



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LV

January 2014

Number 1

PREZ
SEZ:

future.

First you can reflect on your accomplishments of the past year. You added a band, or you improved your score; maybe you developed or improved a skill like CW operation. Take a moment to relish that achievement and think about how you can apply it to more such improvements in this coming year.

The New Year doesn't just give us time to reflect and plan, but to actually get on the air and have fun for 33 hours in the ARRL January VHF Contest. I hope you are ready and prepared for a good time in the contest. This year the Board of Directors has requested that we take on a project to bring our beacons into the future. First we want to thank the legacy packrat members who have given us many years of outstanding service from our current suite of beacons transmitting from downtown Philadelphia. Much work went into everything from the antennas and RF, all the way to the power supplies. They have been bullet proof for longer than the design life in the initial plans.

Happy New Year!
We are on to another splendid year; a year of radio sport and of new projects that will take our club many years into the

Beacons are a valuable tool to us at our stations, indicating the performance level of our receiving systems. Without beacons we have no way of knowing how antennas, preamps, transverters and overall systems are working. It is not until we can make a contact with another station that you know is working. With a working beacon you can know immediately that your receiving system is operating and track its performance over time. But that requires you to have a reliable beacon!

Our plans are to have all new beacons disciplined with accurate, published frequencies.

January 18th at 2PM local time is the beginning of our number one contest activity. The contest chairman tells me that nearly 70 members will be on the air and submitting logs. Soon he will be publishing the documents that will go along with this contest. Make sure to get plenty of sleep in the days leading up to the contest, next weekend.

The meeting this month occurs just prior to the contest and Ben (WA3RLT) has again agreed to show us some fascinating results from the logs of last year's contest. At the last meeting he took requests and will be answering these at our next meeting. Be sure and come to the Dinner before (6PM) at Giuseppe's and then the meeting at the Ben Wilson Senior Center beginning at 7:30 PM.

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

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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

TIME **FREQUENCY**
7:30 PM 50.145 MHz

NET CONTROL

K3EOD FM29II
WA3QPX FM29di
8:00 PM 144.150 MHz N3ITT FN20KI
8:30 PM 222.125 MHz KB1JEY FN20je
8:30 PM 224.58R MHz W3GXB FN20jm
9:00 PM 432.110 MHz WB2RVX FM29mt
9:30 PM 1296.100 MHz K3TUF FN10we
10:00 PM 903.100 MHz WA3SRU FN20Ie

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

A little planning is in order for the year. Get ready for the first VHF conference in April with the NEWS group, then there's the Southern group with their conference in Atlanta this year also in April. May brings the annual visit to Dayton, meeting the VHF group at the VHF Banquet on Friday night. June is the trip to Camelback; this year we want to see more folks get the feel for signals at such a high location, come join the fun. Later in the year we have our own conference, the Mid Atlantic VHF Conference where speakers are already lining up to present; it will be a fine occasion.



So have fun in the contest this month, and I hope to work you on lots of bands.

Phil K3TUF

NOTE FOR CHEESE BITS

Here's a reminiscence sent to Cheese Bits from well known ham Rick Campbell. Among other distinctions, Rick is the designer of the R2 direct conversion receiver, and its companion transmitter, the T2 (and several derivative rigs including UHF adaptations). He's also the designer of the original "No Tune" microwave transverters that many have used and from which several other designs have been derived. Rick is also coauthor, with Wes Hayward, W7ZOI and Bob Larkin, W7PUA of the now-classic ARRL book "Experimental Methods in RF Design".

I'm not sure if Mike Greaney K3SRZ from the Harrisburg area was known to the Pack Rats community, but he had a profound influence on my life in VHF. Mike was the physics teacher in my High School, and had identified me as a kid to look out for. I guess he probably noticed me when I won the school Science Fair in 10th grade. By then I had been licensed, and inactive, for a few years. He inquired about my station, and when I told him I had a DX-40 and a small handful of crystals for the novice bands, he brought in his old Heath HG-10 VFO for me to use. I took it home, made a few contacts, and then haywired up a two diode product detector from the ARRL Handbook, a little tube audio preamplifier, the HG-10 VFO and my transmatch into a simple receiver. I had been building crystal radios for a while, and it just seemed like the obvious next step. That was before Ten Tec, and I didn't get QST so I was unaware of Wes Hayward and Dick Bingham's Direct Conversion article that year. My receiver was a Heathkit GR-64 so I was always trying to build something better.

Mike introduced me to VHF and the local Harrisburg community. My call sign was WA3IUR and I recall someone telling me there was a famous VHF guy Dick Wendler (SK), local orthodontist and father of one of my high school friends who had just built a Heathkit HW-17. I took an FM transistor radio, spread turns on the inductors to move it up to 2m, and removed one of the diodes from the ratio detector so I could listen on 2m AM. It wasn't great, but probably better than a Heathkit Twoer. Mike was always interested in my experiments, and didn't cut me any slack when I took advanced physics from him as a high school senior. That experience convinced me that I needed to grow up a little, so I joined the Navy before hitting the books in college. After a few years and the official end of the Viet Nam war, they let some of us out early if we were going to college, so I went back and earned a BS General Honors Physics degree, then four years at Bell Labs, then MSEE and PhD. By then I was doing more serious Direct Conversion receivers, had worked my way up the bands with homebrew gear to 3456, and started developing the No-Tune microwave transverters. I built a homebrew 1296 receiver with DSP IF in 1982, and was regularly earning high scores on the microwave bands in the VHF Contests. Each of those projects had someone like Mike looking over my shoulder, sometimes shaking his head in amusement, bewilderment, or wonder.

Some folks think of the 1960s as Woodstock and free whatever, but for me it was science, moon landings, and a red Pontiac Firebird with K3SRZ plates and a grinning young physics teacher with Buddy Holly glasses. Long before I was ever able to make any contributions to this VHF game, Mike Greaney took me under his wing and guided me along the path. If you've ever made a microwave contact with a No-Tune Transverter or shaken your head in amusement at one of my wacky schemes for dealing with radio signals, give a nod to my physics teacher Mike Greaney, K3SRZ, SK.

Best Regards, Rick KK7B

...Note for Cheese Bits cont'd

PS-

Extracted from a personal email from KK7B to W2BVH

Give my best to the Pack Rats at the meeting Thursday evening. I'm in regular communication with Marc N2UO, and will see Al Katz K2UYH in January I expect. Al and Sally have been friends since I first met them at a Central States VHF Society meeting 29 years ago. We don't have anything like the Pack Rats out here in Oregon, but a number of us with tenuous connections to the old Tektronix club are in daily contact. Wes Hayward W7ZOI, Bob Larkin W7PUA (he did the DSP-10 2m rig a decade or so ago), and Northwest VHF stalwarts like Merle W7YOZ and the old Seattle gang. We're also bringing up a next generation. Wes' son Roger KA7EXM, my son Richard K7XNK, and Mark KI7N are all pushing the limits on some new modes involving dedicated signal processing with on-the-fly upgrades to the code and human interpretation of what is seen on the waterfall plot. Richard is pushing hard on the basic math, and writing his own signal processing code from scratch. Coherent integration times of 1.5 seconds and incoherent integration of about 6 seconds, at data rates of around 20 seconds per dit on very slow on-off keyed morse.

Also, thanks for sending Cheese Bits out this way. I read it through each time, and enjoy keeping up with my all friends in the Pack Rats.

Best Regards, and my best wishes for the New Year to everyone.

Rick KK7B

Your Easy New Year's Resolution....a simple ham shack inventory

by John W3HMS

There are many reasons to have an inventory and so very many reasons NOT to do it. One point to consider is that this is not the "good old days" when a friend sells THE radio of an SK but rather a time when a ham station has A LOT of gear in it and it may be very messy!!!!

Because my inventory is built in EXCEL it can and has been refined over time. Buying new gear is easy....you can add to it almost 100% from memory at the time when the gear is received. Sales or disposal is equally easy as "Sold VOM to W1XYZ for \$25 on 1 Nov 13" .

The key is to keep it simple remembering that you will miss some items but they can be added as/when you desire. Price is the purchase price (a fact at the time the item is bought), and NOT a current valuation. The latter is easy to do....set aside 15 hours per day for constant EBAY inquiries....yea, right, HI!!

The easy entry and sorting features of EXCEL and its widespread availability means you can enter items randomly then sequence like items together and sort as you desire later on. You can easily create additional rows and columns plus select the columns to print/EMAIL. Here is what I record: Description, Purchase Date, Purchase Price and Notes. One column per category, one row per item.

As you can see, I DO keep it simple. I could put in serial numbers if I want to research more than 200 items but that takes time and it could kill the project. I could try and find the current selling price and encounter the same issues. I try and **put the item keyword first** so like items sort together, e.g. transceiver, transmitter, SWR meter, antenna matcher, etc. For items like tools, I put in 1 lot valued at a low price...you

may have big ticket power tools and desire to enter key items individually.

For homebrew gear or unknown gear, I use \$1.00. You could start your entry process by entering the most expensive gear first as this follows a good business principle of putting effort on the most important gear.

Don't forget your antennas and all outside towers, equipment, and gear in the car, boat, Rolls-Royce, etc .

On small parts of unknown value, just citing one lot at \$1. 00 will help ensure that this category is not missed at the time of your trip to "the big QTH in the sky". If you have big expensive spares, then individual inventory entry seems most desirable. You could set a dollar value for what to enter, but I feel that any piece of equipment I might want to sell is worth entry.

So what do you have when you are finished or close to it? Well, you have an accurate record to discuss with your insurance agent if you feel you may want additional QTH insurance.

It seems to me it is just a good practice to record your radio assets. If you feel the inventory process is tough for you, imagine how tough it would be for your widow and/or friends who have not the same knowledge as you do of the equipment by function and value?

I think you may well be surprised at the dollar value you have tied up in your equipment. You also have a file that can easily be stored on your PC, safeguarded in a vault , and sent via EMAIL. When needed, the inventory can be used to insert asking prices for estate sales and simplify so much the effort to be provided by friends and your XYL.

So, if you are sure you will live forever, please put off starting your equipment inventory, HI!! If you are mortal, may I wish you good luck in starting with the big stuff and working down the value scale.

73, John, W3HMS

KB3MTW Shack

Hi all,

As a follow up to last month's pictures of my antennas on the deck, here are some pictures of my Ham shack located in the dining room. It will eventually be moved to the 2nd bedroom/office, but in the meantime the dining room was closest to the deck.

I have a 30 amp Astron PS. A FT857D all mode HF/VHF/UHF radio and an Alinco DR-235 222 fm. I'm hoping to expand into the upper microwave bands - 902/1296 soon.

Michelle London
KB3MTW



December Meeting Pictures



← Pre-meeting Dinner at Giuseppe's

Paul and Mike did a tag-team presentation on station control and transverter switching



One example of the control hardware brought in for show-and-tell →



W3GAD Shack

Here's a quick pictorial tour of Doc's shack. Looks like its well prepared for next week's activities.



Aerial view; a bit too small to spot the Aerials



Here they are!



And the signal gu'zinta and gu'zouta happens here



Well laid out operating position, with equipment near at hand

Tower Safety At WA3QPX



Here is my tower layover setup. Please note the handy dandy lawn cart. It saves dragging stuff all over the yard and forgetting where I put it. Something to do with elder care.

Here is a safety frame to help support the tower in case the cable breaks. Not nice to be under 1500 pounds of steel and aluminum when the cable breaks. Cables should be inspected every use and replaced at least every 3 years. Do not use galvanized cable. It rusts from the inside out and shows no indication of possible failure. A station downstate Delaware lost his tower and 6 element hf beam using galvanized cable.



Here is a back safety strap for the layover support. I give it just a little tension from the tractor before layover. It really tightens when the tower is being lowered since the layover support is supposed to give but I do not trust it entirely. If one reads the manufactures specs, the fine print says the layover fixture will hold the tower with no antennas. Now what good is a tower with no aerials? **Final note. Please use a positive clutch winch for raising and lowering** not a clicker boat winch. One of our members found this out the hard way. I hope some of these tips help save someone from disaster and injury. **gl paul, wa3qpx**

Moonrise Over Delaware

Moonrise last night (12/13/13). Worked on 2m; England, Brazil, Italy Germany, Austria, USA, Slovenia, Ukraine and Bulgaria. Did not fire up 432 system.

At right is an eight 9wl yagi array for 432. Antennas have a 21 ft boom and the array is 26 dbd.

Below right is my four 28 element 2m array, cross polarized with 12 foot spacing. It has a 34 foot boom and is 24.6 dbd.

Most activity is on 2m. Larger stations can be worked using WSJT with a 150w brick and a single yagi.

Smallest I have worked was a JA running two beams and 50watts.

gl, Paul,
wa3qpx

Ps—Pictures were made with my new iPhone 5S



...Strays

Hello Rick,
Happy New Year! I just got back from a long vacation, but I talked to a few club members and I think we'll be getting on the air for the VHF SS! We have operating capability for 50MHz, 144MHz, and 440MHz for sure and possibly 220MHz as well (I have to double check one of our rigs). I would also be glad to come out to your meeting in the spring, I like to try to stay active with the local clubs.

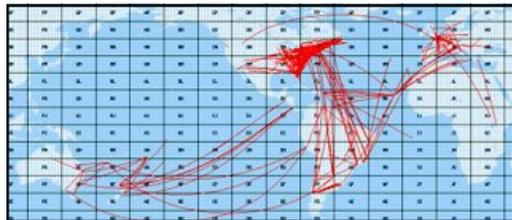
Thanks for letting me know about the contest!
Brandon Katz KB3WLN Drexel

Six Meter DX Report

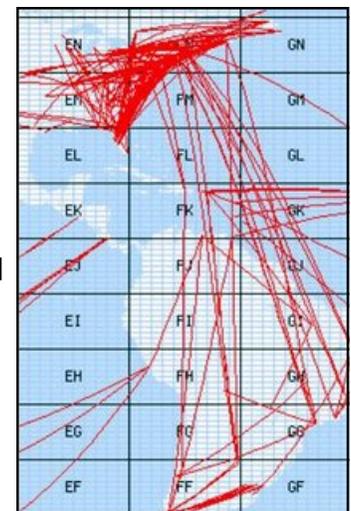
December 2013

I wish there was something encouraging to write about. Outside of some single hop Sporadic E to Florida, Canada and the Midwest in the past few days, and the meteor activity during the November Leonids and December Geminids meteor showers, there has been virtually no 50MHz propagation to this area. To say that this cycle has been a bust is an understatement. One exception occurred on the evening of December 7th when Bob ZL1RS (RF64) did work into the Midwestern US and was called by Rusty, K1BIX. Rusty was operating from the Cornwall Ranger Cabin and heard Bob very well. Unfortunately Rusty's 100 watts was not enough to break through the pileup.

Other areas of the US have enjoyed some occasional interesting propagation as well. On the evenings of December 5th and December 10th (local time), stations in New England did hear and work South American stations. I've attached a screen shot of the ON4KST propagation map for the evening of December 11th (December 10th local time) to show the unusual propagation.



Other notable contacts occurred early December when ZL1RS worked YS1AG and TI/N5BEK in Central America, and PJ4NK and 9Y4D in the Caribbean. Bob also worked into the Canary Islands on several evenings. Stations Bob



worked included EA8BK and EA8DBM. These QSOs are remarkable for their distance, which is over 15,000km. The propagation seems to peak in the late morning at ZL, and as the ON4KST propagation map for December 1st shows, it roughly follows the geomagnetic equator.

We are getting to the winter solstice, and the winter sporadic E season in the Northern hemisphere should be peaking. It may be worthwhile to look towards the South Pacific in the evenings from about 22:00z to 01:00z. It is unlikely that there will be any strong openings but there is always the possibility of an Es to TEP link. The Quadrantids meteor shower, which is supposed to peak on January 3rd may provide the opportunity to work some meteor scatter on the band.

I hope everyone had a Merry Christmas and a Happy New Year.

73, Chris W3CMP

P.S. I have a like new M2 6 meter KW solid state amplifier for sale. It is the model 6M-1000. It is rated at one KW output with about 80 watts drive. Size: 6.75"W x 5.25"H x 12"L. Wt: 12 lbs. Amp comes with schematic and manual. If anyone is interested they can contact me.

Chris W3CMP 73

WA3EHD Antenna Improvements

Here is the newly assembled array at Jim's QTH thanks to the great team of Packrats who assisted in getting the old array down, new antennas completed, the rotor refurbished, the additional tower section added, new hard line inserted and final assembly and testing.



Well with holidays now behind us and the January Contest in less than 2 weeks hopefully most members are in good shape for getting their stations on the air.

The Contest Team Captains if they haven't already should be getting in touch with each and every one of you as to your status.

There is still loaner equipment available so please make your needs known to either myself or Rick K1DS.

We will be going over contest strategy at the January General meeting as well as having Ben WA3RLT's analysis of last year's contest.

I am working on the "Packrats To Look For" list. This list shows Packrats by Call Grid and bands you plan to be on. If you were not at the last meeting please get this information to me directly off the reflector as soon as possible

As in previous years there will be a website to go to for all the contest information. More on that in a future Email.

Thanks and 73

Bill K3EGE

Quick Note : January Contest Wrap Up Meeting will be held at the QTH of Bob W2SJ in Mullica Hill NJ on Saturday February 1. Please reserve the date.

More details in to come

73, Bill K3EGE

Call for Papers and Speakers

We would like to hear about your latest projects or operating activities or any other interesting topic.

Please consider giving a talk or writing a paper, or both. Short or long topics welcome. It doesn't have to be earth-shattering, just something worth sharing with your friends. Not fussy about format, we will make it work.

Please contact w1ghz@arri.net
Conference details will be www.newsvhf.com
very soon

Mystery Ham

Found this photo in my cousin's archives on a recent visit. I am caressing my two meter halo that was attached to the 1962 Rambler sedan with push-button shifting and was connected to a Heathkit Twoer rig using a vibrator power supply. I was 18 years old and this was taken on the Grand Concourse in front of my apartment building in the Bronx, NY. 1965.

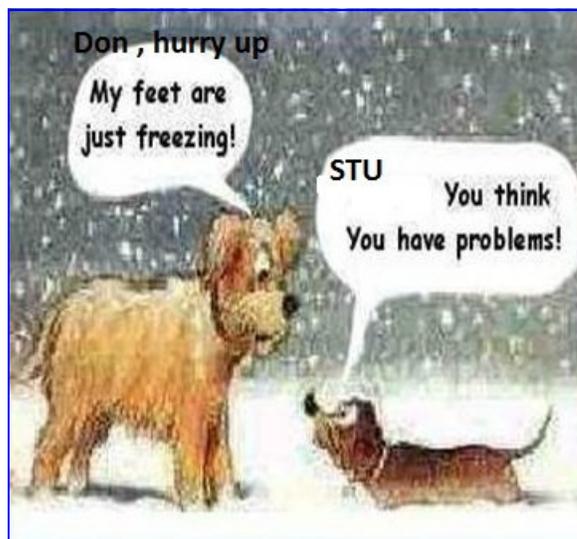


(It's Rick K1DS)

Apropos of the Season and the WX

These are two guys that I've done a LOT of tower work with and for!

73, Warren WB2ONA



Putting up dipoles at Don's in the winter...

Nice Rover Spot

Maidenhead Locator

FI09sx

0.002130°S

78.455368°W

+/- 5m

More apps at KramStuff

Standing at the Mitad de Mundo (middle of the world) in the Andes. Their placard says latitude 000. The app shows slight error in 3rd decimal. Close enough. One step takes you from one grid to another.

Bert, K3IUV in Ecuador

Call for Papers

Gentlemen,
Next summer the Central States VHF Society Conference will be held in Austin. We would very much appreciate it if you would post the attached PDF 'Call for Papers' on your Mt Airy VHF Radio Club web page and on your reflector. The dates July 25-27, 2014

73,
Tom / K5TRA
<http://k5tra.net>
tom@k5tra.net

The Wayback Machine

Gleaned from the pages of
Cheese Bits, January 1964
(Vol. VI Nr. 10)

(Authors comments in *italics*)

- Cover. Featured one of Helen's drawings, a full page logo commemorating the 50th anniversary of the ARRL.
- A full page was dedicated as a memoriam to President John F. Kennedy, who was assassinated in November, 1963. It included a charcoal sketch of the late President, artist unknown (maybe Helen?)
- The following page was a tribute to the ARRL, commemorating the 50th anniversary of its formation in 1914. It contained a synopsis of how the ARRL had fostered the hobby, supporting amateurs in their endeavors and guiding the operating practices to help justify the hobby's existence. It included an admonition to club members to interact with the league officials to make their wishes and interests known. (*Still true today*). Not signed, but probably from Helen's pen.
- A very detailed report dealt with the tribulations of K3IOP, Charles Seaman, a resident of Elizabeth, PA. It described his TVI problems, community action and FCC reaction to the circumstances and situation. While his station was found to be clean during numerous FCC inspections, the town politicians and citizens made his life miserable. This included stone throwing, and desecration of his home. During this time, K3IOP passed his General test (*his operation had been as a technician*). After several weeks the FCC sent his license; however, it contained the restriction that **he could no longer operate on 6-meters**. Although they had cleared his operation as being in conformance with good practices, they took this drastic action and caved in to the local politicians and citizenry. Because of the threat this action represented to the amateur fraternity, **four columns were devoted to the discussion**. They included a major extract from a CQ editorial by K2ZSQ, Bob Brown.
- As a follow-up to the above incident, our own W2EIF, Joe authored a paper detailing the causes and cures for TVI. The club made a TVI complaint form available for Hams to use in resolving issues. A copy of Joe's paper was now included with all copies of that form. (*For those not old enough to remember, in the 50's and 60's TVI was a major operating issue for the amateurs, particularly those operating in the 6-meter band just below TV channel 2. Before the advent of cable distribution, many people tried to receive TV signals on the fringe of the coverage area, exacerbating the problem*).
- Dues rose to \$6.00 a year, attributed to increased rent for the meeting place, as well as the creeping cost of postage for Cheese Bits.
- T. N. T. (Tech Nical Topics) was an occasional column on a technical

subject, authored by a member. This issue's topic was air wound coils. It included the proper usage (designing for optimum "Q"), design details, and a table showing how to use commercially available coils. (*Surprise, the author was K3IUUV, Bert. I don't even remember writing it!*)

- Another detailed technical article described the proper conversion of a war surplus ARC-5, for use as a VFO (*Variable Frequency Oscillator*). (*For the youngsters, a VFO was the method the 60's Hams used to get away from being "rock-bound" with their transmitter (AM of course!)*). Authored by member K3PXT, Carmen, with the assistance of another member W3FQD, Dick. The ARC-5 was a small transmitter built for aircraft use. Available in a number of frequency ranges, the T22 model was designed to cover 7 to 9 Mc (MHz), making it perfect to use as a replacement for the 8-meg crystals (*war surplus of course*) that we used. If not converted properly, the devices could be a major source of TVI, another plague of the 60's hams). Carmen's 4-column article described how to avoid the TVI problem with proper conversion of the ARC-5.
- Swap Shoppe ad. Wanted, 6-1/2' half enclosed steel rack. Contact K3JJZ. (*El, did you ever get that rack? I have one available.*)
- Contest Winners. In the CQ Summer VHF contest, the top winners were #1 K3IPM, Stan; #3 K3LOM, Harry; and #4 K3ACR, Rich. In the ARRL Sept QSO party, winners were #1, K3IPM, Stan; #2 K3IUUV, Bert; #4 K3LOM,

Harry. (*All Packrats of course! Stan and Bert are still contesting!*)

- December meeting highlights. W3CL, W3SAO, W2EIF and W3IBH gave pep talks in preparation for the January contest. K3UJD, Mario (*of the Mario auction fame*) played the Ukulele and made up songs about the members!
- FCC tidbit. A Denver inspector was searching for an illegal CB transmission near a state prison. Turned out an inmate's wife smuggled in a CB unit. The inmate made an antenna from prison yard junk parts and was operating until found. He got 30 days in solitary for his effort. Doesn't say how the wife smuggled it in. (*I'd like to know. Can you imagine that happening today?!*)
- This issue consisted of nine (9) sheets, double-column format, printed double-sided on heavy stock legal size paper, plus two 8-1/2 x 11 sheet with schematics for the ARC-5 article. (*Postage still 6-cents*).

(*As in previous editions, many "folksy" comments about members, their families, and activities were included in this edition of Cheese Bits. If interested, or for more details, visit www.W3CCX.COM and read the full issue posted there by our Webmaster, Ron, W3RJW.*)

thirty, de
K3IUUV



Lunar-Link International

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for demanding modes
50 - 144 - 222 - 432 MHz
EME - Digital - Contesting



www.lunarlink.com

info@lunarlink.com
33 Ball Pond Road Danbury, CT

Events

For inclusion, please direct event notices to the editor.

January VHF Sweepstakes Contest - January 18-20, 2014. See recent emails from K3EGE and from your team captain for details. Time to get in gear!

Trenton Computer Festival Conference -- March 14/15, 2014. TCNJ Ewing NJ. See http://tcf.pages.tcnj.edu/ for details

Eastern VHF/UHF/Microwave Conference - April 11-13, 2014 Baymont Inn, Manchester, CT
Details to follow

SVHFS Conference—April 25-26, 2014. Atlanta GA. See <http://www.svhfs.org> . Conference chair Bob Lear, W4ZST

ARRL June VHF QSO Party - Contest June 14-16, 2014. The annual Camelback trek.
Details to follow.

CSVHFS Conference— 48th Annual Conference July 25-27, 2014 in Austin, Texas. See <http://www.csvhfs.org/2014conference/index.html> for details

G AND G ELECTRONICS OF MARYLAND

JEFF GOLDMAN, K3DUA

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Lisbon, MD 21765-0222 EMAIL: k3dua@erols.com

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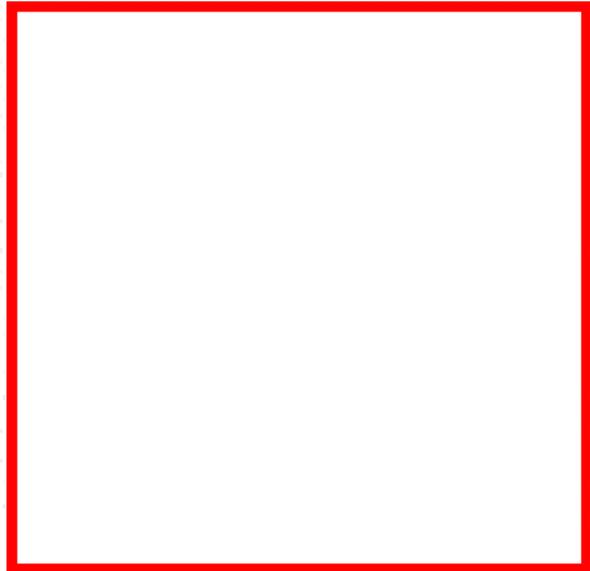
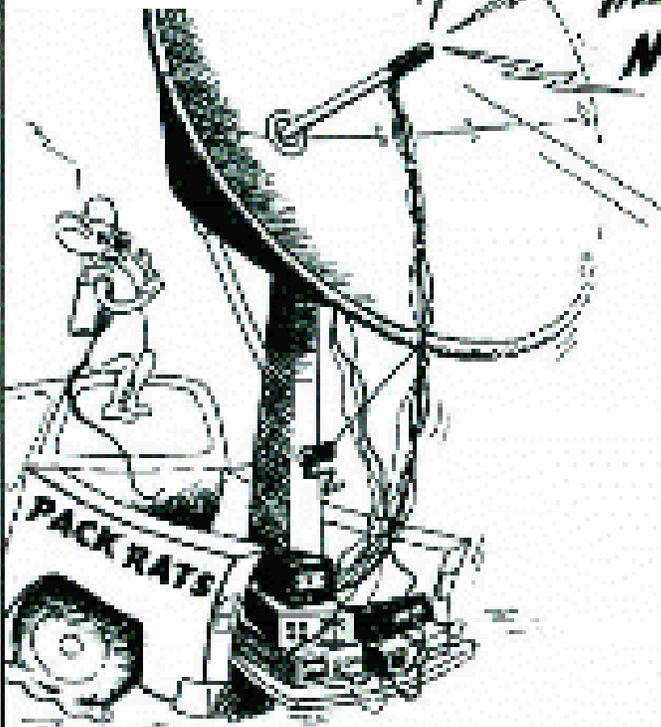
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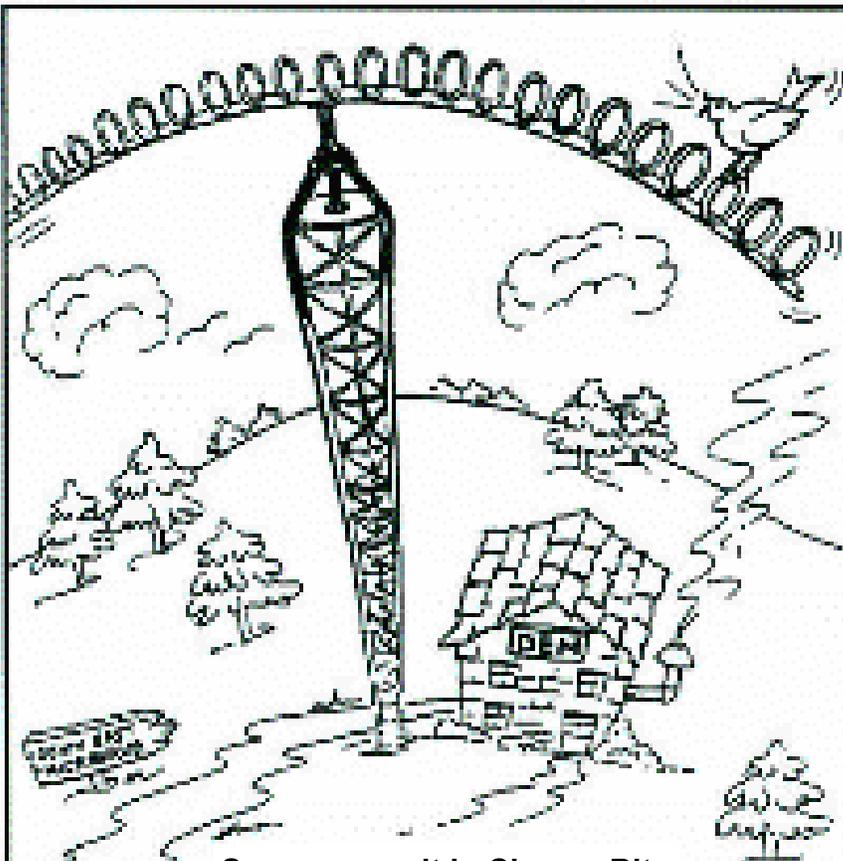
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