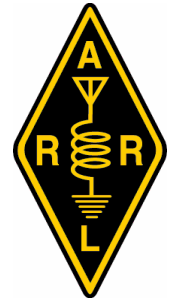




CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LIV

September 2013

Number 9

**PREZ
SEZ:**

Labor day is over and the balance of the year is upon us; the symbolic end of summer and the kids are back in school.

For us, it's time for the September VHF Contest. I trust you've taken the advice and started to get your station in shape. Next weekend's contest gives us an opportunity to get systems and strategies ready for the big contest in January. Is your station ready?

I can tell you that I have lots of work to get ready. Seems that my systems have somehow gotten rusty. I'll have to spend some time with the radios, even my K3 now exhibits issues. Had a hard time with the nets on Labor day. I would like the club to have a good showing in spite of the unfortunate convergence with holidays. I know that many members will be making an effort, especially since this time of year has been known to bring some great microwave conditions. Please get on and support the club even if you are not able to be on for the full duration of the contest. Correspondingly, lets have a huge turnout on this coming Monday night. Make all of the net controls listen for a record number of check ins.

We are going to be talking about contest strategy and contest related subjects this fall, beginning with September where a few members will be giving their bent on strategy. This fall season of meetings will bring presentations on logging and November will be dedicated to meteor scatter, with a live

demonstration.

We are always looking for ways to increase our score, and new grids that are out of reach by normal tropospheric methods are a great way to do that. It is a real asset to have a working set of antennas and station now at the Senior Center.

It seems like so long since we were at the Senior Center for a meeting. I am looking forward to dining at our new facilities just in front of the Center at 1380 W. Street Road. Join us at Giuseppe's starting at 6 PM before the meeting.

After the contest, what do you use to store your contacts? Do you use one of the casual logging programs, or something that you can buy? Does it push your contacts into LOTW? We'd like to help you answer some of these questions when we cover logging at the October meeting. Many of you use Harry Brown to check your cards for VUCC. We have another option, particularly when Harry is enjoying his warm Florida weather during the winter. Glenn, K3SWZ is ready to check your cards for VUCC as well. He lives in the Harrisburg area and I see him often. You can pass your cards along to me to be handed off to Glenn.

Besides the contest, the major event of the month is the Mid-Atlantic VHF Conference. Rick has been keeping up to date on the rapidly diminishing time to register and get a room at the best rate possible. I know that lots of you like to contribute more to the club by resisting the urge to take advantage of the

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

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PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz (PL 136.5) Hilltown, 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

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:30 PM	50.145 MHz	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

early bird discounts. Thank you for that. But now it's time; go to the club website and indicate your support of our efforts by registering. It's going to be a fun packed weekend. **BE THERE!**



Now that there is still time, brush the dust off your operating position and get on the air right away and be ready for the contest next weekend.

Lets work on lots of bands,

Phil K3TUF

Packrat Annual Picnic

We couldn't have had a more perfect day for the annual picnic. Thanks to our host and hostess, Al and Carol Sheppard, several Packrats, many of their XYs, significant other and family joined together for a delightful afternoon of good food and camaraderie.

Thanks to N3ITT, KB1JEY and KA3WXV, the tents were erected on Friday after all the problematic weather had passed.

There were delicious salads, burgers and dogs, chicken, sausage and peppers and all the fixin's. The coolers were full with our favorite beverages. It was a delightful and relaxing afternoon for those who came, and we were delighted to welcome Al Katz, K2UYH, and Sally, his XY, to the event. Al is our most recent Packrat membership applicant.

The board discussed whether this event will continue on an annual basis as the attendance has dwindled a bit over the years. For those who did attend, I'm sure they will say, "Thumbs up!"

submitted by K1DS



Several attendees enjoyed the pool for most of the afternoon



Enjoying the food was the main activity in addition to some great social conversation and even some radio talk.



Aww shucks —The crew prepared the local corn



Our host was great on the grill and we thank Carol too!



Jani (XYL K1DS), Harriet (XYL K3IUUV), Sally (XYL) K2UYH



Six Meter DX Report

By Chris Patterson, W3CMP

On August 1, 2013 I flew to the UK for the UKSMG Annual General Meeting and the G3WOS BBQ. After my arrival in Heathrow on Friday August 2nd, I drove to Farnborough England, the site of the events. That evening many of the attendees ate an authentic Nepalese dinner (with lots of English and Nepalese beer) at the Gurkha Palace restaurant.

The next morning I attended the Annual General Meeting where several awards were presented. The Six Meter Beacon Project was awarded the Jersey Trophy, and I was pleased to accept it on behalf of the group.

At the BBQ which followed, Jim Kennedy, KH6/K6MIO discussed the status of this solar cycle, as well as the remarkable extreme east-west Es that occurred on the 27-30th June last year.



Here's the opening on the 27th



At least you can see some of the land masses in this picture. The 28th and 29th were even more spectacular.

Josep EA3AKY reviewed the successful six meter operation of D64K Comoros Islands DXpedition, and Jim G3YLA discussed potential relationships of weather phenomena to Sporadic E. Jim is a meteorologist and his presentation was very informative and thought provoking. The steaks, sausage and hamburgers were excellent.

After the BBQ we retired to the hotel where most people were staying for another round of beers, and we stayed up much too late telling stories. On Sunday morning I said my farewells to most of the attendees and began my two day tour of England. I travelled west to the Avebury Henge and Stone Circle, West Kennet Long Barrow and Silbury Mound.

These Neolithic structures are about 4500 years old, and much about them remains a mystery. The Avebury Henge is larger than Stonehenge, and while there, I got to see a Druid ceremony that was somehow related to the harvest.

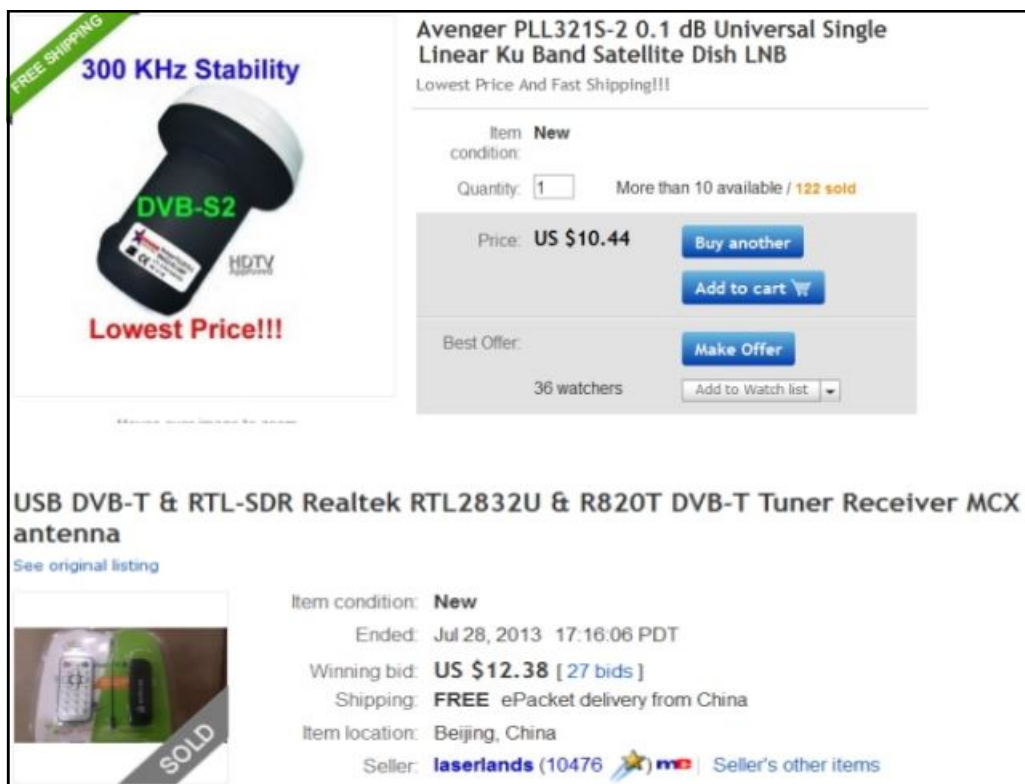
On Monday I travelled into London and spent the afternoon touring the Tower of London, which dates back to William the Conqueror, and on Tuesday I flew home.

Continued p.9

Rein Smit's Progress on the Use of Commercial Satellite Receivers and Inexpensive Dongles for Possible WSPR Applications

Thanks to Rein Smit and Walter Clark of the SBMS for permission to copy this article from the August 2013 SBMS newsletter. It outlines some experiments using digital modes on 10 GHz. The thing that caught my eye was how inexpensively you can get a 10 GHz **receiver** going. You can often find a small satellite dish at the curb on trash day or do as I did and put a "Wanted" message in your local freecycle reflector (see freecycle.org). If you want to do digital reception, you'll need a computer. The remainder of what's needed is in the article below. —W2BVH

The first use of this project is to build a "scout" receiver with which I hope to find a microwave path to Larry and Pat who are located on the other side of the mountains. (Lake Los Angeles) A path, if it exists, will undoubtedly be with bouncing. (The ultimate goal is WSPR mode. —ed)



The screenshot shows two eBay listings. The top listing is for an "Avenger PLL321S-2 0.1 dB Universal Single Linear Ku Band Satellite Dish LNB" priced at US \$10.44. It features a "FREE SHIPPING" banner, "300 KHz Stability", and "DVB-S2" branding. The bottom listing is for a "USB DVB-T & RTL-SDR Realtek RTL2832U & R820T DVB-T Tuner Receiver MCX antenna" priced at US \$12.38. It includes a "SOLD" banner and a "See original listing" link.

Avenger PLL321S-2 0.1 dB Universal Single Linear Ku Band Satellite Dish LNB
Lowest Price And Fast Shipping!!!

Item condition: **New**
Quantity: More than 10 available / 122 sold

Price: **US \$10.44** [Buy another](#)
[Add to cart](#)

Best Offer: [Make Offer](#)
36 watchers [Add to Watch list](#)

USB DVB-T & RTL-SDR Realtek RTL2832U & R820T DVB-T Tuner Receiver MCX antenna
[See original listing](#)

Item condition: **New**
Ended: Jul 28, 2013 17:16:06 PDT
Winning bid: **US \$12.38** [27 bids]
Shipping: **FREE** ePacket delivery from China
Item location: Beijing, China
Seller: **laserlands** (10476) [Seller's other items](#)

As front-end I use a PLL-LNB with a LO of 9.75 GHz generated from a 27 MHz xtal. 10 GHz signals with the 9.75 GHz LO will generate a mixing product at 618 MHz. (This may sound expensive, but here's what Rein is talking about... --ed)

An "RTL_SDR" dongle is used as the IF receiver in this case. (Use the title in the pictures as key words in the eBay search engine. --ed)

No modifications were made to either unit except that the LNB needs a "Bias Tee" to feed 12 volts in the LNB's output. (e.g. a 10 GHz receiver for \$22.82 +/- —W2BVH)

Stability

Both units together are quite stable considering that the receive frequency is 10 GHz, but there is drift in particular when started. After about 3-4 minutes the drift has decreased to the point where the combination becomes useable for what I want: looking for a carrier or cw signal. (The goal remember is WSPR mode which has frequency stability requirements in the single digit Hz and has never been achieved in the microwave; to my knowledge.)

For more on WSPR check this out:

http://en.wikipedia.org/wiki/WSPR_%28amateur_radio_software%29 --ed)

After the 5 minutes the short term stability is quite acceptable such that CW and SSB signals could be copied but some manual following might be required. Not at a real disturbing level though. There are plenty of periods that the total stability is I estimate within 35 Hz; a level that is sufficient for some of the digital signal processing modes (for 1 minute transmissions).

What some amateurs have been doing is disabling the existing 27 MHz x-tal in the LNB and replacing it with a real stable 27 MHz source, whatever that may be. By doing so they may be able to use it on WSPR. [Can this be done in the mouth of the feed? --ed] One should not forget that the receive dongle also shows temperature related drift.

The Dish

I am using this unmodified PLL-LNB with 18" sat TV dish. There's a 3 dB change in noise when I raise the dish from ground to perhaps 40 degrees high.

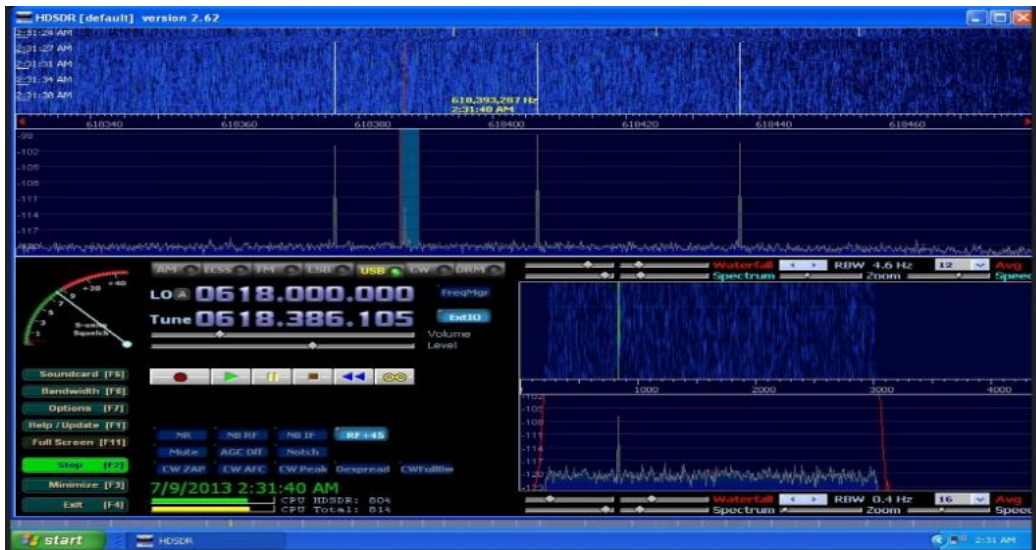


RTL Software

I favor HDSDR, see <http://www.hdsdr.de>. It will work with a laptop, (~ 2 GHz, 1 MB RAM) and for it to work with a RTL-dongle, it needs the .dll for that dongle in the same directory (see installation instructions).

Many hams like SDR#, see <http://sdrsharp.com/>. It is slightly more user friendly and it has very excellent wide band FM demodulation. If you like to listen to better quality music on the FM band.

Results



These are ALL bounced signals; Frazier perhaps 2 bounces...

Going from left to right: first signal = Palos Verdes 10368.300, second = Frazier Park 10368.310, third = Santiago Pk 10368.330, fourth = San Diego 10368.360. Notice how straight these are. Earlier LNBs (without PPL) you could see the wiggles on the waterfall.

Notes: Clearly there's work to be done but this is a good beginning. Rein asked me to emphasize that the work shown is by no means unique and there is much credit to go around.

This sounds like an inexpensive and fun way to dip a toe in to 10 GHz reception and maybe record some interesting results here in Packrat territory. Maybe we can inject WSPR into the beacon for 10 minutes a couple of times per hour for awhile and see if decoding is possible.

Here are some resources:

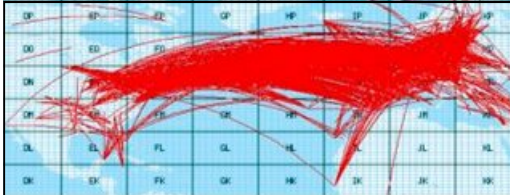
- Back issues of the SBMS Newsletter: <http://www.ham-radio.com/sbms/> (about halfway down find links by year)
- VHF + Microwave WSPR experiments discussion: <http://wspnet.org/drupal/search/node/10%20GHZ%20WSPR>. To log on you'll first have to join the group (create a logon name and password)

—W2BVH

... 6 Meter report cont'd from p.5

Of course, while this was going on, the Eastern US experienced the best three days of the Summer Sporadic E season. For most of the summer there was little propagation across the Atlantic. What there was centered on Portugal, Spain and the Canary Islands and was very weak. On August 1st, 2nd and 3rd, as the ON4KST maps show the propagation carried into central and eastern Europe and signals were very strong. Many stations added several new DXCC, including TK, 4X, HA, ZA, and UT. *I'd like to think I did my part in helping the openings by leaving the area.*

Here's August 2nd



Right now we are in the doldrums between the Summer Sporadic E season and Fall TEP season. I'd like to say we will have some F2 later in the Fall, but it appears that if there are any F2 openings they will be few and far between.

73,

Chris Patterson W3CMP

Laser Pioneer Dies

I guess we owe a debt to James Gordon for our Packrat laser communicators [and my certificate from the ARRL].

<http://www.nytimes.com/2013/07/28/science/james-gordon-dies-at-85-work-paved-way-for-laser.html?pagewanted=all>

Summary:

James Gordon, Who Paved Way for Lasers, Dies at 85

"Distinguished Columbia University physicists, some of them Nobel Prize winners, called it a "harebrained scheme." But James P. Gordon, principal builder of a refrigerator-size device that would help revolutionize modern life, believed in it enough to bet a bottle of bourbon that it would work."

I guess by contrast, my MDS 2304 conversion unit is not so heavy —**KB1JEY**

A Tale of Two Dishes

After a flurry of emails from 10GHz operators, I felt a responsibility to get out and get on the air for at least Saturday of the first weekend of the **ARRL 10GHz and Up Contest** when there seemed to be the most activity planned. Saturday's weather was excellent, except that the humidity was a bit high at 50%, and of course the leaves were still on the trees. I decided that a ride to Camelback gave me the best opportunity to make a few contacts--*and few there were*. It's a lot of driving for the 9 QSOs that I made, but I'm glad to say that I gave it the effort.

In an attempt to improve my 10GHz signals, I went back to the basement and retrieved an older dish that I have had for 20+ years, a snow-sled dish, perhaps, but the **secret ingredient** was the Chaparral feed that had been mounted to it and optimized by Paul, W1GHZ. It was reasonably easy to attach both dishes to the mast that held the 10GHz gear, and the cable was just long enough to be able to move it between dishes to see which played better. I did need a small curved SMA adapter for the Chaparral feed, and that made the cable attachment a lot easier.

I had checked out the beacon two days prior, and it appeared that there was about 2 "S" units of improvement with the Chaparral feed on the 24" dish as opposed to the dual 5GHz/10GHz feed on the 22" dish. I guess that a more accurate measurement can be made with sun noise, but I did not have all the gear available at the time for that kind of good technical comparison.

On the mountain, it was clear that the signals were a lot better with the Dish and Chaparral feed. The difficulty was that they were not exactly perfectly back-to-back, so each time that I switched the feed line, I had to reset the needle on the Yaesu rotor. Thanks to good strong signals from station nearby like WA2FGK and K2KIB, I was able to accomplish this quickly. I **could not hear the Packrat beacon** on 10GHz from Camelback.

I had a welcome visit from another rover, Tyler, KM3G, who had emailed a few of us asking if he could come and visit the operation on 10GHz to see what it was all about. After giving him the Cook's Tour of the rover and making a 10GHz QSO, I asked if he would accommodate with a LASER QSO. So I am officially in the 10GHz and **UP** category.

My grand total is 2001 points, not much to brag about, but I was glad to be able to work Packrats WA2FGK, K3TUF, W3SZ, K2TXB and WA3GFZ. I tried with WA3NUF, but we were unable to establish a good path. I managed to have 8 QSOs on 10GHz, comparable to efforts I have made in the past with this set-up. It probably can be improved with a voltage booster at the transverter and amplifier, and possibly the addition of a preamp. I also want to consider an offset dish--I have a few in waiting. 73, Rick, K1DS



Tyler, KM3G making a LASER QSO with K1DS



The Two Dish Comparison

MUD 2013

Mark October 18-19, 2013 on your calendars for Microwave Update 2013! MUD will be held at the Space Science Center of Morehead State University in Morehead, Kentucky. See the 65-foot dish antenna and seriously advanced radio gear cared for by this years host, Jeff Kruth WA3ZKR! Cool stuff! And now is your chance to earn adulation from your contemporaries and for your name to be immortalized in print. Present a paper at the conference! Papers can concern all forms of the microwave art, from antennas through SDR and digital signal processing, including construction techniques (wirebonding, anyone?) and reports on experimental modes and equipment (78 GHz? JT modes on 10 GHz? Portable?). This is an experimenters forum; tell an interested and engaged crowd what you have been up to.

Papers are being accepted by Steve Kostro N2CEI, at mud2013@downeastmicrowave.com .

Deadline is August 30. For more information go to <http://www.microwaveupdate.org>.

See you there!

Ed K9EK

Ps—The online registration form is now available. Click the registration tab at www.microwaveupdate.org

New Applicant

Al Katz, K2UYH of West Windsor, NJ (FN20qg) has applied to join the Packats. A well known EME'er (with DXCC via the moon), Al operates on several VHF+ bands. His EME antenna is a very imposing "Kennedy Dish".

We're looking forward to greeting Al at an upcoming meeting. Please welcome him when you see him

MID-ATLANTIC STATES VHF CONFERENCE

Hosted by The Mt. Airy VHF Radio Club (Pack Rats)

InnPlace Hotel
3327 Street Road
Bensalem, PA 19020
215-639-9100

**Friday, Saturday, Sunday September 27,28,29
2013**

**All Conference Info, Registration and Payment Available
at www.packratvhf.com**

Speakers:

Rick	K1DS	Love to Rove
Phil	K3TUF	Tower Safety
Roger	W3SZ	Aircraft Scatter: New Software (ISCAT) and New Horizons
Steve	W1SMS	Amplifiers: Tubes or Solid State
John	KB3XG	Solid State 2KW Amplifiers for 6m & 2m
Steve	N5AC	SDR for VHF, UHF & Microwaves
Group	Panel	10GHz and Up contesting (AF1T, W1AIM, K2TXB, W1GHZ)*
Paul	K4MSG	Early Navy EME
EI	K3JJZ	Multi-op Contest Log Networking
Kent	KA2LIM	The K2LIM Contest Station
Paul	WA3GFZ	Unique Antenna Mounting Solution
Ray	N3RG*	Antenna Homebrew Workshop

*(unconfirmed)

Remember: Special hotel rate \$79/night room + tax, mention "VHF Conference"

AGENDA

- Hospitality Room Fri eve 7P-11P
- Auctions
- Registration includes Saturday Coffee, Pizza Lunch, Proceedings Disc
- You must be registered and paid for the Conference and Banquet to be eligible for Door Prizes
- Greg Bonaguide from Rohde & Schwarz with full testing bench
- Outdoor Mini-Hamfest Sunday morning 8AM-11AM
- Auction and Door Prize Donations Appreciated
- Papers for the Proceedings still being accepted--email to rick1ds@hotmail.com

The Wayback Machine

Gleaned from the pages of
Cheese Bits, September 1963

(Vol. VI Nr. 6)

(Authors comments in *italics*)

- Cover cartoon influenced by its Labor Day caption. Wife telling couch potato Husband (who is trying to watch TV) "The interference is from your power mower warming up", with mower and high grass visible through the open door.
- Picnic report. Statistics published included: Attendance total (744, including K3IPM's cat); a full list of prize donators (42); and a full list of clubs represented by the attendees (53). First prize was a Clegg 99'er. (*Yes, times are different, but why can't we get a better attendance now?*)
- Report on the safari to Smyrna, DL, to remove the radio gear from the attic of club member W3ASD (SK). Group included 6-club members plus family (*K3IUV, Bert, his xyl and Jr. Op. Michael among them*). Some of the burnable junk from the attic was put into a fire hole in the ground. This included 4-tires, which sent out volumes of smoke. (*Imagine doing that today*). For more humorous notes about the trip, read the full issue at W3CCX.com
- Interesting TVI article, detailed the problems of K3IOP. Seems the local residents had significant TVI from his

6-meter operations. The local Representative reported the problem to the PA House of Representatives, and also to the FCC Chairman. The FCC investigated; cleared the Ham of problems; provided 128 filters for the residents; and demonstrated the results to the town council. Not swayed, the council was in the process of preparing laws against interference by ham operators. (***Look for the next chapter in next month's Cheese Bits***).

- From the Swap Shoppe column. For Sale, Gonset Communicator G-50, \$200. Contact K3IPM. Telrex 8-el, 2-meter beam, \$12. Gonset Twins (G-66B rcvr and G-77 xmtr), \$220. Also CDR rotor with thrust bearing, \$12. Contact K3IUV. (*See what inflation has done to us?*)
- Director's meeting held at the new QTH of Ed, W3HKZ (SK). Ed was the chief Engineer at WCAU-TV, and provided our group with a tour of the TV station facilities on City Line Ave before the meeting. Present were 14 Ham members, plus xyls. These included Bert, K3IUV and EI, K3JJZ.
- Helen bemoans the absence of band reports this month, and urges the new officers to appoint band reporters.
- Mailing. Postage on this 4 page, heavy stock, 8-1/2" x 14" issue was 4-cents!

(As in previous editions, many “folksy” comments about members, their families, and activities were included in this Cheese Bits. If interested, visit www.W3CCX.COM and read the full issue posted there).



thirty, de K3IUUV

WA2FGK 10 GHz Contest Report

I was able to get on for a few hours Saturday morning. My furthest contact was with K1WHS, plus quite a few stations were logged from Maryland.

I would like to thank **Russ and crew** for activating Delaware from a great location. He was **very loud** and we worked on SSB for a new state on 10 ghz.

After the contact I started adding up my state total which now stands at 13. The state that is still missing locally is New York. I am about 80 miles south of the border. But I'm guessing there is no location that rovers or portable stations operate from due to terrain.

Some of the rovers that operate from ENY would have a problem getting a signal over the Catskills.

I hope everyone made some nifty contacts over the weekend. I had a bowling tournament to attend, and missed Saturday afternoon and all of Sunday.

Hope to op more hours in leg two

73, Herb at WA2FGK

Events

For inclusion, please direct event notices to the editor.

September VHF QSO Party - Contest

September 14-16, 2013. Fall classic VHF contest. 1800 UTC Saturday and runs through 0259 UTC Monday. See <http://www.arrl.org/september-vhf> for details

VHF Fall Sprint 2 Meters - Contest

September 23, 2013. 7-11 pm local. See <http://www.svhfs.org/2013fallsprinrulesv1.pdf> for details

10 GHz and Up (round 2) Contest -

September 21-22, 2013. Details to follow.

Mid-Atlantic States VHF Conference—

Meeting September 27-29, 2013. See full pge ad in this issue for details.

VHF Fall Sprint 222 MHz - Contest

October 1, 23, 2013. 7-11 pm local. See <http://www.svhfs.org/2013fallsprinrulesv1.pdf> For details

VHF Fall Sprint 432 MHz - Contest

October 9, 2013. 7-11 pm local. See <http://www.svhfs.org/2013fallsprinrulesv1.pdf> For details

VHF Fall Sprint Microwaves Day (902 MHz and up) - Contest

October 12, 2013. 7AM-1PM local. See <http://www.svhfs.org/2013fallsprinrulesv1.pdf> For details

EME 50-1296 MHz Contest—September 28-29, 2013, 2.3 GHz & up; October 26-27, 2013, 50-1296 MHz round 1; November 16-17, 2013, 50-1296 MHz round 2.

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XYL, K3IUV



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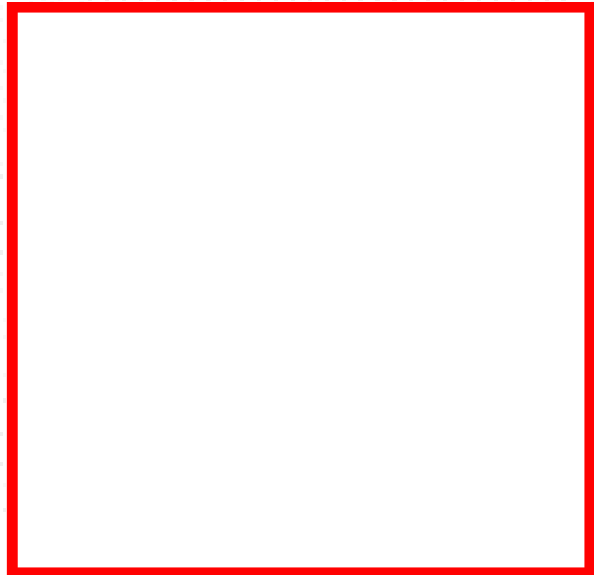
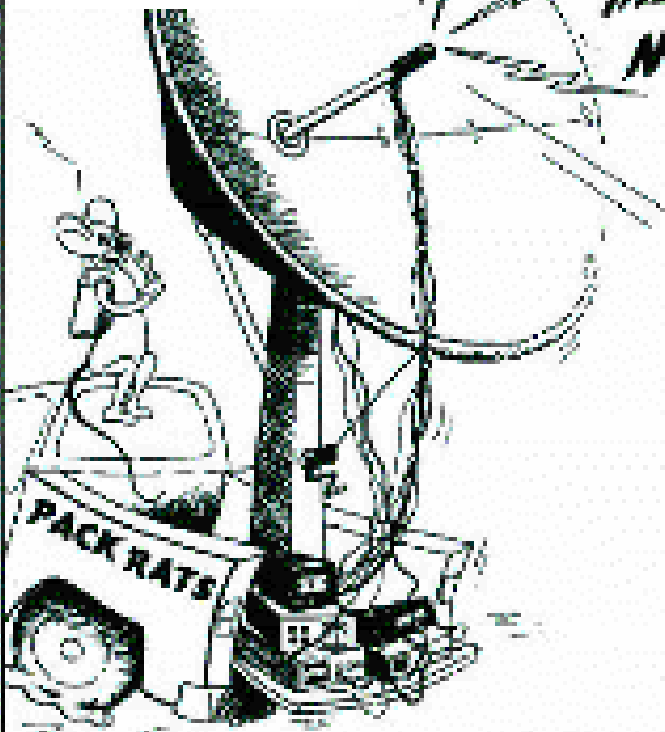
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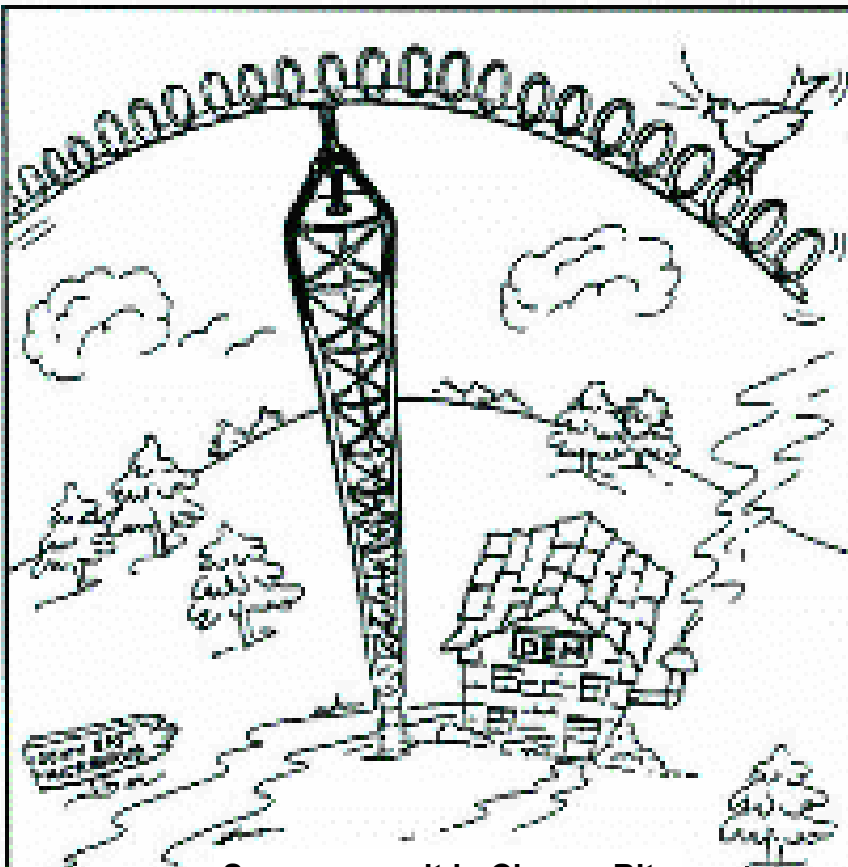
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