

CHEESE BITS



W3CCX

CLUB MEMORIAL CALL



ARRL
Affiliated
Club

VOLUME XLII

January 2000

Number 1

The PREZ SEZ

Here we go again ... The contest is only days away. Activity is picking up. Net check-ins on Monday nights are way up, with most nets going over a half-hour. It's great to hear the activity! I finally have a station going on the "forgotten band", (not just FM), and it is great to hear that it is not really forgotten. That must be a term invented by the FM crowd. I guess I believed it for a while, since it took me so long to get around to setting up that station. My contest log entries on 22x the last couple of years were very anemic, yielding only two grids there each year. Now it's time to battle in the trenches on that band too. A couple more grids will be nice.

Procrastinate? I pulled a 2304 station together a week before the last contest. I told myself not to do that again next year. Well, I think it was February when I got started on 3456, and within a couple of weeks had LO power, next I was receiving our beacon, and then I could make the rated output power. So ... , what am I working on now, two weeks before the contest? 3456, of course! I had to blow the dust off the transverter that was sitting there idle for ten months! Why do I/we save all this work for the last minute??? I hope you guys aren't all like me!

I remember saying "I don't like to contest" a couple of years ago. Well, over the last couple of years I have been learning (re-learning) a lot about building and contesting. Hey!, that's why I joined the club, to learn from the experts. Now, I actually like seeing the station in action, and get great satisfaction from the improvements and the correlation to the bottom line.

So this year, I took my weak bands and made improvements, and added a new one (remember the AA2UK challenge?). In days, it will be time to ROCK!

TURN THE STUFF ON!

Ed, WA3DRC

MEETINGS

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

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PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz, Churchville, PA FN20LE

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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 10,368.170 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:	NK8Q	610-847-2285
VHF CONFERENCE:	KB3XG	610-584-2489



THE AMERICAN RADIO RELAY LEAGUE



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PACK RATS TO LOOK FOR IN THE 2000 JANUARY VHF SWEEPSTAKES

<u>CALL</u>	<u>GRID</u>	<u>BANDS USED</u>	<u>CALL</u>	<u>GRID</u>	<u>BANDS USED</u>
KU3A	FN20kj	6-2-222-432 1.3	W3KKN	FN20kd	6-2-222-432-903-1.3
N3AOG	FN20ke	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3	W3KM	FN20jk	6-2-222-432-903-1.3-2.3-3.4
WA3AQA	FN20kc	6-2-222-432-903-1.3	K3MFI	FN20mf	6-2-222-432-903-1.3-2.3
N2DEQ	FM29ls	2-222	KA3MGB	FN20cn	6-2-222-432
W3DFM	FN10wp	6-2-222-432-903-1.3-2.3	N3NGE	FN20ad	6-2-222-432-903-1.3-2.3-3.4
N3DG	FN20kc	6-2-222-432	WA3NUF	FN20ke	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3
K3DMA	FN20kc	6-2-222-432 1.3	WA2OMY	FN20hd	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3
N3DQZ	FN20kh	6-2-222-432-903-1.3	W3OR	FM28fn	6-2-222-432-903-1.3-2.3-3.4
WA3DRC	FN20lf	6-2-222-432-903-1.3-2.3	N3OZO	FN20ke	6-2 432
K1DS	FN20id	6-2-222-432-903-1.3-2.3	10.3 W2PED	FN20og	6-2-222-432-903-1.3-2.3-3.4-5.7
K1DY	FN54jq	6-2-222-432-903-1.3-2.3	K3PHY	FN20kd	6-2-222 903
K3EBZ	FN20ke	6-2-222-432 1.3	N3PLM	FN20jg	6-2 432-903 2.3
WA3EHD	FN20kd	6-2-222-432 1.3-2.3	NK8Q	FN20kl	6-2-222-432 1.3
N3EMY	FN20kd	6-2-222-432 1.3	AA3RE	FN20if	6-2-222-432-903
K3EOD	FM29ll	6-2-222-432-903-1.3	W3RJW	FN20le	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3
K3ESJ	FN20ji	6-2-222-432-903-1.3	WA3RLT	FM29cx	6-2-222-432 1.3
N3EVV	FN20kd	6-2-222-432-903-1.3	W0RSJ	FN20jq	6-2-222-432-903-1.3-2.3-3.4
N3EXA	FN20ij	6-2-222-432-903-1.3-2.3	W1SD	FN20ji	6-2-222-432-903-1.3
K2FK	FN20mj	6-2-222-432-903-1.3-2.3	W2SJ	FM29lw	6-2-222-432-903-1.3-2.3-3.4-5.7
W3GAD	FN20mg	6-2-222-432	W2SK	FN20ke	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3
WA3GFZ	FN20kc	6-2-222-432 1.3-2.3	W3SZ	FN20ah	6-2-222-432-903-1.3-2.3
AA3GN	FN20	6-2-222-432-903-1.3-2.3-3.3	KU3T	FN20hd	6-2-222-432-903-1.3-2.3 10.3
K3GNC	FN20ja	6-2-222-432-903-1.3	K2TXB	FM29pt	2-222-432 1.3 10.3
N3GSA	FN20hk	6-2-222-432-903	WA3U	FM29jq	6-2-222-432-903-1.3
W3GXB	FN20jm	6-2-222-432-903	AA2UK	FM29qo	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3
W3HK	FN20la	6-2-222-432	W2UR	FM29ov	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3
W3HMU	FN20kl	6-2-222-432	K2UT	FM29nv	2 432 1.3
K3HZO	FN20ah	6-2-222-432 1.3	K3VEQ	FN20hf	2
NE3I	FN20id	6-2-222-432 1.3	WB2VLA	FN20of	6-2-222-432-903
KB3IB	FN20nd	6-2-222-432-903-1.3	N3XEM	FN20jg	6-2-222-432-903-1.2-2.3
W3IIT	FN20hd	6-2-222-432-903-1.3	KB3XG	FN20hd	6-2-222-432-903-1.3-2.3-3.4-5.7-10.3-24
N3ITT	FN20kl	6-2-222-432-903-1.3	WAIYHO	FN42it	6-2-222-432-903-1.3-2.3
K3IUV	FN20ld	6-2-222-432 1.3			
WC2K	FM29pt	6-2-222-432-903-1.3-2.3-3.4			

Calendar of Coming Events - January 2000

- 1 **New Years Day**
- 3 Predicted peak of the **Quadrantids meteor shower** at 0740 UTC. Check the following URL for additional info: http://science.nasa.gov/newhome/headlines/ast28dec98_1.htm
- 13 **Board of Directors Meeting** at the QTH of Rick, K1DS, 206 Kimberton Drive* in Blue Bell Country Club. Blue Bell, PA. All interested parties welcome. For directions call 610-270-8884. Meeting starts at 8:00 P.M.
- 20 **Regular Meeting** of the Mt. Airy VHF Radio Club at the Southampton Free Library on Street Rd. in Southampton, Pa. All VHFers and would be VHFers and friends are welcome.
- 22-24 **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 101 for the rules.
- 30 MMARC Post Holiday Hamfest will be held at the Odenton Volunteer Fire Dept. Hall in Odenton, MD. TI on 146.205/805.
- Feb 12 **Contest Wrapup Session** at the QTH of Joe, AA3GN, 16 Fairhill School Road, Hatfield, PA 19440. Phone 215-721-4286. Bring your printed AND computer file on a 3.5 inch floppy or get them to your contest captain ahead of time. Note that if you log with a computer (Highly recommended), it is mandatory via the contest rules to send the log files either electronically or via mail to the ARRL. Do NOT send them directly. The contest coordinator will see that they are sent.

*Enter Blue Bell Country Club from Rte 202 between 73 (Skippack Rd) and Morris, opposite the entrance for Montgomery County Community College. Stop at Gate House and tell them you are going to "the Rosens". Proceed up hill (Tournament Dr) to second stop sign, make left onto Golf View Dr, go approx. 150 yards and make right into Doral, and quick right onto Kimberton. Third house on left. Some may park in driveway, others find parking on Kimberton and Doral.

LAST MINUTE CALL: JAN. 2000 CONTEST

Well this is it guys, your last minute wake up call. With the Jan contest 2 weeks away, I know there is a lot of build-up happening. Just listening to the Monday night nets evokes images of you all working feverishly, soldering iron in one hand and mic in the other. I know I am - I hope to be up on 9 bands in some form, after moving in 2 months ago, and at this point my transverter rack is still partially rebuilt and I have 2 non-FM antennas up. But it WILL all come together! The contest packets should be arriving.

But there's still a few parties not heard from. I know you're out there and you know who you are. (You can lead a horse to water.. - who said that anyway?) but you'll be the one missing out on the great activity and camaraderie. If you need any help, let us know. It's not too late - YET.

February's meeting is the crying towel. I know it's a tradition to hear of all the horror stories and disasters, but I don't want to hear of too many of these! We need to learn and not keep repeating the same mistakes! But it will be a lot of fun I'm sure. 73, Joe - AA3GN

PRE CONTEST 2304 NET

Over the past month or so, a number of Packrats in FN20 have been holding an informal net on 2304.100 on Monday evenings following the Packrat 903 Net. We usually start around 10:15PM EST. We started this net to help us check out our equipment in preparation for the January Contest and to promote more weak-signal activity on the 13cm band. Active stations include AA3GN, N3XEM, N3EXA, N3PLM, WA3DRC, WA3GFZ, WA3NUF, and KU3T. Power levels used range from 1W to 10W or so. Some of us are using dishes, some are using loop yagis. If you are QRV on 13cm, please give a listen for us and check in. We would like to see this activity eventually grow into an official Packrat Net to be added to the list of nets sponsored every week by the club. Looking forward to seeing many of you on 2304.

PACKRAT JANUARY 2000 VHF CONTEST FEARLESS FORECAST

by Jerome Byrd, K3GNC, FN20kc

<u>Expected Points</u>	<u>Call</u>	<u>Expected Points</u>	<u>Call</u>
300,000 - UP	W0RSJ	80,000	NK8Q
250,000	W3RJW, AA2UK (Rover?)	75,000	WA3DRC, W3KM, W2SK, N3ITT, K3EOD
175,000	WA3NUF, N3NGE	50,000	N3AOG, KU3T, WA3EHD, WA3FZG, K3MFI
150,000	W2UR, WA2OMY, W3OR	30,000	WA3AQA, K3UIV, KB3IB
125,000	N3EXA, W2SJ, W2PED	25,000	W3KKN, N3XEM, KB3XG
100,000	AA3GN, K3GNC		

SORRY FOR ANY OMISSIONS OR OVERSIGHTS. I HAVE BEEN WORKING '2' FULL TIME JOBS DURING THE LAST YEAR AND HAVE LOST TOUCH WITH THE VHF+ SCENE. I WILL GET MY NIGHTS BACK STARTING IN FEBRUARY, AND LOOK FORWARD TO GETTING ACTIVE AGAIN. GL TO ALL! GO RATS!! JEROME, FN20KC, 50...1296 (Maybe 2304)

NEW MEMBERS VOTED IN AT THE DECEMBER MEETING

W3SZ, Roger Rehr, 2 Merrymount Rd., Reading, PA 19609, Grid Square: FN20ah, Berks County, Extra, Active on 50, 144, 432, 903, 1296, and 2304 MHz. WWW Homepage URL: <http://www.epix.net/~rrehr>. E-mail at: rrehr@epix.net.

WA3GFZ, Paul Sokoloff, 508 Gen Patterson Dr. Glenside, PA 19038. Montgomery County, FN20kc, Technician Plus, Active on 50, 144, 432, 220, 1296 and 2304 MHz.

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:

Name: _____ Call: _____

Street Address: _____

Town: _____ State: _____ ZIP: _____

Subscription Rate: \$10.00 per year (USA), \$12.00 (Canada), \$15.00 (Worldwide)

January 2000 Send to: SUBSCRIPTION/ADVERTISING MANAGER:

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

TID BITS

As of 12/28/99, Steve Dallas, ex WB3KRW is now **W1SD**.

The latest edition of the OZ50MHz DX Bulletin #99-052 is now uploaded at <http://www.qsl.net/oz6om/>.

NEWS Letter. Del, K1UHF announced that the latest issues, Nov and Jan on his web page: <http://www.qsl.net/k1uhf>. There are some excellent articles by Paul Wade, W1GHZ and Fred Stefanik, N1DPM in these NEWSletters. They are in .pdf format and can be viewed and or printed with Adobe Acrobat. Hope you enjoy reading them. Happy Holidays and all the Best for Y2K!, 73

Sunspot Cycle 23 Progress. Here's a site with some info on the progress of the current sunspot cycle: http://science.nasa.gov/newhome/headlines/ast16dec99_1.htm. It's pretty basic as it is intended for the masses. The "butterfly" diagram is quite interesting. Don't miss the link to the full size GIF if you have the bandwidth.

HEALTH & WELFARE: Cinda, the XYL of John Sortor, KB3XG, passed away December 16 after a long illness. Memorial gifts may be offered to the following location researching Huntington/s Disease in Cinda's name: H.D.S.A, Inc., 140 W 22nd St. New York, NY 10011.

BEACON REPORT: Well, Santa has visited Belize and the V31PC beacon is on the air as of Thursday, 16 December. I am told that the antenna is ~6 feet above the peak of the roof of Don's house and that an in-line vswr meter is showing that things are working. He has some kind of transistorized radio that can hear the beacon in his house. 73 Herb, W3BO. Ron Whitsel, W3RJW, reported that that the V31BC beacon is about 50.076 MHz. It is powered by a solar cell and battery power source. Check out the photos on the Pack Rat web page at: http://www.ij.net/packrats/v31_pc/v31pc.htm.

LET US KNOW IF YOU HEAR THE BEACON ON THE AIR!

LADIES' NIGHT: Dick Comly, N3AOG, has volunteered to be Ladies' Night 00 chairman and has all the arrangements under control.

HAMARAMA 00: Joe Keer, KU3T, and W3RJW have volunteered to be Hamarama 00 co-chairmen.

JUNE 99 CONTEST REPORT: Chairman Al Sheppard, N3ITT, reported that W3CCX won the fifth place multiop plaque in June 1999 as we had expected.

The **January /February 2000 issue of QEX** has the following articles of interest. "Build this 250 MHz Synthesized Signal Source" by Steve Hageman. It is PC controlled and covers 2 to 250 MHz with 1 Hz resolution and output levels from -15 to +15 dBm. External doublers can take the output to 1 GHz with a loss in phase noise quality and output level. "Effects of Boom Length on Yagi Element Lengths at 144, 432, and 1296' are described by Tom Duncan, KG4CUY. For the digitally inclined, see "A Homebrew Logic Analyzer" by Larry Ciochinelli, K3PTO. Part 4 of "A High-Performance Homebrew Transceiver by Mark Mendelkern, K5AM is included. Zach Lau, W1VT, finishes things off in his "RF" Column with "Feeding Open-Wire Line at VHF and UHF". Baluns are modelled using ARRL Radio Designer software.

The **Receiving Chapter from the 432 & Above EME Newsletter collection** on my web page All kind of preamps and tuning stuff. The Antenna Chapter will take some more time. Best regards, Geert PA3CSG. Check <http://members.xoom.com/PA3CSG/>.

SWAP SHOP

(send all ads to the editor)

FOR SALE: CALLSIGN HISTORY. Name and address of each holder since 1912. Cost \$15 plus SASE for printed CERTIFICATE. Wanted CallBooks 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 OR TRADE 28/144 DEM transverter all paperwork included like new condition. I wish to add a DEM or equal quality 432 transverter to my IC-746. Call 610-562-1411 or e-mail k3cwh@juno.com. Craig Huntsinger

W3HFY's Estate Sale. The following items from Hal, W3HFY's shack are being offered for sale by Hal's daughter-in-law, Lynn Grace. The price on each item is negotiable. Lynn's phone number is 610-259-0231 (**NOTE CORRECTED PHONE NUMBER**).

AEA PK900 DSP TNC. \$250

AEA DSP 2232 TNC \$200

MFJ 1278B TNC \$100

MFJ 1278T TNC \$100

Icom 251 2 Meter All Mode Transceiver \$300

Icom 451 432 All Mode Transceiver \$300

Icom 3220H Dual Band VHF/UHF Transceiver \$250

Icom R71 Receiver \$600

Icom AT 500 HF Auto Tuner \$500

Icom 737 HF Transceiver w/PS15 \$800

Icom 970H VHF/UHF Transceiver with 144/432/1296 and vox \$2500

Palomar Power Meter \$125

Swan SS200 Solid State 100 watt HF Transceiver \$200

JPS NIR-12, \$175

Astron RS35A Power Supply, \$100

SWAP SHOP Contd.

FOR SALE: I am in the process of getting rid of a lot of electronic parts and some ham equipment. I have several parts bins full of things like resistors, capacitors, transistors, ICs, etc. I'd like to sell off the bins intact with the parts in 'em. (That would be more handy for the person who buys the stuff!) There are chip capacitors, power transistors, GaAs FETS, MOSFETS, feedthroughs, and a whole bunch of parts from older Microwave Modules transverters and amplifiers. There are also numerous ICs, including TTL, linear, and CMOS. Tons of disk capacitors, PIN and other RF diodes, RF transistors, small trimmer caps and other goodies abound. I'd be willing to part with all of the parts bins for \$75. I also have a lot of RG-8 and 9913 feedlines (50' or so runs), plus two 2 meter short yagis, \$25 each, a nicely built H-frame for 1296 or 33 cm yagis (free!), and a 2M/440M collinear antenna for FM work. Finally, there's a Yaesu FT2400H, \$150, MMT200S 144 MHz power amp (only running about 150W out) \$150, and Astron RS35 power supply available \$50. I also have schematics of many MMT products, including transverters. I also have some Bird 43 VHF slugs available. Interested folks can contact Pete Putman, KT2B at 215-345-8004, or evenings at 215-230-1860 or phputman@pil.net.

1999 VHF+ CONTEST GRAN PRIX STANDINGS - RELEASE 1

By Jerome Byrd - k3gnc, fn20kc (Compilations by k5iua)

Single Op Category

<u>Call</u>	<u>Sec</u>	<u>Jan</u>	<u>Jun</u>	<u>Aug</u>	<u>Total</u>	<u>Call</u>	<u>Sec</u>	<u>Jan</u>	<u>Jun</u>	<u>Aug</u>	<u>Total</u>
K1TEO	CT	415776	378658	95202	889636	KU8Y	MI	146316			146316
WA2FGK	NNJ	271744	203190	126048	600982	WB2VVV	NNJ	69608	75168		144776
K1UHF	CT	225295	220160	54441	499896	K4QI	NC	52216	68248	24072	144536
K1RZ	MD	230112	157174	33294	420580	K3SIW	IL			140616	140616
WA8WZG	OH			350424	350424	K8MD	MI	56502	74443	9159	140104
K3DNE	MD	153283	141115	12546	306944	K1GX	CT		136629		136629
K9PW	IL	300040			300040	W1GHZ	EMA	67890	66924	1008	135822
KE8FD	OH	150308	144313		294621	W2SJ	SNJ	104080	6987	22317	133384
N2BJ	IL	151704	101970	3834	292014	KB0VUK	MN	52800	59492	13038	125330
W3RJW	EPA	255112			255112	K3GNC	EPA	75081	42730	6699	124510
K8TQK	OH	103774	133101	16530	253405	N0LL	KS	51100	71378	1782	124260
WW8M	MI			242820	242820	N3EXA	EPA	123215			123215
W0UC	WI	211500		18144	229644	W3OR	DE	102950	15225		118175
W8CM	NTX	104250	118030		222280	KAIZE	WPA		117876		117876
K1TR	NH	87696	98171	24645	210512	K0GU	CO		117832		117832
N3NGE	EPA	155349	52074		207423	K2DRH	IL	40002	75524		115526
N1DPM	WMA	133701	67648		201349	K5AM	NM	10592	99800		110392
K2UOP	WV	68912	104104	20670	193686	W4RX	VA		106335		106335
K5IUA	STX	36000	146664		182664	W2PED	SNJ	104104			104104
WZ1V	CT	154187	27010		181197	KB2ZVP	NNY	62640	40125		102765
KA2RDO	WNY	180540			180540	W5LUA	NTX			101277	101277
WA3NUF	EPA	178176			178176	K2AN	WNY	54375	39895	2772	97042
K5MA	EMA	72576	103212		175788	WA1MBA	WMA	59046	35882		94928
K2YAZ	MI	73899	63655	37230	174784	K2SMN	SNJ	92597			92597
N6HKF	ORG	46250	101010	10050	157310	VA3ST	ON	40273	39183	12150	91606

FREQUENCY WEST BRICKS & SUCH

By Owen Wormser, K6LEW

Gang, after modifying several Freq West bricks (Cal MW also) I thought I'd pass on a tip which solved a major problem for me.

Many times when I find bricks used the SMA connectors are either broken or so badly worn they need to be replaced. One would think replacing would be one-for-one assuming form, fit, and function. Well this hasn't been so in many cases at this end.

So, my remedy which I found works today: remove broken / worn SMA, remove pin or interface (de-solder, use a very hot iron but be brief / on and off!) that went to this connector from within the output filter or port of the unit. Drill the clearance hole that had a Teflon insert using a #3 drill, tap this hole to 1/4 X 28 (a tap most of us have), take your 14 X 28 die and re-thread a 1/4 X 36 SMA bulkhead barrel connector (barrel on both ends) with a 9/32 fixed nut, offset flange (this works - trust me). Take a male pin out of any standard .141 semi rigid connector pack, drill the output body in the output filter using a #55 drill (be careful and use a handheld pin vise), insert the male pin so the taper is pointing outward (toward the filter cover you removed / or case side or case top). Thread the re-threaded barrel (short end) into the tapped hole (tighten snug, it won't back out). Align all your parts, the male pin will now engage the female end of the barrel at exactly the correct depth, push it all together, replace your screws and you have a good, solid output connector for a change. As Terry says: "works good / lasts a long time".

Hope this helps someone out there, it sure worked nice for 3 bricks so far here. Owen Wormser, K6LEW / FM18, K8GP / The Grid Pirates, owormser@c3iua.com, 202-362-8255, <http://www.c3iua.com>, http://www.qsl.net/dvms_k8gp

CRYING TOWEL 2000

de Griff NE3I

I won the 1999 Crying Towel. It's a nice beige colored hand towel with the Packrat emblem hand stitched in red on it. A relatively new member to the Club, I accepted it in Yankee Doodle fashion. I think it was my sad story about being left abandoned, forgotten on 432, a Packrat QRP Orphan, while some of the veterans went off to 23 Zillion Gegahertz or some other cosmic region. Resurrected by Ernie, W3KKN, for a QSO that brought my 1296 total to 15, my story ended on a positive note and so I got the Towel. After the business portion of the meeting, a few of the fellows offered their congratulations. Rupert, a well known operator and Club pillar commented, "that's a nice towel, but you know we really don't want you to win it again next year." Accepting his mentoring advice, I thought little about it, until the next week's nets when another seasoned Rat offered, "yeah, congrats, I still have mine from years ago somewhere, but it's really not something you want to win too often."

I took the towel with me to the next happy hour I had with a few of my lawyer colleagues. They are always razzing me about being a ham, so I thought I would show them my new accomplishment. "So Griff, how are things on the bands, scattered any new meteors lately?" Mike, the management type inquired as I strode in. "Still keeping your distance from your cell phone antenna? Bill, the litigator asked. Anthony, the mergers and acquisitions guy, just watched. I showed them the Towel, this award from the prestigious Mt. Airy VHF Radio Club and, to my surprise, they were intrigued and impressed. "Crying Towel Award for the best sad story? It sounds like an appellate advocacy award. You should submit it to the Bar Association Newsletter. "Mike was always looking at things from a marketing perspective. " No," I said, "It's really a kind of gag award. Like they said, you really don't want to win it too often." At this point, Bill's interest picked up. A litigator, Bill always examined testimony for the true meaning. "We really don't want you to win it next year? Hmmm, tell me about Rupert." "Well," says I, "He is a highly respected operator, an officer in the Club." Bill... "Officer, I see, a politician. Could be he's acting for someone else, could be he wants it for himself!" "Ohh no, It's a joke, it's for entertainment at the meeting following the Contest." I responded. At this point, Anthony, gave us his valued analysis. "I wonder if Bill may be on to something. Perhaps this asset has some hidden value. Let me see it." I was a little impressed, since Anthony had never diverted his attention from his cognac before to talk radio. "Of course, it's obvious what their play is, just look at it. What do you see?" As Mike and Bill looked on, Anthony, apparently going to confirm their remarks, I said, "Well it's a nice towel I suppose with red stitching, the annual award of a very prestigious Club for unsuccessful effort" "No, Griff, sometimes the obvious is the most obscure, what's the first thing you see?" Now a little exasperated, and really getting into this more than I wanted, I blurted out, "Well, IT HAS A RED RAT ON IT!" Anthony, satisfied that we had yet to discover what was so obvious to him, sipped his cognac with a smug smile. Bill and Mike, pretended now not to be too interested. "No, the first thing you see, look at the date." Ok so it says 1999, miffed at his style and still waiting for my drink to arrive, all I can think of is, 1999, it has three 9s, in baseball, threes and nines are wild and with a 4 you get another card. "I give up, why don't you tell us", trying now to include Bill and Mike in the group that didn't get it. "Griff, this is no mere award of a prestigious organization generating specialized electromagnetic radiation, effort hell, of course they don't want you to win, of course they covet it for themselves, this will not be just another hand towel with a red rat stitched on it, this, will be the MILLENIUM CRYING TOWEL!"

I was struck speechless by the thought that I had missed it. This effete, pompous, nonham saw the real challenge and purpose of the contest, that had almost been lost on me. The Millennium Crying Towel, I had to have it. An opportunity like this would not come for another thousand years! New feed line, new band, not enough. This would require everything that four years of Army ROTC training and all those reruns of Patton and other old movies could provide. "When you are few, fight where only a few can fight." (CW?) Concentrate your forces and attack when the enemy is weak." (2AM, trade time for power?) "When the enemy is strong, disperse into the hills." (Rover?) This year it won't be just another one of those poor orphan stories they taught in Law School. Gloves off, Rats, this will be war!

The characters and events in this article, except for the author, are fictional. No insult, offense, libel, slander, claim or other cause of action is intended or implied. See you in the Contest! **Go Packrats!**

Tower-Mounting Enclosures

de Steve Harrison, K0XP

In response to questions on the VHF Reflector.. At 04:27 PM 1999-07-01 -0500, Kenneth E. Harker wrote:

a) Where do you buy the waterproof enclosure? Does anyone have a favorite source?

Home Depot has several PVC boxes of several types with rubber gaskets on the lids. The ones I'm thinking of are located in the electrical goods, next to the electrical conduit racks and are apparently used as junction boxes to join conduit. They have no pre-stamped holes so you can do what you want to them.

Home Depot also has other PVC boxes without watertight lids in the plumbing section, apparently intended for sewage line junctions. Those are just as expensive as the electrical junction boxes and usually have large pipe junction holes in one or more sides. I found them less useful for my ideas.

Down there in hurricane and tornado country where rain blows upward more often than downward, you may not want to do what I, up here in the near-frozen north, do: I cut a side, or at least a hole, out of the box that will face downward when mounted on the tower. Not being concerned with salt corrosion, I don't worry about sealing my boxes. The largish holes in the bottom provide plenty of room to bring in hardline and Heliac. I've found it best to use a larger box than necessary because it seems that the older the box gets, the less flexibility my finger and wrist joints have with which to tighten and loosen cable connectors. ;o) Often, I do wrap my connectors with electrical tape to provide some rudimentary protection against outright corrosion which makes the connectors turn dark and ugly after a few months. (It's also harder to see small spiders and wasp nests inside a box where the connectors are no longer shiny enough to reflect your flashlight's beam).

Tower-Mounting Enclosures contd.

I mount a sheet of aluminum to the outside of the box by which to mount the box to the tower legs, and drill the U-bolt holes into that sheet. Relays, preamps, etc. are mounted inside the box on available metal brackets or standoffs. I try to minimize the number of screw holes in the backside of the box by mounting as much as possible on each metal bracket, then the bracket to the inside walls of the box. Screws holding internal metal brackets are flathead, inserted from the outside of the box. This is much more water-tight as you can coat the countersunk holes through the outside of the box with silicone rubber. In addition, they then don't interfere with the fit of the main box mounting bracket on the outside.

A 6"-cube PVC box costs about \$11 from Home Depot, and the much-more-convenient 12" x 12" x 6" box is around \$25. I don't worry about UV protection since I doubt any one box will be used for more than a dozen years without major innard modifications anyway.

Cables are always run up into the bottom of the box; this also provides automatic rain droop loops on the cables. Control cables and the like are run into the bottom, terminated with Molex connectors that are coated with grease to prevent corrosion of the steel pins. I try to rigidly mount the box's Molex connector through a metal bracket. Drain and ground wires are ALWAYS grounded to the box's tower-mounting bracket on the outside wire through several strategically-placed through-screws. If any voltage regulators are used, the internal metal brackets provide good heatsinks. For example, my main DC power buss to my boxes is 28VDC; all preamp and relay power is derived from that buss. A device requiring a lower voltage is provided with its own voltage regulator, which also provides some backward transient protection from getting on the main 28VDC buss. Control and power cables are strain-relieved inside the box before the connector is inserted into its mate.

If you need to do some kind of rudimentary weather-tight sealing around the cables, consider using pieces of rubber inner tubes from a tire shop. What you could do is to cut some strips of metal with which to clamp the tube to the bottom edges of the box, then drape the rubber downward and around your cables, securing with tape, hose clamps, UV-resistant cable ties, etc. Clamp the rubber between the metal pieces and the box walls, INSIDE the box to prevent water from dripping between the tube and box and then inside.

b) I've seen that some of y'all up north use things like hot plates to keep the contents of the box from freezing in the winter. In STX, we have sort of the opposite problem. Any thoughts on the need and/or practical means of keeping the box cooler than the ambient temperature?

There are some articles indicating that cooling of preamps by the use of thermoelectric Peltier-effect coolers can be of some very slight advantage; an improvement in noise figure of several tenths of dB is usually found; but the larger difference seems to be that the gain may increase by several dB. The worst thing you can do, in my opinion, is to air-tight-seal the box because that prevents any heat transfer by convection or forced-air (breezes, such as they may be). The next worst thing is probably to attempt to use the tower legs as a heat-transfer surface; recall how hot tower legs get in direct sunlight.

If you need to heatsink something, the heatsink should be shielded from sunlight and provided with a clear convection path for air flow.

You may be able to provide some small relief inside the box by using Peltier-effect devices; but remember that the hot side still needs to be cooled by a heatsink. In addition, of course, the power required by even moderate-sized coolers is usually somewhere between ridiculous to unobtainable at the top of a tower.

If you do a simple power-dissipation exercise of the innards of your box(es), you will likely find that your TR relays are the largest emitters of heat. This becomes even more important when you begin running serious power; i.e., upwards of a kilowatt; because the relay losses of just 0.05 dB equate to a power dissipation, INSIDE the relay, of about 11.5 watts; 0.1 dB would be double that, or almost 24 watts! The majority of that power is dissipated in heat in your relay, and then there's the coil power itself. So, TR relay power dissipation become especially critical. No wonder so many preamp-TR relay combinations fail!

You can help that situation by mounting your relay(s) on brackets inside the box, and by running your hardline-Heliox cables directly to the relays; the more metallic mass you have mechanically-attached to the relay frame, the more heat will be conducted away from the relay.

I can't talk about transverters with local oscillators mounted inside such tower-mounted boxes as I've never yet done that. But I would assume that the operating temperature inside such a box, whether sealed or open as mine are, can get up to +150 degrees Fahrenheit on a hot, sunlit day with no cooling breeze. PLAN for it, then DESIGN for that minimum operating temperature; your box will last a lot longer.

Even if you double-box, you still have to be concerned about heat removal from the innermost box. It's surfaces may no longer be heated by the sun; but then the surfaces, if shielded from free air flow, also will not radiate any heat.

I, personally, would not consider the use of any blower or fan inside such a box; without other elaborate detection methods, you have no way of knowing whether the motor of the fan/blower has died. But there are some small Pentium fans available with heatsinks and thermal sensing elements which you might be able to adapt to such use. The downside is the failure of such a fan in your computer manifests itself in destruction of your \$100+ CPU; inside your box, such failure would likely manifest itself in turning you into an alligator in the middle of the greatest all-time 222 MHz Es session of all time.

Radio Shack, from time to time, has cheap electronic thermometers on sale for as low as \$9.99. You could mount the temperature-sensing element inside the box, then bring the signal into the shack through shielded wire. Be aware, however, that most of those devices are extremely sensitive to RF fields and if they survive the first keydown of your kilowatt, will likely give you an erroneous reading until you stop transmitting and the device has sampled the temperature again. I have not yet tried bypassing the sensor leads on my own outside thermometers. 73, Steve K0XP

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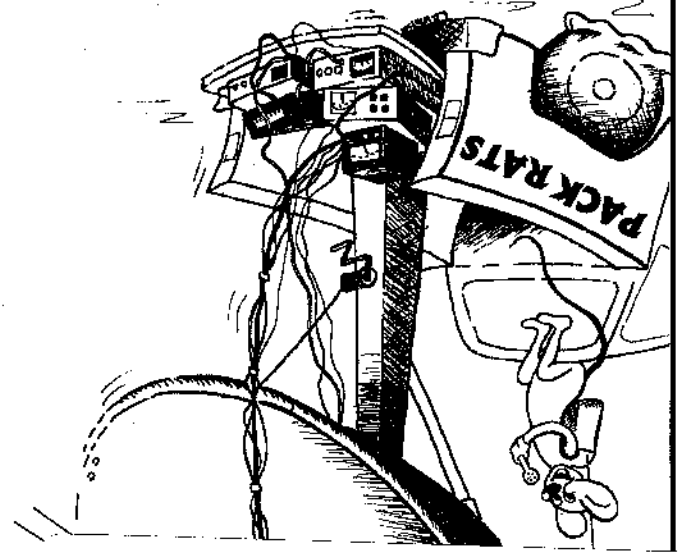
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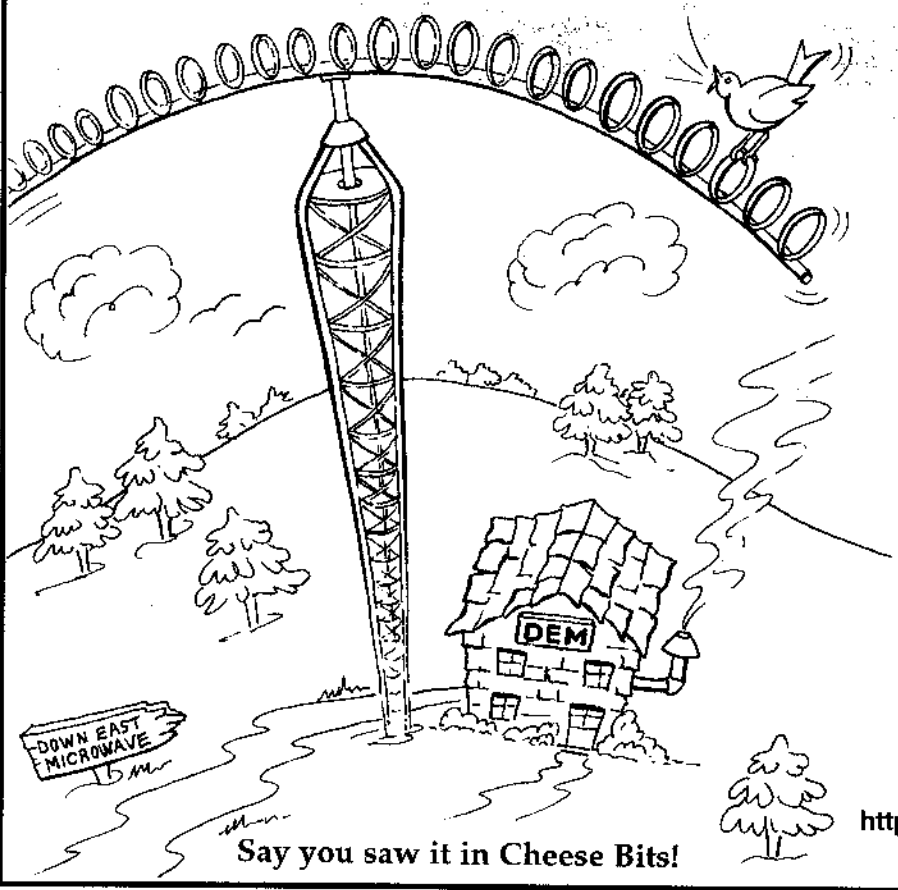
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