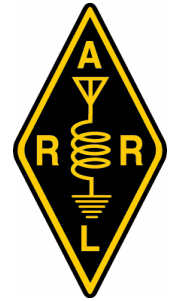




CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LII

April 2011

Number 4

PREZ
SEZ:

Here we are – the fourth month with a lot of activities already behind us for 2011. We had a successful January contest despite the lack of any enhancements and a lighter than usual turnout from the VHF community. For a follow up we have had a entertaining **CRYING TOWEL** and some very interesting presentations for **HOMEBREW NIGHT**. In addition we had a well attended and **enjoyable Ladies Night Celebration** with good food and entertainment arranged by George KA3WXV and Michael KB1JEY. Thank you both for your attention to making this a superb evening for one of the key partners in any Packrat effort: **OUR WIVES**. For without their support and tolerance of the demands of contesting it would be a lot more difficult to spend the time needed on those antenna and construction projects.

Speaking of construction projects, Gary, WA2OMY, Bruce WA3YUE, George, KA3WXV and Elliott, K3JJZ have been busy trying to get more of the 2.3 GHz transverters on the air. With one project day behind us and another to be scheduled shortly we should have several more of the 2.3 GHz stations on the air before the Spring Sprints and the June Contest.

June 10, 11, 12 and 13th are the days of the VHF Contest weekend for the **CAMELBACK**

EXPEDITIONARY FORCE. I include the Friday and Monday as these are the days when we need the most physical effort for moving equipment to and from the mountain, plus setting up and tearing down all the stations. This year we may also need to move the tower storage racks over to the Cotner Trailer plant. For those of you who do not come to Camelback , **we need you to get on the air and submit a log for this club competition**. And don't forget to look for and work W3CCX in FN21.

After the January Contest we had a wrap up session. Part of the discussion at the session was ways we could improve the overall **PACKRAT** performance for the January (and other) contests. First we need to encourage all members to get on the air and submit a log. Next we need all those members to be on as many bands as possible. **If you need help** getting some of your equipment operating let others know so the appropriate resources can be mustered up to get your station fully operational. We know not everyone can now have a super station due to deed restrictions and retirement community rules but those who do not live with these restrictions would be happy to have your assistance in keeping their stations on the air, even if you can only spare a few hours.

The other biggie discussed at the contest wrap up session was how to upgrade the

Pack Rats **CHEESE BITS** is a monthly publication of the
Mt. AIRY VHF RADIO CLUB, INC. -Southampton, PA.

We operate on a .PDF exchange basis with other non-commercial publications. Anything that is printed in CHEESE BITS may be reprinted in a not for profit publication, unless stated otherwise, provided proper credit is given. Deadline for articles and swap-shop is the monthly meeting date. Non-commercial swap-shop items free of charge.

Pack Rat Web Site: <http://www.packratvhf.com>

SUBSCRIPTION/ADVERTISING MANAGER:

Bob Fischer, W2SJ 7258 Walnut Avenue, Pennsauken, NJ 08110
(856) 665-8488 bobw2sj@verizon.net

EDITOR:

Lenny Wintfeld W2BVH 709 Lincoln Av., Cranford NJ 07016
(908)-272-0559 lennyw@comcast.net

ASSOCIATE EDITOR:

Ed White WA3BZT 809 Seymour Rd., Bear DE 19701
(302)-322-9076 wa3bzt@verizon.net

CLUB TREASURER:

Dave Mascaro, W3KM 1603 Mink Road Ottsville, PA 18942
(215)-795-2648 dmascaro@verizon.com

TRUSTEE OF CLUB CALL - W3CCX

Brian Taylor N3EXA
(215)-257-6303 n3exa@verizon.net

PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz (PL 136.5) Hilltown, PA

OFFICERS 2010-11

PRESIDENT W3GAD, Doc Whitticar w3gad@arrl.net
VICE PRES: K3TUF Phil Theis phil@k3tuf.com
CORR. SEC: WA3EHD Jim Antonacci jjantonacci@verizon.net
SEC: KB3NRL Rich Enwright renwright1@verizon.net
TREAS: W3KM Dave Mascaro w3km@verizon.net
DIRECTORS:
(1Yr) WA3BZT Ed White wa3bzt@verizon.net
(1Yr) WA2OMY Gary Hitchner ghitchner@trueposition.com
(2Yr) KA3WXV George Altemus Jr. altemus@drs-c3.com
(2 Yr) KB1JEY Michael Davis kb1jey@arrl.net
PAST PRESIDENT: K1DS, Rick Rosen rick1ds@hotmail.com

COMMITTEE CHAIRMEN

January Contest K3EGE billk3ege@gmail.com
June Contest: N3ITT & K3TUF
HAMARAMA: WA3DRC
VHF Conference: W2PED pdrexler@hotmail.com
Awards Chairman KB3GJT
Quartermaster: K3IUV bsoltoff@comcast.net

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 FN20kl
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

contest clock. This very useful tool was conceived in 1960 to help the PACKRATS work each other in the January contest. Over the years it has evolved into a popular tool used by many stations outside the Packrats community to know when to look for Packrat activity. Since it has been adopted by many, it is time to consider how to make it more useful for both Packrats and those looking to work Packrats. We will discuss this subject, other improvements to the Packrat Modus Operandi and preparations for the JUNE CONTEST at the May meeting. Your input on these subjects will be welcome.



The **Spring Sprints** start April 11th on 2 meters. The Sprints are a great way to dust off your station, look to get that elusive VUCC award or just make a few QSO's. Don't forget the **Monday Night Nets** too. I'll do my best to be there.

I hope to see you ALL at the April Meeting with special guest Ed Hare, W1RFI from the ARRL Labs with his many anecdotes about running a testing lab.

LISTEN FOR THE WEAK ONES !
73, de W3GAD

Editors Column

Greetings Packrats!

What an eventful month! From late February to late March we had a 2304 Transverter build session, Homebrew Night at the Packrats and Ladies Night honoring our significant others. All this and more is reported in Cheese Bits this month. Keep those articles flowing and thanks!

73, Lenny W2BVH

Our Tower Adventure - Part 3

By Michael Davis, KB1JEY

After a brief hiatus, we present the third and final installment of Michaels description of his extended effort to put up a freestanding tower and a nice set of antennas

Introduction:

Part 1 set the stage for *Our Tower Adventure* [see the December 2010 issue of Cheese Bits for Part 1]. During the summer of 2008, I learned of a Hy-Gain HG-54HD 54 foot crank-up amateur radio tower available from the estate of Packrat Gene Shillingford KB3IB. Against the odds, I was able to persuade Carol, my XYL to allow me to negotiate with the estate of KB3IB and purchase the tower, antennas, rotator, and feedlines. With the help of a great many ham friends, I safely removed and relocated the 600 pound tower from Levittown PA to my backyard in Lower Gwynedd [Ambler] PA.

Part 2 [see the January 2011 issue of Cheese Bits for Part 2] continues the adventure, detailing the purchase of the reinforced steel base at the Timonium Hamfest, overcoming resistance to secure the building permit from my town, and finding a contractor who would dig the six-foot deep hole required for the concrete/steel base.

This last installment, **Part 3**, relates the conclusion of *Our Tower Adventure*, including:

- Setting up for the pouring of the concrete
- Engineering the layover attachment and winch
- Pouring the concrete
- Moving the tower to the base for attachment
- Replacing the wire rope cables
- Replacing the tower bolts
- The happy conclusion at the Pack Rat Picnic

Filling the Six-Foot Deep Hole

As related in the second installment of *Our Tower Adventure*, a contractor was eventually hired to dig the required six-foot deep hole. It does not take much imagination to visualize the danger that the exposed hole posed to people and animals alike, or the problem created if it were to fill with rain runoff. To minimize the danger and potential problems, I made plans to build the wooden forms to secure the reinforced steel cage during the concrete pour and arranged for delivery of the concrete as soon as the hole was dug.

Fortunately Hy-Gain still supplies the manual on their web site, which details how to construct a frame to keep the mounting tabs on reinforced steel cage perfectly level while the concrete is being poured into the hole. The

garymcduffie.com/misc/tower/ website also had some great pictures and tips on how to prepare for pouring the concrete for the Hy-Gain HG-54HD tower.

Another stroke of good fortune was that I did not have to purchase any lumber to construct the wooden forms to contain the concrete and to secure the steel base during the pour. A couple of my ham friends, George Altemus KA3WXV and Joe Seibel WA3SRU, had a good supply of scrap 2x4 and 2x6 lumber. George's lumber came from an old family picnic table that he recently disassembled.



George also had all of the wood screws needed to assemble the frame, courtesy of another ham. I had some plywood sheets from a stalled attic flooring project, available to finish constructing the forms.

I assembled my work crew of ham friends on a Saturday morning after the contractor finished digging the hole. Joining KA3WXV, WA3SRU, and me was Rich Enwright KB3NRL and Guy Gibbs WA3JZN. We had assumed that the job would only take the morning but we were still working on the wooden forms well into the early afternoon.

The first step was to remove the reinforced steel cage from the factory shrink-wrap and to fit the mounting tabs against the bottom of the tower. If there was any misalignment, it would be possible to tap the mounting tabs on the reinforced steel with a hammer before it was set in concrete. Fortunately, the tabs on the tower mated perfectly with those on the base so no “persuasion” was required.



The reinforced steel cage arrived from Hy-Gain [MFJ] “mostly assembled”. The top part came welded and dipped in Zinc. To reach to the bottom portion of the concrete, three additional pieces of “rebar” were supplied, which were to be wired to the bottom of the welded portion. My research revealed that it is better to tie those pieces of “rebar” using wire than weld them to the bottom of the cage.

Next step was to construct the wooden rectangular form for the purpose of squaring off the top of the poured concrete. The assembled base was suspended over the hole by bolting the mounting tabs to three lengths of 2x6 lumber, which spanned the hole’s opening. The 2x6 lumber was carefully shimmed and checked several times with a level across the mounting tabs. After setting the bolts to receive the layover attachment, we were ready to pour the concrete.

Engineering the Layover Attachment

When the tower was purchased and removed to my QTH, it came with a layover attachment. The layover attachment is a steel column, about 8 feet high. A winch, mounted about half-way up the column, feeds ¼ inch wire rope over a pulley at the top of the steel column. A hook at the end of the wire rope is attached to a metal sling that wraps around a corner of the tower when the upper two sections are cranked down. A pair of heavy steel cross-braces runs from near the top of the steel column to the two bolts holding the tower to the base that doubles as a hinge. Cranking the winch lowers the top of the tower to the ground for maintenance.

When I purchased the tower, I assumed that the layover attachment was also originally supplied by Hy-Gain. However, I subsequently learned that the Hy-Gain Technical Support was unfamiliar with my layover attachment. Other than the pictures of the layover attachment from before its removal from Levittown, PA, I had no technical information on the layover attachment.

I received some unexpected help from Paul Domanski WA3QPX. He is a former Hy-Gain dealer and was familiar with their crank-up towers. He suggested that Fazzio’s scrap yard in South Jersey would be just the place to pick up four two-foot long, one-inch diameter bolts and nuts to anchor the layover attachment. Bolts that long would allow more than a foot to be embedded in the concrete with enough of the threaded end exposed to anchor the layover attachment. Paul was kind enough to stop by Fazzio’s yard on my behalf and to deliver the bolts and nuts to me at a Pack Rat meeting. My original plan was to keep the bolts from pulling out of the concrete by using a piece of flat steel with holes just large enough to pass the length of the bolts but not the heads. Al Sheppard N3ITT

was afraid that the bolts might turn in the concrete as the nuts were tightened. So he found a suitable length of steel, already shaped into a U-channel and drilled the four holes to pass the bolt. The channel was narrow enough to keep the bolt heads from turning.

Because there were no written plans available that detailed the location of the anchor bolts in relation to the back tower mounting tab, Rick Rosen K1DS and I returned to Levittown on our way from the Trenton Computer Fest to inspect the previous tower base and carefully measure the required spacing. Fortunately, no one had applied a jack hammer to remove the concrete!

To keep the bolts in proper alignment during the pouring of the concrete, my crew and I decide to attach the anchor bolts to the layover attachment's mounting bracket, and secure the bracket to the wooden concrete form with a 2x4. Because of some spacing issues, the 2x6 pieces that supported the steel base from the mounting tabs were screwed into that 2x4 and another 2X4 laid at the other end of the wooden form. As a result, the tower base is about 1.5 inches higher than the layover attachment so the layover attachment leans away from the tower by a few degrees. No ham installation is perfect!

Pouring the Concrete

I originally planned to arrange for concrete with a "metered" service recommended by other local hams, Hartzel's Concrete in Chalfont. A metered concrete service sends a truck that mixes the concrete on-site so you only pay for the concrete that you use.

However, the contractor who dug the hole offered to arrange for another metered concrete service on my behalf. I accepted the offer because I had a good relationship with the contractor, who employed my neighbor across the street. Also, the contractor had more leverage in arranging for the delivery at a convenient time because he buys concrete from the local vendors regularly. Another benefit was that the contractor was kind enough to lend me a concrete vibrator at no charge.

While the concrete truck was in my backyard, I hired the contractor to jackhammer and replace some cracking concrete around the perimeter of my in-ground pool. Since he had to wait for that concrete to cure before smoothing, the contractor helped us pour the concrete for the tower base at no charge.

If you want to know who your ham friends really are, see who comes by on a hot summer day to help you smooth concrete. George KA3WXV showed up during the morning and helped throughout the pour. Joe WA3SRU was there during both the pour and stayed to help me smooth the concrete. I found out later that between the work and heat, Joe "crashed" as soon as he got home. Thank you Joe!

Several hams told me that I should keep the concrete moist for a few days to cure to maximum strength. However, my contractor told me that with the thickness of the poured concrete and the nature of the mix, it would not be necessary in my case. Time will tell.

If you look at the base, you will see scratched in one corner before the concrete set, the date that the concrete was poured and three call signs: WA3SRU, KA3WXV, and KB1JEY. With all of the help I received from fellow hams during Our Tower Adventure, why do only these three call signs appear on the base? They were there for the pouring of the concrete.

Moving the Tower to the Base

I had planned to wait until my wife and I hosted the Pack Rat annual picnic in August to move and attach the tower to the base. I was going to ask our guests to help pick up and move the tower to the base. The date of the picnic was exactly 30 days from the date that the concrete for the base was poured. A number of hams told me that concrete needs up to 30 days to set for maximum strength so the timing would be perfect.

George WA3WXV asked, "Why wait? Let's move the tower before the picnic." I protested, "We're in

the middle of a heat wave. I can't ask any of my friends to work in these sweltering temperatures. We would have to start at 6 AM to beat the heat." George punctured that excuse by replying, "I'll be there at 6 AM." A third ham, Guy WA3JZN, who had helped build the concrete forms and set the reinforced steel cage into the hole, also volunteered. The remaining question was how three hams were going to move a 600 pound tower into position.

The answer was simple and borrowed from the techniques used to get the tower out of the backyard in Levittown. I bought a furniture dolly and an auto repair floor jack from Harbor Freight. George brought a second dolly. I had more spare plywood sheets from that attic floor project. We put the tower on the two dollies and rolled it on the plywood sheets, picking up the sheets left behind after the tower was rolled onto the next pair of sheet. We used the floor jack to lift the bottom of the tower so we could bolt it to the "hinge" tabs sticking out from the concrete base. After jacking the top of the tower so it could rest on a couple of concrete blocks, we were set. We beat the heat!



The Wire Ropes Are Too Short!

While I probably could have postponed replacement of the wire ropes that came with the tower, it seemed to me that there would not be a better time to tackle this job than before the tower was raised. The tower has three different lengths of wire rope. A length of 1/4 inch diameter wire rope is wound around the winch bolted to the side of the bottom section and runs over a pulley to raise the middle section. A length of 3/16 inch wire rope connects top of the bottom tower section with the bottom of the top section, running over a pulley at the top of the second section. As the middle tower section is raised by the crank-up winch, this 3/16 inch cable simultaneously raises the top section. As mentioned in earlier, the layover attachment has a length of 1/4 inch diameter wire rope that winds around a winch to lower the tower horizontal to the ground for maintenance. What kind of wire rope to use for the replacements? Stainless or galvanized? While the tower had been originally supplied by Hy-Gain with galvanized wire rope, most of the Pack Rats I consulted recommended stainless wire rope, which was my choice. Stainless steel wire rope has a lower breaking strength than the same size galvanized wire rope but the difference was not material for this application.

One Pack Rat suggested that 1/4 inch diameter wire rope was overkill and that 3/16 inch diameter wire rope would be adequate for all three lengths. Perhaps he is right, but not knowing how the actual strength of the wire rope changed with age, I would rather have the thicker, stronger wire rope. The price differential was small. Also, the pulleys and winches were designed for 1/4 inch wire rope.

Where to buy the wire rope? I was advised to purchase the wire rope over the web from McMaster Carr. However, I needed to get Nicopress oval sleeves crimped on one end of each of the 1/4 inch diameter wire ropes. The Nicopress crimping tools owned by a couple of Pack Rats were only capable of crimping oval sleeves for wire ropes up to the 3/16 inch diameter. My thinking was that a local wire rope supplier with a hydraulic bench press would be the place to go to get the Nicopress oval sleeves crimped on my 1/4 inch wire rope lengths.

Bob Fisher W2SJ had done business for decades with The Henry Stewart Company, located in Philadelphia on the waterfront. I drove down to the waterfront and met Bob's friend, Tony, the Warehouse Manager. Tony did not have all of the Nicopress oval sleeves on-hand but quickly got

them in stock. Bob picked up my order on his way over to my QTH. El Weisman W3JJZ joined us for the wire rope swapping party. The effort went as planned until we discovered a problem. The two lengths of rope for the tower were too short! How could this happen? Hy-Gain's manual for this tower did not supply the lengths of the wire rope. The manual did specify lengths along the dimensions of the tower sections, which I used to estimate the replacement wire rope lengths. I could have pulled the existing wire ropes loose from the tower to measure the lengths but that would have increased difficulty of threading new lengths into place. Since wire rope is expensive and any excess would be wasted, I did not pad my estimates. Fortunately, I had generously estimated the amount of 1/4 inch wire rope needed for the layover attachment. If we switched that length of 1/4 inch diameter wire rope with the one used to raise the middle section tower, the lengths were still a little short but not far off the mark. Bob pointed out that if the wire rope sections were short, they still could be used but the upper two sections of the tower would not collapse completely into the bottom section of the tower. He was right. If you look at other pictures of Hy-Gain HG-54HD towers, you will see that each of the two top sections stick out an additional foot or so. The way I see it, this feature and the slight back tilt of the layover attachment gives my tower "character".

Finding Tower Bolts

The hams that helped remove the tower from Levittown looked at the bolts used to attach the tower and told me, "Michael, you ought to replace them." These bolts were 3/4" diameter, galvanized, and were not available from the local hardware stores. As with the wire rope, I was advised to purchase the bolts from McMaster Carr. However, it seemed to me that I ought to be able to buy bolts locally. Bob W2SJ recommended that I visit Penn Fasteners, located in an industrial park in North Wales, PA, near my QTH. While driving through the industrial park, I got lost and ended up at a firm named Tower Fasteners. I thought "Bolts for a tower – Tower Fasteners -- it was meant to be." However, after checking with their suppliers, Tower Fasteners could not supply 3/4" galvanized bolts. So I took another ride to North Wales and found Penn Fasteners. I told them what I was looking for. They had 3/4" Grade 5 bolts in stock but they were zinc-plated, not galvanized. Still, I figured that they would be better than the salvaged bolts and could be easily replaced if they started to rust. The salesman at Penn Fasteners asked just one question: "Are they for commercial use?" I replied that the bolts were for an amateur radio tower. My salesman disappeared into the warehouse and came out with a bag of ten bolts, lock washers, and nuts. After handing him a \$10 bill, I had my replacement bolts, including a spare.

The Tower Raising and Conclusion

The tower was first raised to its full height on the day of the Pack Rat picnic, August 7, 2010. We attached the 2 meter Yagi and feedline to the mast before raising. Since Al Sheppard N3ITT was the ham that cranked down the tower for the final time before it was removed from Levittown, he was given the honor of cranking it up for the first time in my backyard in Ambler. When raised to its full height, the typical reaction was, "Oh my gosh, I can't believe how tall it is!"

When we disassembled the tower in Levittown, I noticed that the thrust bearing was missing a ball bearing race. I assumed that race had disintegrated and the ball bearings had fallen out. Hy-Gain no longer sells replacement thrust bearings so I bought a used US Tower TB-2US thrust bearing in good condition as a replacement. However, when Al N3ITT inspected the old thrust bearing, he explained that it was a bushing and only needed a film of marine grease to be serviceable. So if anyone needs



a TB-2US thrust bearing, let me know. Since many Pack Rats volunteered much time and other help to help me acquire, move, refurbish, and erect my tower, **I feel a special obligation to get on air, work contests, and to participate in the Pack Rat Monday night nets.**

When I started Our Tower Adventure, I had a vision of where I wanted to go next with amateur radio. I wanted to erect a permanent tower, not supported with guy wires, that I could leave up year-round, and which was capable of clearing the tree canopy around my house. While my vision took longer, and cost more than I anticipated to bring to fruition, the tower is up and is used daily. Realizing this vision makes my other goals in amateur radio appear achievable. Perhaps I can return the favor and help some of my Pack Rat friends realize their amateur radio visions.



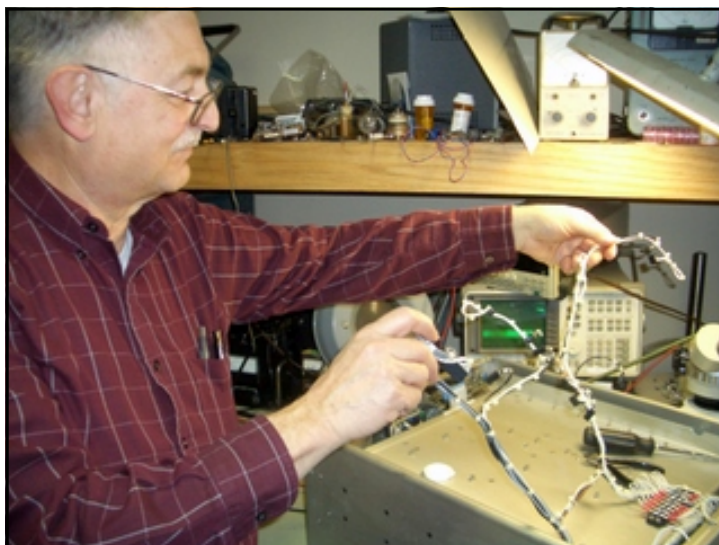
The picture shows only the 2 meter yagi on the tower. At present, 6M, 2M, 222 and 432 antennas are up and in use. The project for this spring is to refurbish and install the loop yagi antennas for 903, 1296, 2304 MHz

73, Michael KB1JEY

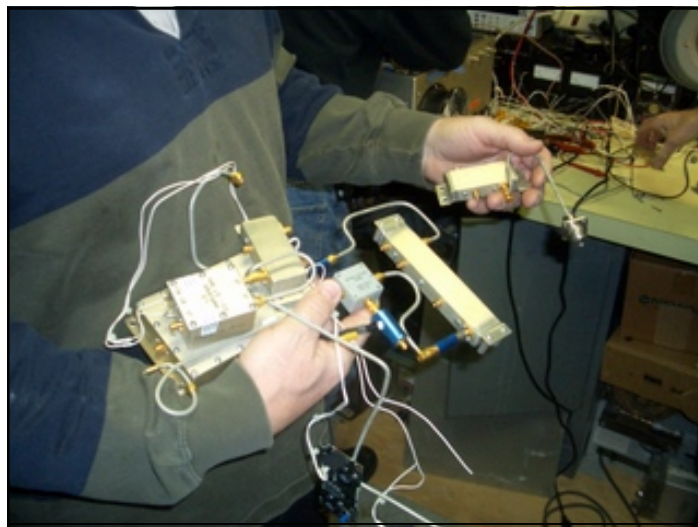
MMDS to 2304 Transverter Conversion

On Feb 26, a group of 'Rats met at the QTH of Gary, WA2OMY for the first of several sessions converting surplus ITS Corp MMDS ("over the air cable") boxes for use as 2304 MHz transverters. The conversion process is rather complex and everyone benefited from Gary's well equipped lab and from Bruce (WA3YUE) and Gary's experience in doing these conversions. From the look of things there will be quite a few more 'Rats listing band "G" in the next Packrat Directory.

Here are some pictures of the meeting. Thanks to EI , K3JJZ for taking the pix!



George shows what's left of the top deck after the QAM modulation boards have been removed



Here are all the receiver parts that will go into the top deck



Gary checking Michael's work on the local oscillator modules. (Michael is wearing the aluminum lamp shade)



Ed strips out required parts from the old receiver chassis



Bruce renders some valuable advice on re-positioning the transmit isolator



Your editor grabbed the camera long enough to get a quick photo of our chief photographer K3JJZ



A quick coffee break and its back to the Lab!

Many of the class A, 50 watt power amplifiers and 10 watt driver amplifiers in the MMDS boxes were left behind at Gary's for snowflaking (tuning) down to the 2304 MHz amateur band. The next session will integrate the amplifiers back into their chassis (and in the case of your editor, there will be some debugging of the L.O. after he made a boneheaded move when replacing the L.O. crystal ;-)

All the lucky owners of these MMDS boxes look forward to completing the conversion. We'll follow up here, as progress is made.

73, Lenny W2BVH

Homebrew Night, March 17, 2011

By Rick, K1DS

Phil, K3TUF showed three items in the development of his improved VHF/UHF station. First was the indicator box for his SO2R (Single Op, 2 Radio) with red LEDs to indicate the band in use on each of the radios, and laterally to the LEDs is a power indicator showing the IF output to the transverters. He used 15 pin cable connectors for his "lower" 12 band set-up from 50MHz through 47GHz from the switching box to the indicator box. Lastly there were photos of his 155' rotating tower, with the remote microwave transceivers and dishes and antennas installed.



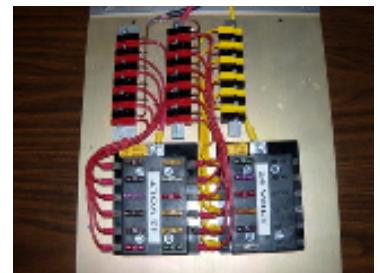
Al, K3TKG showed off his 4CX400 300W 432MHz amplifier and power supply. This was built as a challenge to match the rig of a fellow ham with whom he has had a periodic competition. Each and every part is matched, including the front panel meters that needed new faces and duplicated fonts. The underside is well organized, and the cooling fan was recovered from a copy machine. Al impressed the judges.

Paul, WA3GFZ presented his 1296 EME project, which he put on the air recently. He acquired a 10' dish and refurbished it, built a stand for it and added AZ-EL control with automated tracking. Although he had difficulties in getting his feed tuned for circularity, he was successful in being heard and copied in England using JT65. Another obstacle that needs to be overcome is some drift between XMT and RCV. The amplifier is a "kit" using recovered XRF286 devices from the Spectrian amps. Included in the display was a directional coupler, SWR shut-down protection, a preamp and sequencer. Relays are powered to receive. He was proud to announce that he did not blow out his preamp!

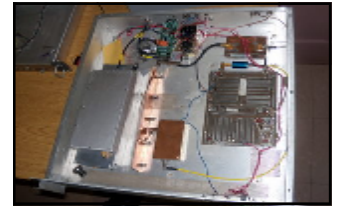


Lenny, W2BVH showed off his low budget directional coupler, which he used to measure power output from his new 2m amplifier, acquired last year from a south Jersey ham. Using a W1GHZ design and parts acquired from the Mario raffles, he built it into a hand bent brass box, spending the most of the build time and effort to get it bent to spec within .010". Using an HP Power Meter he calibrated it for the bands from 50MHz-432MHz.

Drex, W3ICC had photos of his rover interior, which he is continuing to update. "There is a wide gap between initial plans and final concept. He showed his hinged fuse panel that required hinging to be accessible as its intended location was pre-empted by the rotor and audio distribution controls placed between the two 19" racks in the van. When asked if he had to replace any fuses yet he responded, "Haven't tested it yet!"



Doc, W3GAD brought his 903MHz rig that included parts from a KK7B transverters, a “JYO” preamp in a solder-sealed copper box and a NR6CA supplied palette amp that is not yet putting out smoke.



Rick, K1DS showed off the Softrock 7 kit that he had sitting in the shack for a few years that finally got put together this winter. Although he had to rewind the quadrifilar coil twice, he still can't get rid of the mirror signals on both sides of the center frequency. The exercise was educational in learning more about A to D conversion and surface-mount construction.

Justin, N2TOH, a club guest, showed off a series of small Kanga board projects that will become an all-mode 2m transceiver. He also had other boards to interconnect and Op-amp to sound cards and surface mount device test boards.



Ken, K2WB brought a picture show of his T3 operating trailer. This is his third trailer conversion, and it has three operating positions inside. The trailer uses a 1200W inverter and has both 110VAC and 12VDC wiring to each position. Power is supplied by big 12V batteries and a large gas generator. There are extension brackets on the rear bumper that hold tower sections and a ladder, and a side fixture to hold the VHF antennas in transit. Each operating position has a flat screen monitor and keyboards and is ready to “plug and play.” Each operating position also has a strategically placed cup holder—something we all need to think about installing in our rovers.

And the Winners Are...

Club Secretary Rich, KB3NRL reports the following Homebrew Night category winners:

<u>Category</u>	<u>Winner</u>
Most Miserable Failure	Doc W3GAD
Most Ambitious	Ken K2WB
Best Construction	Alan K3TKJ
Best use of Mario table parts	Len W2BVH
Best Technical	Justin N2TOH

Judges are Gary WA2OMY, Nick N3YMS, Rich KB3NRL

Thanks to K3JJZ and K1DS for the photos

Packrat Ladies Night Revival

After a lapse of many years, the club resurrected the tradition of having a Ladies Night dinner dance to honor the spouses and special others who allow us Packrats to spend time and resources in support of our radio hobby. **Co-chairs Michael Davis KB1JEY and George Altemus KA3WXV** made this a special evening for the ladies, complete with a Totes umbrella party favor, cocktail hour, a three-choice main course and a wonderful DJ. **Floral centerpieces were supplied by W2SJ** and late in the evening they were distributed to guests with the winning alphabetical names.

The group numbered over 50 attendees, with **special guests George N3HBT** (trustee of the Ben Wilson Senior Center where our meetings are held) **and his XYL** and our **SCM, Eric Olena WB3FPL and his XYL**. Our DJ, Michael McGeehan entertained us all evening with a variety of tunes, many of which he ably accompanied with his great voice. The crowd filled the floor at times, and got involved in a few of the line dances he led.

It was exciting to see members from near and far attending. Some attendees stayed overnight at the Hilton Garden Inn in Fort Washington to avoid late night travel home, taking advantage of favorable room rates and their Sunday breakfast.

“Let’s do this again,” was a frequently heard comment at the end of the evening. **Thanks to all who contributed** to making this event a success, **and especially to the ladies** in our lives who allow us to be involved in radio and club activities.





The Wayback Machine

Gleaned from the pages of
Cheese Bits, April, 1961
(Vol. IV Nr. 1)

de K3IUUV

(author's comments in italics)

- The cover page started with one of Helen's timely poems, as follows: "Listen you Hams or Razor Backs, And I'll tell you a tale of a few sad sacks, On March 19th of fifty eight, It started to storm and the wires did shake, The wind, the rain and the snow, Came along and laid antennas low!" This was a prelude to a list of club members who lost antennas in the storm, including W3KKN (lost all his antennas), and Frankie W3SAO (*Helen's OM*) (lost his 6-mtr antennas). (*Shades of the storms this year, which destroyed most of K3IPM's antennas*).
- A notice that the Club's Articles of Incorporation were approved by the Board of Directors and submitted. Waiting to receive the notice of registration. (*Anyone know where they ever got to? I recall confusion in proving that it really happened*).
- Two-meter activity note by Frankie: W3IBH and W3SAO work North Jersey and Conn. most any night in the week. (*This was when Conn. was almost dx, and the club members were active nightly!*). Also reported that K3LBTV, K3IUUV and W3SAO are all now using transistorized converters on 2 and 6.
- Smel A. Rhat's monthly column included a comment that "I tuned into a station the other day and heard the operator complain that the band was inactive, and he went on to say that he himself had not been on the band for several weeks". (*Speaks for itself*). Smel signs his column "yours for more band activity, and see you on Ladies Night". (*Apropos of today. For those that do not remember, Smel A. Rhat's harangues were reminiscent of TOM (the old man), in the early 20's pages of QST*).
- Frankie reminds the club members that they should be familiar with the Club Constitution and Bylaws, and states that "Each member has a copy". (*Do we still follow this, and issue a copy to each new member? Do you know where your copy is? I do.*)
- 220 Net reports that W3VIR is still on (*Bill, where are you now*), and K3BPP has not signed in lately due to schoolwork! (*Walt, what's the reason now?*)
- K3JJZ in his inimitable fashion penned a lengthy article entitled "Adventures on the Roof" about his tribulations in trying to install a 30' telescoping pole, rotator and antennas on his roof. (*Too lengthy to include here, but on request I will post it on the reflector*).
- In the SWAP SHOPPE Column (*a standard feature in early Cheesebits, now made obsolete by the reflector*) K3EOD is looking for a Telrex 6-meter beam (*used to be the pinnacle on 6-meters*), and K3AOT is selling 4X150A's for \$5.00!
- Official Bulletin # 752 from ARRL: "The Civil Defense Operation Alert is scheduled this year for 4/25 through 4/30. During those dates amateurs active on RACES will conduct simulated emergency activities ... all amateur bands". (*Whatever happened to this whole scene?*).
- W3DD, Tom Benham, a professor at Haverford College, was the speaker at our March meeting, where he gave an interesting talk on "Satellite Tracking". He played recordings that he had made from Sputnik 1, and other Russian and US Satellites. A lengthy extract of his talk and papers was included in the Cheese Bits. More remarkable than the talk and recordings was the fact that Tom has been blind since he was 2 years old. (*What an accomplishment!*).
- Next meeting, April 19th, the program will be "Home Brew Night". (*Nothing changes! Stay tuned next for the list of winners*).

Events

For inclusion, please direct event notices to the editor.

222 MHz Sprint - Spring Sprints - April 19, 2011 7:00 pm - 11:00 pm EDT. More details might be available some time at <https://sites.google.com/site/springvhfupsprints/2011-announcement>

432 MHz Sprint - Spring Sprints - April 27, 2011 7:00 pm - 11:00 pm EDT

OMARC Tailgate Hamfest - April 16 2011. Project Diana Site, Wall NJ. See <http://www.omarc.org> for details

SVHFS Technical Conference - April 29-30, 2011. Huntsville AL. See <http://www.svhfs.org/conference.html> for details

Warminster Amateur Radio Club - Hamfest May 1, 2011. Middletown Grange Fair Grounds, 576 Penns Park Rd., Wrightstown (Bucks Co.) PA. \$5 per person (unlicensed spouses & kids under 13 free). Huge indoor facilities with electric available at all tables. VE testing / WAS field checking / Equipment check out table. See www.k3dn.org/hamfest.htm for additional details

902 & Microwave Sprint - Spring Sprints - May 7, 2011 6:00 am - 1:00 pm EDT

50 MHz Sprint - Spring Sprints - May 14, 2011 2300Z - 0300Z May 15

Dayton Hamvention Convention /Hamfest - May 20-22, 2011 One of the largest ham events in the US. See <http://www.hamvention.org/> for details.

June VHF QSO Party - Contest Jun 11-13, 2011 - Details to follow.

Valley Forge Hamfest and Computer Fair Hamfest - July 17 2011. See <http://www.marc-radio.org> for details

CQ WW VHF Contest - Jul 16-17, 2011. Details to follow.

August UHF Contest - Aug 6-7, 2011. Details to follow.

G AND G ELECTRONICS OF MARYLAND

JEFF GOLDMAN, K3DUA

8524 DAKOTA DRIVE (301) 258-7373
GAITHERSBURG, MD 20877 FAX: (301) 977-5378
E-MAIL: K3DUA@EROLS.COM

• DEALERS IN NEW AND USED ELECTRONICS •



Bob Fischer Company, Inc

Eastern Van Ladder Sales Representative

300 S. Lenola Rd. #241
Maple Shade, NJ 08052
800-852-0120
Fax: 856-662-0556
Cell: 609-440-2916
bobfischercompany@verizon.net

*Ask Me: "How can I reach
45ft high from my Van"?*

Bob Fischer

DESTINATIONS TRAVEL

A Full Service Travel Agency

HARRIET SOLTOFF
Travel Consultant

XYL, K3IUU

229 Fairway Dr
Warminster, PA 18974-3797

Phone: 215-957-6084
Fax: 215-957-6085
E-Mail: BSoltoff@Comcast.net



Joel Knoblock W3RFC

www.therfc.com

The R.F.Connection

213 N. Frederick Ave. #11WWW
Gaithersburg, MD 20877 USA

World wide shipping via FED-EX or US Post
OFFICE

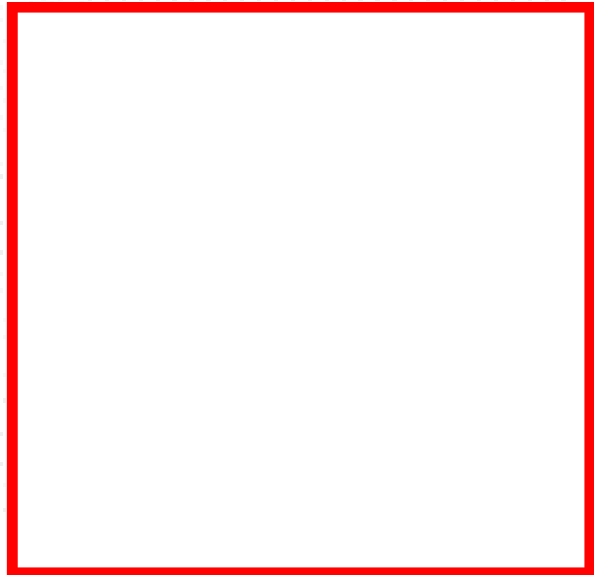
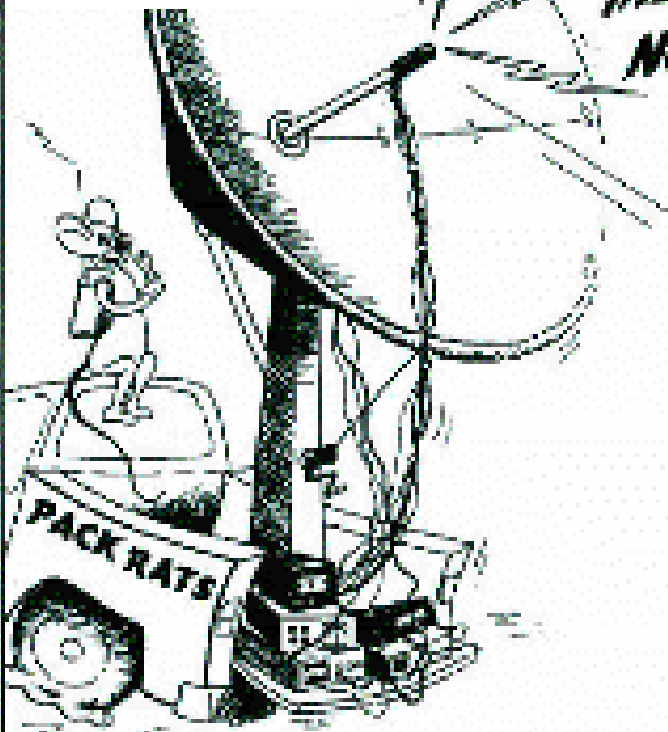
Tech Line 301/840-5477 Order Line 800/783-
2666

Fax Line 301/869-3680

Hours: Monday-Friday 9:30am-5:30pm Eastern
All major credit cards accepted

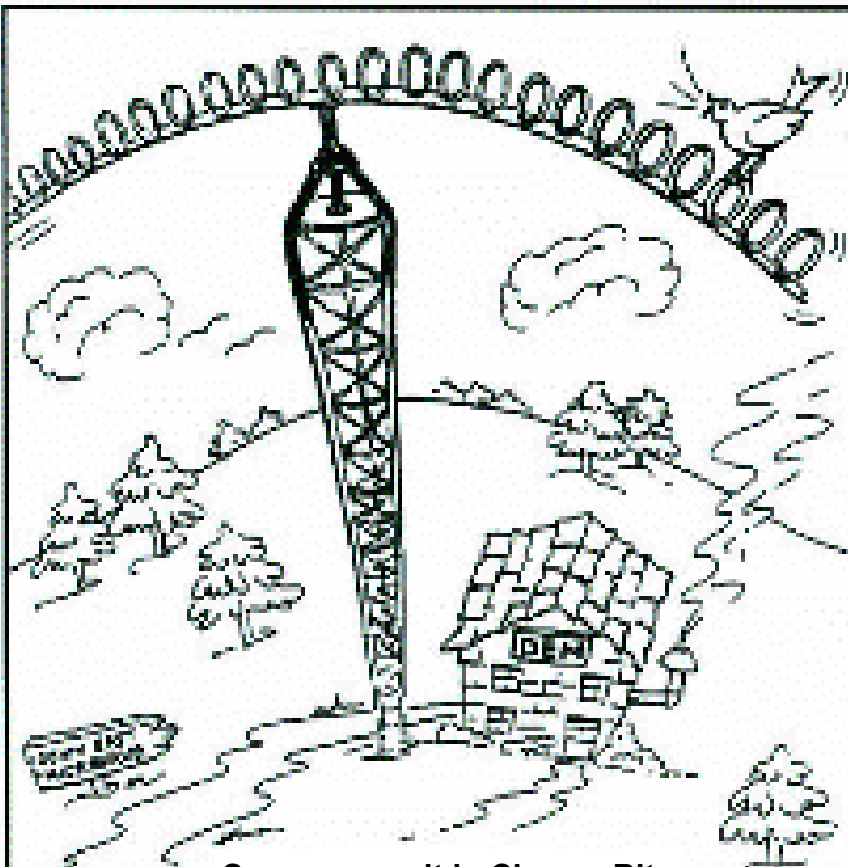
Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016

**MEETING
NOTICE**



FIRST CLASS

MT. AIRY VHF RADIO CLUB, INC.



Say you saw it in Cheese Bits

DOWN EAST MICROWAVE

Manufacturers and Distributors
Of VHF/UHF/SHF Equipment and Parts
50 to 10,368 MHz

- No-Tune Linear Transverters
- Linear Power Amplifiers
- Low Noise Preamps
- Coax Relays, Coax Cable, Connectors
- Crystals, Chip Capacitors, MMICs, Transistors, RF Modules

For All Equipment
Steve Kostro, N2CEI

<http://www.downeastmicrowave.com>

19519 78th Ter.
Live Oak FL 32060
Tel. 386-364-5529 (Voice)