators in North America.

Objective: Work as many North American stations as possible via meteor scatter during the contest period using HSCW on the amateur radio bands above 50 MHz. HSCW for the purpose of this contest is any speed no less than 495 LPM (99 WPM).

Contest Period: 0000Z, 1 May 2001 through 2359Z, 9 May 2001 (Monday night through Wednesday night of following week local time). You may operate up to 48 hours during this time period. An operating period begins with your first TRANSMISSION and includes time spent listening between transmissions. Operating time must be taken in 30 minute blocks. Time spent listening outside of your operating periods does not count towards your operating time. Multi-ham households—Each licensed ham is eligible to operate 48 hours under their own callsign.

Contest Operation: Random and scheduled QSOs count for contest credit. The use of the letter system for CQing is REQUIRED, ie. CQF, CQX. Report is your four digit grid square. Real-time skeds, spotting assistance, DX-alerting nets, etc. are permitted for the purpose of arranging contact attempts. Refer to the Region II HSCW standard operating procedures <<http://www.nitehawk.com/rasmit/hscw-sop22.html>> for suggested HSCW techniques and meteor scatter calling frequencies. The use of HSCW on VHF SSB calling frequencies is poor operating technique. A station may only be worked once per band during the contest period unless one of the stations has changed grid squares. A separate log is required for each grid activated. Each grid activated will be scored separately.

QSO Requirements: To log a completed contact you must copy: both calls, report, rogers. Any form of liaison communication between the parties involved in a contact in progress is prohibited. Any interruption of a contact in progress requires both stations restart the QSO attempt from the beginning. All information required for a complete contact must be exchanged using meteor scatter and no other propagation mode.

Classes: Single Operator Limited--2 meters only
Single Operator Limited--Multi-band
Single Operator Unlimited--2 meters only
Single Operator Unlimited--Multi-band

Limited: Station ERP is restricted to less than or equal to 5kw.

Unlimited: Station ERP is greater than 5kw. Multi-band stations must enter in the class corresponding to the highest ERP used. A station may only enter in ONE class.

Multipliers: The sum of each unique four digit grid square worked on each band.

Scoring (QSO points):

BAND	ASSISTED	RANDOM
6m	1	1
2m	3	6
1.25m	9	18
0.7m	9	18

The final score is the sum of all QSO points from each band times the multiplier.

Awards: Certificates will be awarded to the top three overall, and to the highest scoring station in each USA/VE call district and each North American DXCC country for each category. In addition, a certificate will be awarded to the highest scoring portable station activating two or more grids (based on the sum of their scores from each grid activated). A minimum of 2 QSOs are re-

quired to qualify for any award. Additional certificates may be awarded where activity warrants. Participants can only enter in one class for contest credit.

Reporting: The following information must be contained on the summary sheet which must accompany the log: Callsign used, Grid Square(s) activated, Maximum ERP used, Name, Address, and Email Address (if available). Log information must contain the following data: Callsign of station worked, starting and ending times/dates of contact (and operating periods), Frequency, Reports, and sked or random.

Miscellaneous: Station equipment can only be used under one callsign, with the exception of multi-ham households. Single Band Entrants, time spent working stations on bands other than 2 meters does not count against your 48 hour operating time. Single band entrants are requested to send in check logs for all contacts made on other bands. The decisions of the awards committee are final. All logs must be postmarked or email dated no later than May 31st. Email logs must be sent in ASCII format to: hscw@contesting.com. Postal mail logs may be mailed to: HSCW Contest, C/O Steve Harrison K0XP, 7 Well Avenue, Danbury, Connecticut 06810.

Sample blank log page/summary sheets are available from <<http://www.vhfdx.com>> or a reasonable facsimile may be used. A printed copy of the rules and sample log/summary sheet can be obtained by sending an SASE to the above address. Please enclose an SASE if you would like to receive a printed copy of the results via postal mail.

Note: The radiant of the Eta Aquarids shower is projected to provide the best conditions during the contest (in North America) from approximately one hour before sunrise local time for approximately eight hours daily. This is the suggested best operating time each day. Remember though, HSCW contacts can be completed at any time of the day.

Further Information about HSMS: The following Internet web sites contain a wealth of information about High-Speed-Meteor-Scatter. Please note that there are several minor operating practice differences between North America and European techniques; for example, in North America, the northern- or eastern-most station normally transmits during the odd minutes (those minutes beginning with odd numbers: 1231Z, 1415Z; etc.). Also, North American sked speeds (and sometimes CQ speeds) tend to be somewhat higher than in Europe because most North American HSMSers are using computers to record and playback recorded reflections. Suggested HSMS operating practices are described in HSCW Procedures (v. 7), available at <<http://www.nitehawk.com/rasmit/hscw-sop22.html>>. Information regarding calculating station ERP can be obtained from W5UN's website <<http://web.wt.net/~w5un/>>. Other information, including hardware modification tips, software, and HSMS articles may be found at these URLs:

http://www.nitehawk.com/rasmit/ws1_15.html

<http://www.ilc.de/sites/gap>

<http://www.mint.net/~n1bug/>

<http://www.qsl.net/k0sm/>

<http://www.sci.fi/~oh5iy/>

<http://www.cannon.net/~mattmc/kb0vuk/hsms/hsms.html>

<http://www.qsl.net/kd5bur/>

<http://www.vhfdx.com>

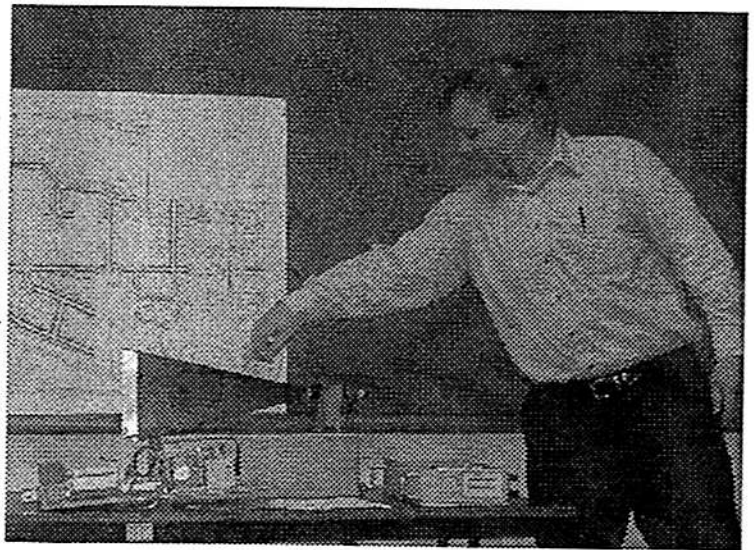
Many more links covering other HSMS topics may be found on most of the above web sites.

73, Robert KR7O/YB2ARO, DM07ba/OI52ee (ex. N7STU)
kr7o@vhfdx.com

2001 HOME BREW NIGHT AWARDS

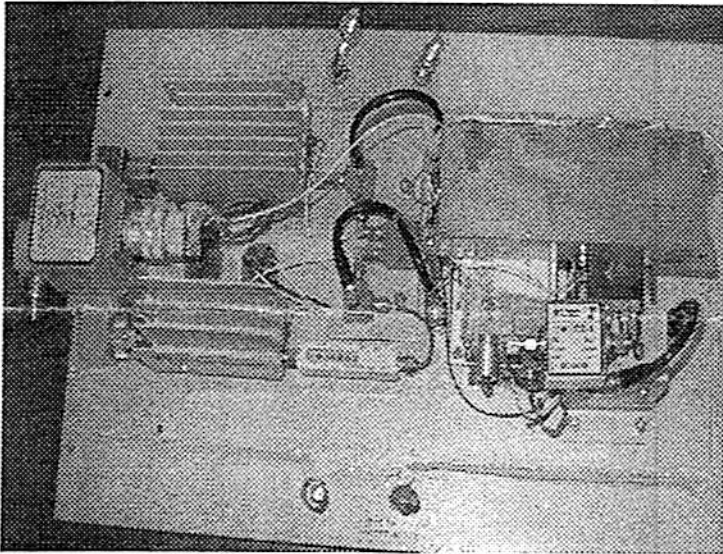
1. Best Construction to Chuck Grabowski, WA2ONK, for his 10 GHz Transverter
2. Most Ambitious Project to Gary Hitchner, WA2OMY, for his 10 GHz Transverter
3. Most Unique Approach to Walt Rauscher, N3EUV, for his Laser Communicator with Keyer (next issue)
4. Best Use of Hand Tools to Ed Finn, WA3DRC, for his 10 GHz Transverter
5. The Doc Cutler, K3GAS, Award to Paul Sokoloff, WA3GFZ, for The Biggest Rat's Nest, a Pair of Station Control Boxes. (next issue)

This will have to be known as the year of the 10 GHz projects. Pictured below is the RF power portion of the rig. Note the U-Bolts for mast mounting.

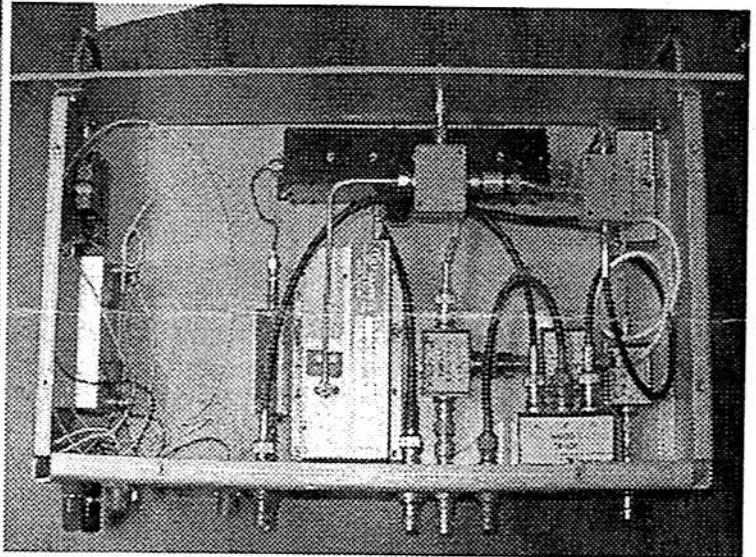


Above: WA2ONK explains the resonant note of the horn! The winner of the most ambitious project.

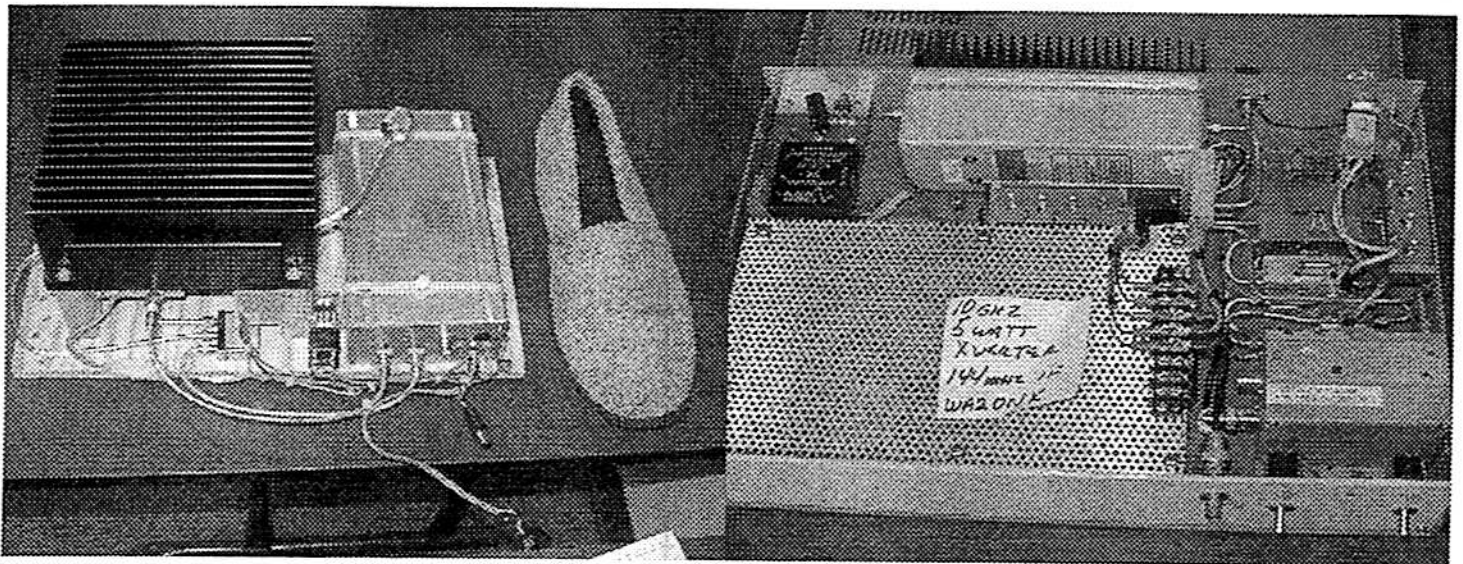
Below: The inner components of the LO section

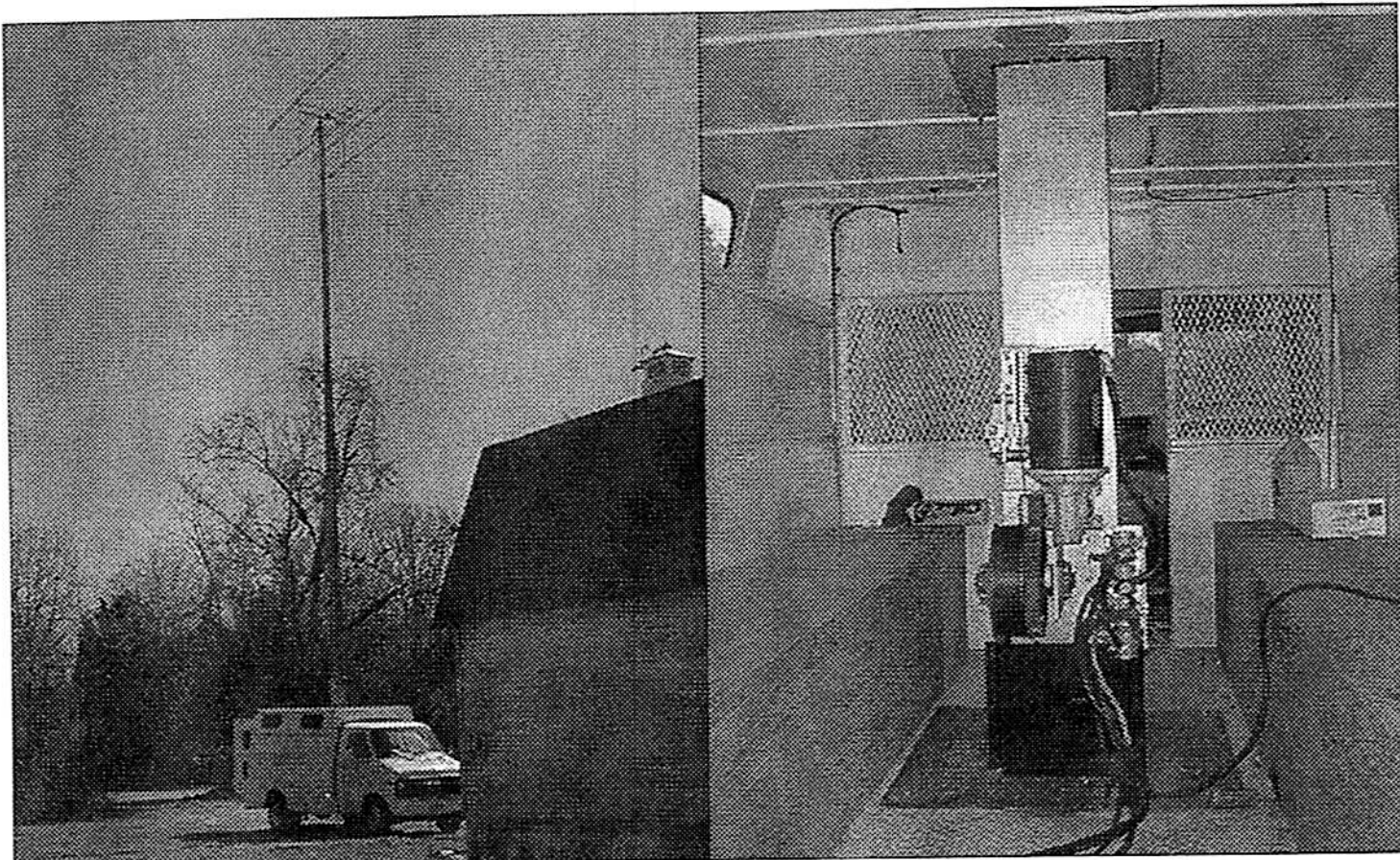


Below: This may actually be best use of "foot tools" as Ed, WA3DRC tells the humorous story of not getting any output, fiendishly beating his new rig with the soft slipper, and miraculously seeing the RF appear. So what's the diagnosis doc? You guessed it, bad coaxial connection!



Below: The beauty of a well engineered and powerful 5 watt 10 GHz transverter by WA2OMY. These pictures give our club great things to talk about!





AA2UK, Bill, reports great progress on his newest super-rover. Pictured above left is the fully deployed power mast with antennas currently installed for 7 bands. At right is a view of the mast mounting and power assembly. Aside from being a mighty pleasing sight, this rig is sure to rack up the contest points. We're all anxious to see it up close and personal real soon.

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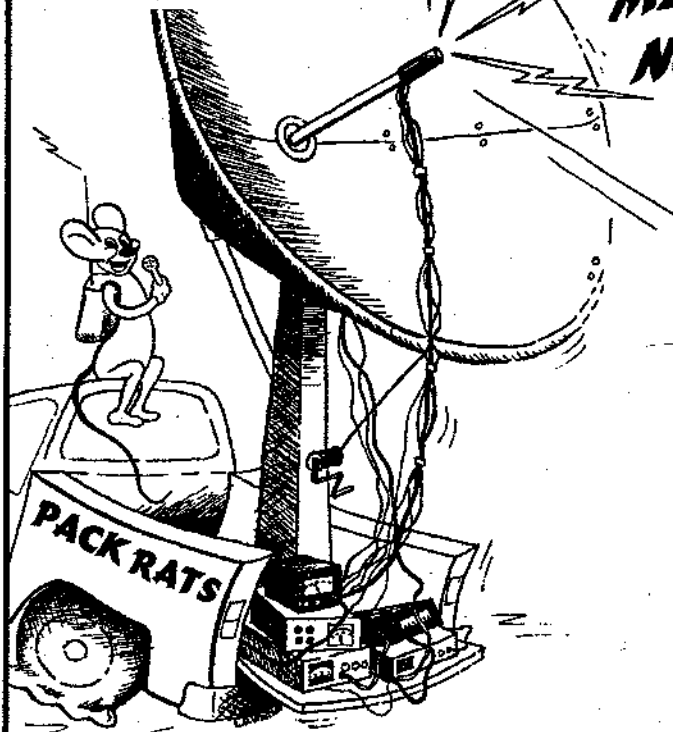
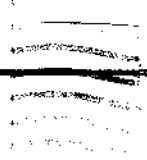
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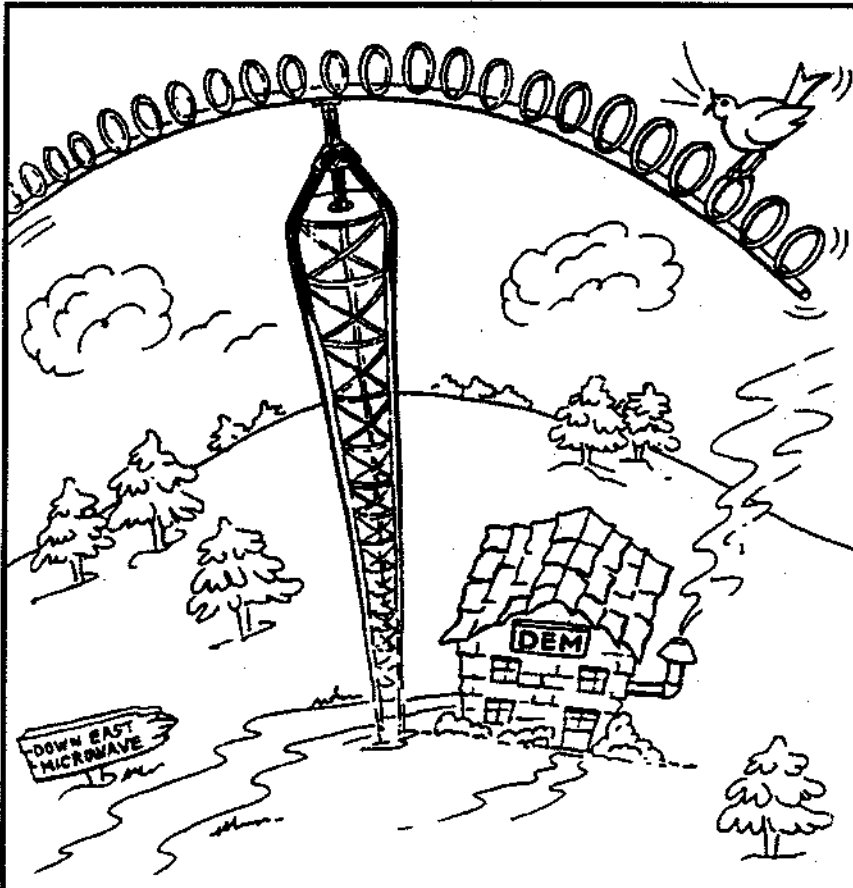


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