



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume L

May 2009

Number 5

PREZ

SEZ:

After the meeting this month, I really felt that we had a club that was real together. A dozen folks showed up for another "Meet the Speaker" dinner at

Giuseppe's and then we had a full house for the meeting. Lots of balls being juggled with 903 amplifiers being converted, surplus 2GHz amplifiers on display for potential high power ham band conversion, connectors galore for sale and silent auction of small items from the estate of W3NSI. In addition there were a number of important topics discussed, the awards announced and distributed by KB3GJT, the Mario raffle, refreshments, and a fabulous speaker, Steve Kostro N2CEI from DEMI, now located in Live Oak, Florida. Steve was accompanied by Sandy Estevez, newly licensed with a "4 area" call sign.

Mike KB3GJT did a fantastic job with the descriptions of the awards categories and the efforts that were made to win them. I want to congratulate our Pack Rat of the Year, Phil Theis K3TUF, for his contributions in so many areas: programming, computer logging network, stimulation of activity and building including the 903 amplifier conversion process, and his leadership for the June contest. I am also grateful for the contributions made by this year's Mario Fontana award winner, Randy Bynum NR6CA, for the construction of microwave transverters to enhance our club member's experiences and rover capabilities.

EI K3JJZ has done a super favor to the club by coordinating the acquisition of several surplus pieces of useful equipment that was located by Dan WA3NFV. EI drove to Washington, DC to load up his Murano with as much as he could bring back, and is coordinating with Gary WA2OMY for the rest of the available items, and with N3ITT for the storage. This will turn into an excellent club project, and we are making a list of those who are interested in using these amplifiers on 2304.

Elections are set for the June 18th meeting at Otto's Brauhaus. I have really enjoyed my extended term as president for the past five years and I am ready to pass the gavel to the next president, and continue to assist as immediate past president. The nominating committee is active in making a slate of new officers and board members. Make sure you mark the date for a great meal and brew (Dutch treat) and elections at Otto's.

The June contest is around the corner and we are preparing to have fun. The big guns are all being powered up as we have nice high power for ALL bands through 24GHz. Look at this line-up—KW each on bands ABCD, 100+ watts on E, 80W on F, 40W on G and 10W each on HI and 2W on J. LASER also is ready. Coupled with the nice antenna arrays and dishes, we should be in great shape—if all the members support the effort.

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PACKRAT BEACONS - W3CCX/B

FM29Jw Philadelphia, PA
50.080 144.284 222.064 432.286 903.072 1296.245 MHz
2304.043 3456.207 5763.196 10,368.062 MHz (as of 1/08)

MONDAY NIGHT NETS

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:30 PM	50.145 MHz	K3EOD FM29II
8:00 PM	144.150 MHz	N3ITT FN20KI
8:30 PM	222.125 MHz	K3TUF FN10WE
8:30 PM	224.58R MHz	W3GXB FN20JM
9:00 PM	432.110 MHz	WA3EHD FN20KD
9:30 PM	1296.100 MHz	K3TUF FN10WE
10:00 PM	903.125 MHz	W2SJ FM29LW

Visit the Mt Airy VHF Radio Club at: www.packratvhf.com or
www.w3ccx.com

Editor's Column

Next Meeting: Thursday May 21st, 2009, 7:30pm. At our usual site: the Ben Wilson Senior Center, 580 Delmont Ave., Warminster PA. We will be discussing strategy for next month's contest operation at Camelback. At the same time the 903 Engineers will be diligently working on the Motorola Amplifiers we've been modifying so bring them along. This is another "don't miss" meeting; come on down!

Sincere thanks to Steve Kostro of Down East Microwave and Sandy Estevez for stopping by our last meeting on their way up to the Eastern VHF/UHF Conference. If you missed the meeting, Steve made a great presentation on how he does microwave operations in the flat, "target poor" environment of northern Florida and how well such ops can work out. He also related some amusing examples of local Florida culture and customs. Finally he demo'd a new DEMI product: the A-32 preprogrammed synthesizer. This device makes very stable signals at all frequencies needed for making LO's at 2.4, 3.4, 5.7 and 10 GHz. It's also a great weak signal source for receiver and antenna testing. Phase noise is modest and "good enough" for the planned uses. Check the details at the DEMI site.

73, Lenny W2BVH

... Prez Sez continued from p.1

Make sure you let our chairpersons (N3ITT and K3TUF) and band captains know what roles you will be playing. We are also recruiting a new set of rovers, and we have additional microwave gear with which you can be outfitted. If you haven't roved before, we will try to have a tutorial and mentored roving session on Sunday for the nearby grids. As always, we need loading, set-up, take-down and unloading assistance on Friday and Monday.

If my back allows, I am getting the rover trailer out of storage and attempting some EME on 144, 432 and 1296. Thanks all for help along the way in this effort. Many Packrat members are also members of the Warminster RC and they are holding their hamfest flea market on Sunday May 3rd, 2009 at the Middletown Grange Fairgrounds, Wrightstown, PA. Open at 7 A.M. (Vendors at 6 A.M.) rain or shine! Check it out if you can.

Packrat Awards Presentations in Words and Pictures

Text by Michael Sabal, KB3GJT
Pictures by El Weisman, K3JJZ

January VHF Sweepstakes



This year, with 60 logs submitted, we found ourselves in a bit of a dry spell with a total club score of only 1,891,298 points. The last time our score was this low was in 2005, when we submitted 1.4 million points. So where did all the points go? Even though the microwaves seemed to be producing as many contacts as ever, the bottom four were a barren wilderness. Even though we faced few band enhancements, poor health keeping some of our larger stations off the air, and somewhat lower overall activity, our club still rallied to laudable achievement.

The first award tonight is an honorable mention to next year's most improved station. In the wake of making a hearty effort, but walking away empty-handed, Al Arrison, KB2AYU, submitted a log

claiming zero points. We wish him better luck next year, and our whole-hearted appreciation for the effort and the log.

At the other end of the spectrum, a regular feature both on the air and at the awards table, with 575,424 points, the first place multiop again this year is N3NGE, with help from K1WHS K9PW K3EGE N2NRD KB2AYU N3AD W2PED KB3MAW.



Another regular at the awards table is our fearless rover and fearless leader, with 139,656 points, K1DS/R, Rick Rosen.



Joining him on the road this year is our most improved station, a 469% improvement over last year, NE3I/R, Griff.



Rounding out our first place awards, the single operator high power and single operator low power awards ended up being the battle of the Phils. With 236,082 points, the high power winner is K3TUF, Phil Theis.



And with 101,970 points, the low power winner is WA3NUF, Phil Miguez.



Leaving nothing to sneeze at with respectable second place scores, our single operator high power second place award goes to Michael Gullo, WB2RVX, with 109,863 points.



And our single operator low power second place award goes to Roger Rehr, W3SZ, with 55,722 points.

Our third place single operator awards provided a bit of an upset.
SOHP: WA3DRC, Ed Finn, 69,207 pts
SOLP: WA3QPX, Paul Domanski 31,120 pts

...continued



Homebrew Awards

The homebrew projects this year were all quite inspiring. Just remember that you don't have to be a top notch engineer to bring in a project for homebrew night. The more we all practice the art of building our own equipment and operating environments, the more we'll have to take pride in and share. So break out the hammers and soldering irons, it's time to get building. For this year, we have three awards.

The technical award goes to digital guru and all around smart guy, Joe Taylor, K1JT for his weak signal articles.



Making us drool over the power behind the power, for Best Construction on his towers, K3TUF, Phil Theis.



And for keeping the club supplied with quality transverters, we give our thanks, applause, and Most Ambitious award to Randy Bynum, NR6CA.



Special Recognition Awards

This year we'd like to offer special recognition to these fine hams:

In honor of **Bill Seabreeze, W3IY**, the Mt. Airy VHF Radio club board of directors has selected **MARK ADAMS, K2QO/R** as the recipient of the **2008 Rover Recognition Award**.

While we'd like to honor all of our members for all the work you put into making our club great, we can only pick one Packrat of the Year. Our honoree this year has gone out of his way to improve our contest efforts throughout the year; regularly motivates all our members to contribute their best; and is an inspiration of energy and sacrifice to us all.

We are proud to recognize the **Packrat of the Year for 2009**, since he doesn't have enough awards yet, **K3TUF, Phil Theis**.



And finally, **our most prestigious award** is in memory of one of our most beloved members, **Mario Fontana, K3UJD**. This award is presented periodically to a Packrat who has "enriched the enjoyment of VHF radio by the amateur fraternity through the unselfish donation of technical services including time and talent." This year, the board of directors has elected to bestow the Mario Award to **Randy Bynum, NR6CA**.



Congratulations to ALL!!!

Correspondence

I want to thank all of you for the honor bestowed my way in the form of the Packrat of the year award. I am indeed thankful to all of the members who have assisted me in my 6 year (so far) quest to conquer the higher bands.

Onward and upward!

Thank you Packrats,
Phil K3TUF

Wow, that is really exciting. And of all awards, I got the Mario Fontana. I don't know what to say but thank you and that it is a real honor.

Randy Bynum, NR6CA

Randy also asked to let the Packrat membership know that the has a complete DEMI 10GHz transverter (with amplifier and relay) available at an excellent price. Offered to 'Rats only. Contact Randy directly if interested. --Ed.

Please note that my new call is W1SMS (old call KF6AJ).

73,
Steve Simons

It was a late night on the return trip to Bear Creek, but well worth the ride. Thanks to all the Pack Rats at last evening's meeting. It was a pleasure to see so many active hams with love for our hobby. Having eyeballs with guys that I have been saying "Thanks for the Contact" plus "any other bands" for so many years. Perhaps some day I will be retired, and be able to have more time to leave North East, Penna.

With Steve's help, I now have in my possession a new state of the art 5 and 10 gig system. I look forward to having 10 bands in the June Contest. Plus working the special 10 gig contests, a few time a year...

Lastly, when I was getting ready to leave, I overheard a gentleman in a wheelchair with a familiar voice. I leaned down and asked his call. W3 King King Nellie... That call takes me back to my childhood. Never having met Ernie before, he was a mental mentor to our infancy of contesting.... Thanks for all the years Ernie.

73's to All
Herb K2LNS

Station Manager f
for the WA2FGK

Contest Elmering for KB3NRL by K1DS during the 144 MHz Spring Sprint

Had KB3NRL at the mike this time. He is learning to VHF contest as a relatively new Packrat. He also was helpful in getting the antenna set-up on the van as I have a disc problem and can do no lifting or bending.

Running about 305 W and using the LONG (32') yagi at about 15' we had 59 QSOs in 16 grids for the 3 hours we were on the air. The NCAA game seemed to be competing for attention. Hope to see you all on the next sprints. --Rick K1DS

When I pulled in at Rick's he was already getting things ready. A place for everything and everything in its place. When we got to the top of the hill the rain came down one more time. It didn't last long and then we were raising the antenna, the 'big' antenna. But not that heavy and Rick has made it simple. So it was up in no time. I can only imagine the hours he has put in on his rover. The precision becomes apparent when he pulls the van into the garage with less than 2 to 3 inches to spare side to side and front to back. "everything was carefully measured" he says with a grin. I was going to type "working with Rick is a joy, but it wasn't work. Rick makes it fun. I am inspired to do some roving but I have a couple of tasks to get done first, like that tower has to go up in the back yard...

73,

Rich KB3NRL



Rich Enwright KB3NRL during the 2Meter Sprint from the K1DS van



Rich's temporary "shack" during the sprint. A very impressive antenna for such a small shack.

KB3NRL, KB1JEY and myself shared duties as managers of the vendors at the recent Trenton Computer Fair. With some down time at the middle of the day we had a chance to chat a bit and KB3NRL related to me how well things worked in the 2 Meter sprint at K1DS's and how much he learned from the experience. A great example of Packrat spirit. Rich also related that he is bound and determined to pick up Morse code to work the weak ones during the contests. Go for it!!

-- Lenny W2BVH

Events

VHF/UHF Remaining Spring Sprints!! – 33CM and up Sat May 2 .. 6M 2300Z May 9th to 0300Z May 10th. See www.sysadnet.com/vhfsprintrules.htm

SBMS 2+ GHz Contest - May 2-3. Rules: http://www.ham-radio.com/sbms/2009_2ghz-up_test.pdf

Warminster Hamfest - May 3. see www.k3dn.org/hamfest.htm and page 2 of "Prez Sez" in this issue

ARRL June QSO Party - June 13-14. The countdown has already begun!

W2QW Techfest - June 20. See www.w2qw.org

ARRL EPA Section Convention + Firecracker Hamfest - July 4. Bressler PA. see hrac.tripod.com

Valley Forge Hamfest & Computer Fair - July 12. See www.marc-radio.org

CQ WW VHF Contest - July 18-19. Details to follow

Central States VHF Conference - July 23-25 Elk Grove Village IL. Spr: Central States VHF Soc. See www.csvhfs.org/conference/index.html

ARRL UHF Contest - August 1-2. See www.arrl.org/contests/calendar.html for details.

ARRL 10GHz & up Contest - August 15-16. See www.arrl.org/contests/calendar.html for details.

JSARS Hamfest - Aug 16. See www.jsars.org

Pocono Area Hamfest - Sept 12 . See www.qsl.net/n3is/hamfest/index.html

Mid-Atlantic VHF Conference - Sept 26 with Hamarama 9/27. Spr. Packrats. Mt Carmel Club /Mariott Hotel. Complete details at www.packratvhf.com/VHF%20Conf/vhf%20conf.html. Registration is now open.

ARRL Sept. VHF QSO Party - September 12-13. See www.arrl.org/contests/calendar.html for details.

ARRL 10GHz & up Contest 2nd Weekend- September 19-20. See www.arrl.org/contests/calendar.html for details.

Red Rose Repeater Assoc Hamfest- Oct 3. See w3rrr.org

OMARC Hamfest - Oct 4. See www.omarc.org

RF Hill ARC Hamfest - Oct 18. See www.rfhill.ampr.org

MUD - Oct 25 The Westin, Dallas Fort Worth Airport 545 West John Carpenter Freeway Irving, Tx 75063. See www.microwaveupdate.org

Packrat at Work



Gary WA2OMY retrieving some valuable material from a "repository" in Bethesda MD. Watch these pages for high power 2.4GHz amp parts. Photo by K3JJZ

HAM Radio URL(s) of the Month

Ever think of trying to design your own VHF / UHF power amplifier? This months URLs present some valuable information on how to approach a big part of such a design. Specifically how match the input and output of the transistors in a vhf or uhf power amplifier.

To get good efficiency and power gain from a transistor it's a good idea to transform the amplifiers 50 ohm input drive impedance to the transistor's impedance. On the output side, the maximum power that can be extracted from the transistors collector (other than the limitations of the device itself) are governed by the power supply voltage and the load impedance seen by the transistor. At the usual 13.5 or 28 volt power supply voltages, this impedance is way smaller than the 50 ohms we like to put on the amplifiers output connector. The URLs below explain how to design circuits that will do these impedance transformations for the amplifier.

All 3 of the URLs are Motorola application notes going back to the early '90s, but the design procedures are still 100% valid today. They are in the form of downloadable pdf files which you can view or print with the free Adobe Acrobat pdf file viewer. A download of the viewer for many versions of Windows, MacOS and Linux is available at <http://get.adobe.com/reader/otherversions/>

Our first URL is www.iele.polsl.pl/elenota/Motorola/an791.pdf titled "A Simplified Approach to VHF Power

Amplifier Design".

This article even shows you how to take into account the "invisible" components in the design, such as switching relay impedance and the inductance of capacitor leads.

Second, we have www.lansdale.com/Articles/an267.pdf titled "Matching Network Designs with Computer Solutions". This is a "cookbook" of matching networks that you can apply to the transistor of your choice.

Third, we have www.freescale.com/files/rf_if/doc/app_note/AN721.pdf titled "Impedance Matching Networks Applied to RF Power Transistors". This is an article with a fair amount of (possibly) scary math and Smith charts. But if you're willing to bull your way through it, you can really become an expert.

Enjoy!

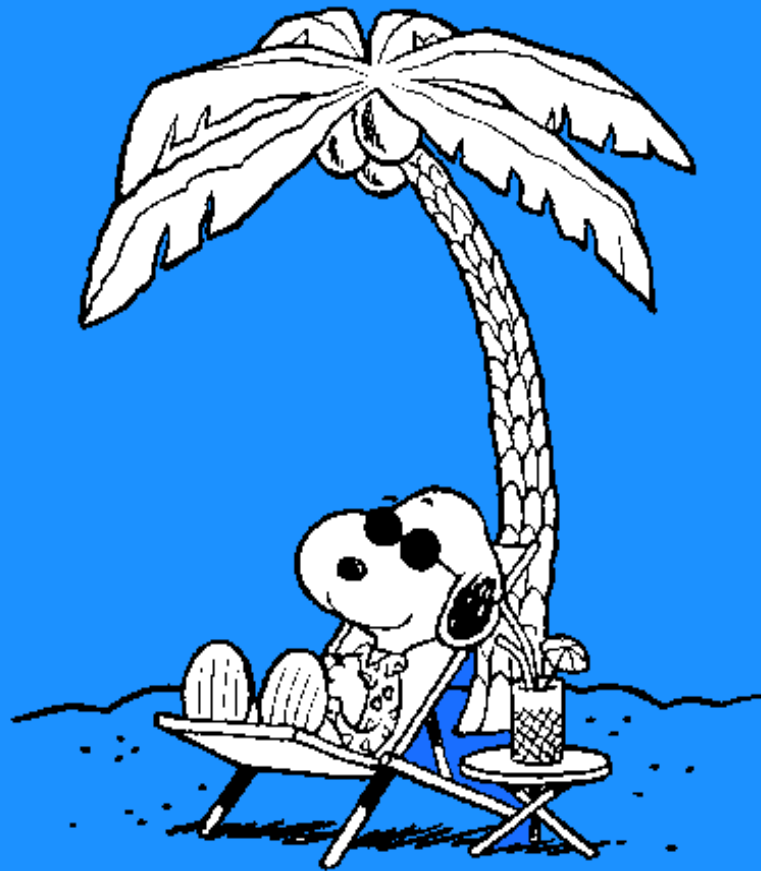
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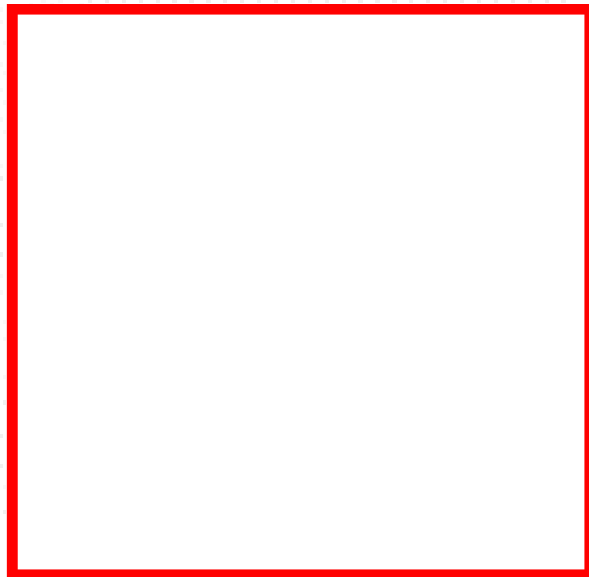
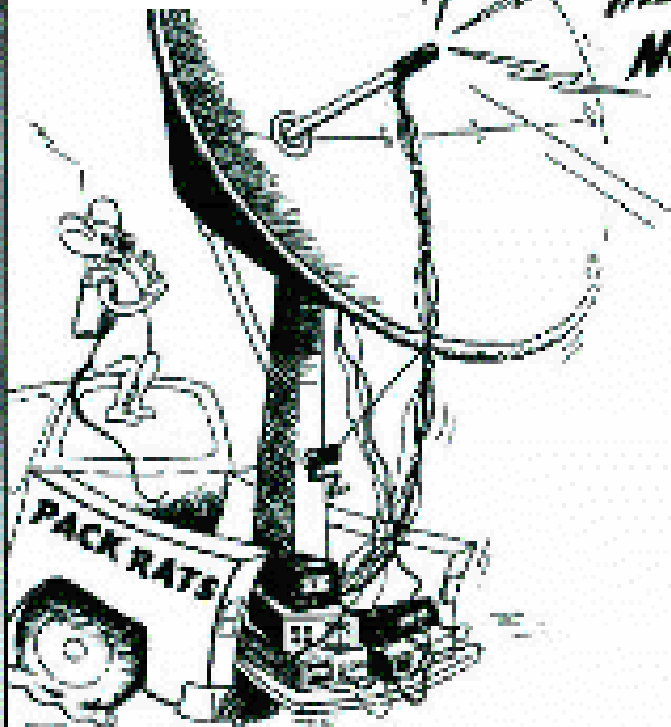
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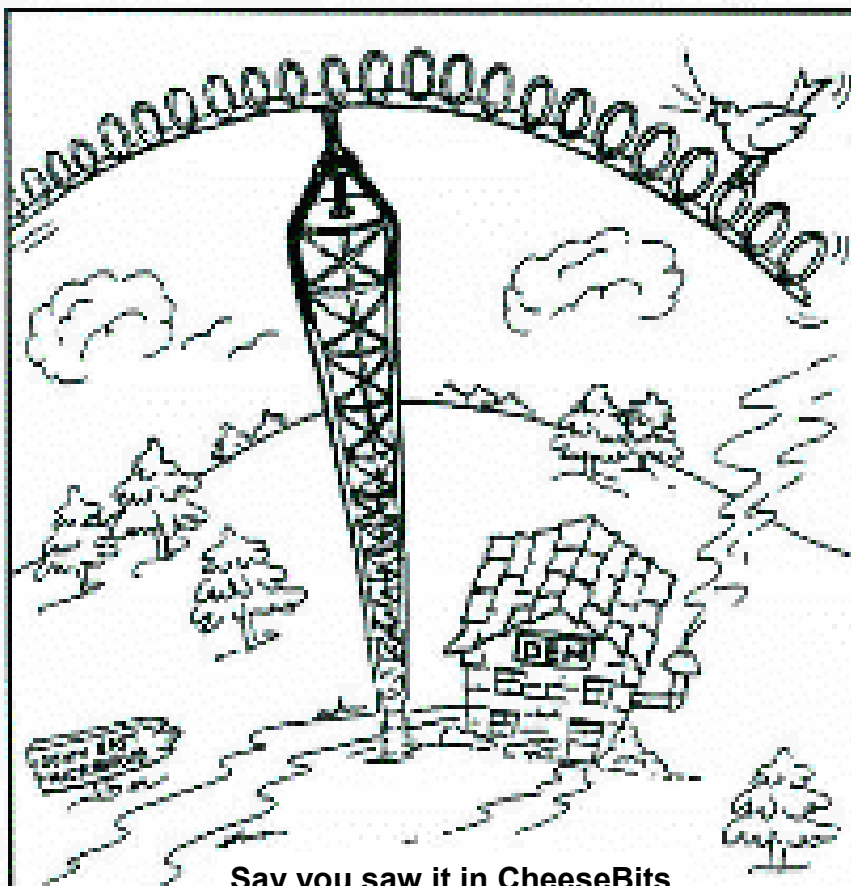
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