



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LX(II)

August 2019

Number 8

PREZ

SEZ:

I've been working in the yard the last few days. I found out the hard way why it pays to do preventive maintenance on the lawn tractor. The steering was very stiff and the front wheel joints evidently had never been greased either by me or the previous owner. I had to disassemble and refinish and reassemble them. They didn't come apart easily! Did I mention the weeds seem extra nasty this year too? I'm beginning to appreciate why some of my friends have moved into maintenance free communities. Now if we could just avoid the HOAs.

Several Sundays ago I attended the Sussex County Hamfest in Augusta NJ along with several other Packrats. The WARC was also well represented. If you haven't been there consider going next year. It's one of the better ones in the area.

July was the White Elephant Sale at Bruce's WA3YUE. Bruce did an excellent job of preparing for either rain or shine. Luckily we had dry weather. El, our auctioneer, did a great job of keeping the proceeding moving and fun. The club supplied food and refreshments. Many Packrats went home with new projects. Next year I've got to remember to take more to the auction than I bring home. It's getting harder to sneak the big stuff into the house too.

August 10th, a Saturday, is the Packrat picnic to be held at the QTH of Michael, KB1JEY. If you

haven't signed up yet, give Michael a call this week. This is an outing for the entire family. Michael has a pool and this usually gets plenty of use. The club supplies hot dogs and hamburgers. Freshly picked corn on the cob is also on the menu. Many Packrats bring a covered dish. Don't worry about the heat and humidity. If it's really bad we simply move into the air conditioned house. Michael's got it all worked out!

The September VHF contest is right around the corner. The South Jersey Mountain Toppers ARC and some Packrats will be operating from High Knob again this year. This is a great location (2000 feet) not far from Marshalls Creek in the Poconos. Look for more details on this on the Packrat reflector. So be sure to get on the air even if only for a short time. Contest starts 2 pm Saturday afternoon.

Don't forget the weekly check-ins to the Packrat nets Monday evenings. Why wait till the next contest to find out what needs fixing? It's also time to start planning those tower and antenna repairs and upgrades. Time to order those repair parts. It's too hot to do the outside work now but the cooler months are just around the corner. Let your needs be known at the next meeting or on the Packrat reflector. Time to line up the ground crew and tower climber. The volunteers seem to be fewer come December- HI.

How do you measure RF power in your shack? Well there's the tried and true Bird meter and slugs.

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PACKRAT BEACONS - W3CCX/B

FM29jw Philadelphia, PA

50.080 144.300 222.062 432.290 903.072 903.3 1296.264 2304.3
3456.200 5760.3 10,368.034 10,368.3 MHz (red = temporarily off the
air see Packrat web page for details)

MONDAY / TUESDAY NIGHT NETS

VHF/UHF Monday:

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:00 PM	224.58R MHz	WR3P FN20kb Ralph
7:30 PM	50.145 MHz	N3RG FM29ki Ray
8:00 PM	144.150 MHz	K3GNC FN20ja Jerome
8:30 PM	222.125 MHz	KB1JEY FN20je Michael
9:00 PM	432.110 MHz	WB2RVX FM29mt Mike

Microwave Tuesday:

7:30 Coordinate QSO's on 144.260 for all Microwave bands you'd like to work. Also setup Q's at w4dex.com/uhfqso or **Packrat Chat**

Page W3SZ.COM

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

Some of us use older HP power meters with a selection of attenuators. But with the recent availability of new, compact and low cost Spectrum Analyzers that can be calibrated and a hand full of attenuators, this method is becoming more popular. Just think of all the other things you can do with a Spectrum Analyzer too. More about this at September's general meeting presentation.



Don't forget to work on your latest project. It's too hot outside anyway. Have some fun, learn more, build something!

73, George KA3WXV

July 2019 White Elephant Sale



Did You Buy One of the Bargain uWave Transverters?

Those lucky hams who attended the White Elephant Auction this past month were an astute group as they picked off microwave transverters for 902MHz, 1296MHz, 2304MHz and 3456MHz at bargain basement prices. The ultimate coup was the commercial converted tested and working 2304 50W transverter, complete with LNA and built-in power supply for a mere \$35. Now if you weren't there, **you missed some bargains of a lifetime**. And none of the other transverters were a penny more as the bidding was limited--the crowd was thin--likely many were concerned about iffy wet weather, which didn't materialize.

A Yaesu 800SA rotor and control box sold for about \$60. Yes, it needed repair of the cable connector, but this was a great bargain as the item sells new for \$400+. There were antennas for sale including a brand new M²6 meter beam, a KLM 220 long Yagi, a NIB 45 element looper for 2304MHz, dishes for 2304, 3456 and 47GHz. Thanks to those who donated so many items for club proceeds. One item that still needs a home is an ICOM 746 transceiver. This great rig has HF and 6meters and 100watts on 2 meters, complete with microphone—see Michael KB1JEY if you are interested.

What would a White Elephant Auction be without a few White Elephants? There was exciting bidding for both of those lots and the contents were carefully protected by their respective winners. You want to play? (see what was in it?) You gotta pay! (bid and win). And of course, what fun would it be without a few vintage items and boat anchors that may or may not have sold, but provided fodder for the auctioneer and the cat-callers. An ARC-5 transmitter? \$1. A 2 meter Gooney Box? \$20. Three hundred feet of 1" hemp rope? \$10. Never a dull moment with EI at the mike.

Auctioneer Elliott K3JJZ kept bidders on their toes as he worked through the offerings in about 90 minutes. Phil WF3W and Jim KB3CVL kept the auction table ready and loaded with items, while Dave W3KM kept track of the buyer and seller tabs and collected the proceeds. **Thanks of course to Bruce WA3YUE** who hosted the event and cleverly anticipated the weather with the use of the club's dining tent to keep the activity center dry. The food and drink were also well received in the warm evening weather. Fortunately, the skies had opened up earlier in the day and the evening was dry and uneventful.

Let's keep this excellent tradition going. It's a great time for meet and greet of some Packrats and friends of Packrats that have been in hiding (or traveling) all year. It's free to all comers. A great place to get rid of stuff you no longer want or need—and a great place for buyers to scarf up stuff inexpensively that they want or need, or just purchase for decoration of the shack and to keep the auctioneer happy. And 10% of the proceeds go to the club, 100% of the proceeds of the donated items go to the club too.

See you next year—bring your stuff and your wallets.

73, Rick K1DS

Central States VHF Conference Trip Report

By Pete K0BAK

The Central States VHF Society's annual conference is held in different cities to be fair to potential attendees in its vast territory. This year the conference was held in Lincoln Nebraska on the last weekend in July. Since I had expiring air miles I could use, and it was in a state I had not visited before, I decided to attend this conference for the first time. Since my airline doesn't fly to Lincoln, I used my miles on a flight to Omaha, which was only an hour's drive away from Lincoln.

Outdoors Before Talks

"Rover row" only had two conventional rovers: our own Andrea Slack K2EZ/R and Mark Kerhlikar WD9HBF/R. Mark uses a very stout walk-up mast for his 3 Yagis, made of nesting square steel elements with many holes in its walls ... sort of like the square pieces you can

buy at home improvement stores, but much larger. It reminded me a bit of my old minivan walk-up system using snap-together aluminum mast elements, but his system is **much** stronger. His rover is a pickup truck that doubles as a carrier for his sled dog team, a kennel on wheels!

There were also at least four 10ghz tripod systems on display. I get the general impression that portable 10 GHz operating is more popular here than in Packrats territory. The highlight of the portable stations was a huge EME dish assembled on-site by K6MG and K9JIM.

The Challenges of Inevitable Change, Steve Kostro N2CEI

Steve gave another entertaining talk, similar to the one I heard last year at the Southeastern VHF conference. He gave an updated review of available inexpensive parts that could be used to build transverters and associated switching functions. Another theme of Steve's analysis was that there were more opportunities for wideband designs. At the same time, he demonstrated the difficulty of assembling these desirable but tiny parts.

Impact of Real-world Terrain on 6m Rovers, W0ZQ

Jonathon walked us through examples of calculating for best take-off angles for various skip distances and then used the "HFTA" modeler (available on ARRL's Antenna Book CD). He showed the effect of antenna height above ground typical for rover mounts, using a variable number of elements and distances from hill peaks. His overall conclusions were not surprising but it was good to understand the math and modeling behind them.

Light Communications: Why Now is the Best Time to Try it, WF0T

Warren detailed several experiments bouncing a laser off clouds and a water tower, using several red and infrared laser transceivers he built. He did not claim to do distance (>10mi) communication with cloud bounce but was hoping to start that work soon. Warren dismissed an audience question about the difficulty of aiming lasers bouncing off clouds,



claiming that knowing the ground distance, angle, and cloud height are sufficient. It was not clear if his equipment would qualify for contest use, but it didn't seem to be based on high power sources. I hope he's successful with his cloud bounce work, it will be a good idea to keep an eye on his future experiments.

Small 10-band Rovers that a Septuagenarian Can Lift, N6NB

Legendary rover Wayne Overbeck brought and described a six-band microwave transceiver with a single Vivaldi antenna. Similar in functionality to the old Packrat microwave box except for using just one antenna and being a little smaller. He played a video demonstrating six quick contacts without any IF radio dial adjustments, helped by frequency stability from a rubidium frequency standard. The box uses Kuhne modules for compactness. Wayne flew with the box to prove portability, though he hinted at an extended conversation with TSA.

Contest Automation, K2EZ

Our own Andrea, K2EZ gave generally the same presentation as at the Superconference in April. There were a lot of questions and comments from the audience. As at the Superconference, the audience comments did not address her sophisticated automation software architecture proposal. One audience member dismissed the problem of asking to run bands on FT8 because of the availability of free text feature ... I think that comment deserved some more discussion, like, has anyone successfully done that?

ARRL Forum

An ARRL representative (maybe a Division Director, my notes aren't good) gave an update on topics of interest to VHFers. He reviewed FCC proposals and IARU actions, including the widely-feared French proposal to study the use of the current EU 2M ham allocation for aviation. These proposals require 10 countries to agree to a study, then a 3-year study would be performed, and only then might there be further action for actual allocation changes. He claimed the ARRL and IARU was working the issue. (*Editorial comment, the initial lack of clarity from ARRL that allowed a ham uproar to build was not explained.*)

EMC -ElectroMagnetic Capability and Access to the Amateur Allocations

ARRL's EMC committee chair reviewed the types of RF noise complaints received by the ARRL and a sampling of actions the ARRL takes as a result. He said that power line noise is hard to get corrected by power companies even after solid proof, which is the opposite of my previous general impression from similar presentations. He also reviewed the history of BPL actions and compromises. A few detailed case studies were described, including a neon sign power supply preventing car key fob access on a shopping street. He explained that on low bands especially, there is a need to do pattern matching if the emission isn't obviously local, it's not enough to just find a loud emitter close by with an AM radio. Members of the EMC committee sit on IEEE committees that set device standards. He ended the talk with a huge concern about proposals for inductive electric car charging. Calculated RF emission numbers are awful based on commercial design proposals.

Microwaves 101

This was an introductory presentation for microwave operations. Although I knew most of the materials already, it was good to get a refresher. The course included a hardcopy printout of the slides. A live demonstration of aiming a dish to find a weak 10GHz signal was cut short due to a last-minute schedule change.

General Comments

- For some pictures, see contemporaneous posts from Jeff Berman in the Ham Radio Rovers group on Facebook.
- A conference proceedings book was available instead of a CD, and written papers without a presentation were invited. This is a more academic format than the Packrat and N.E.W.S. conferences, and similar to the Southeastern VHF conference I attended last year. I did not get a book and do wish they had a CD available instead.

Central States cont'd...

- A large room made the talks more comfortable to attend than the small cramped rooms used at Packrat and N.E.W.S. conferences. Another smaller room was available nearby for the introductory courses for VHF contesting and microwave 101.
- I did not note how many attendees there were, but from the crowd at the banquet, it seemed like a number similar to the Superconference.
- As far as I could tell, Andrea and I were the only Packrats in attendance. I do recommend attending; the conference was well done and it's nice to meet VHFers beyond the northeast.
- I was also able to visit the impressive capitol building in downtown Lincoln, and the Strategic Air Command Museum less than a half-hour NE of Lincoln.

N3RG - 222 and UP Contest Report

I broke all the rules of contesting this time by working on things at the last minute. Let me explain...

As you may know, I built an LNA box for 903 ~ 3456 last year and installed it up on the "H" frame a few months ago but never finished the interface panel to make it work properly. Then I got hit by lightning and lost my 10 GHz gear! My 902 transverter lost the front end! Sounds like a crying towel entry!!

Last week I repaired an amplifier for a friend down the road and gathered parts for two other projects before I finally got to my stuff! I put a new FET in the 902 transverter and built the panel to control the LNA box on Friday and was ready to go on Saturday morning. So, as usual I ran the bands with Dave, K1RZ before the contest to check everything out and discovered I can really hear well on 1296 MHz but no transmit signal gets to the antenna!! Oh well, seven out of eight will have to do for this one! Other than discovering a few bugs in the LNA box things went well on Saturday but I missed the rovers!! I waited until Sunday to run the bands with Dave, K1RZ because it's always an easy one. On Sunday Dave's rotor got stuck NE and I could only work him on three bands!! I did manage to work a few more stations I didn't expect to hear so it sorta made up for the K1RZ loss. There will always be the "next time"

116 Qs Score: 95,987

de, **N3RG - Ray**

W2BVH - 222 and UP Contest Report

I originally planned to do a "short casual" op on the 222 and Up contest but ended up doing a bit more than that. There was a Yankee (vs. Boston!) double header on Saturday plus a planned movie outing with the family that I worked around. There was plenty of traffic on the ON4KST website to get skeds from, less so on the SLACK server and PRF. Bottom line: I had fewer Q's than I could have but more than I expected! 32 Q's, 19 Grids 2679 Points.

There were couple of problems I identified only after the end of the contest: First I selected "ARRL UHF (AUG)" as my contest in the newest release of the N1MM+ logger. As it works out I should have found and selected "ARRL-222". This resulted in a Cabrillo log file with only 4 digit grids in it. Fortunately N1MM did log the 6 digit grids internally and I edited the extra 2 characters for all 32 Q's into the Cabrillo log manually. (Hope there weren't any typos). Second, I had no 902/3 Q's during the contest, but it wasn't for lack of trying. After the contest I did a 902 aircheck with Bob W2SJ, where 902 is usually a slam-dunk both ways. At Bob's I'm, 30 dB out of the noise. At my QTH Bob is inaudible. So there's some repair work needed on my 902 transverter. (Won't be fun since the only source here for a 902 test signal is a very old RFMD synthesizer eval board.)

With all that, the contest was still a lot of fun and well worth participating in. Try it, you'll like it!

73, **Lenny W2BVH**

IT WAS 94° IN THE SHADE

I couldn't resist taking out the Kenwood TS2000X for a quick spin to make a few contacts in the new 222 & Up distance contest. I grabbed the rig, got an SO239 to N adapter from KB1JEY, set the two magmount antennas on the roof of the van and found the rear section of the WIMO 1296 Yagi. I waited about an hour after the start of the contest to try and make a few QSOs as it often is either hectic or quiet in the first hour and I was sure no one would hear my weak signals.

I headed up to the usual local spot on Potshop hill behind the Training Center. It was nice and quiet there—although once when I ventured there in the past, I interrupted a lovers' tryst! I scared the two groundhogs who were cavorting on the grass and they safely scampered back under the fence to their home holes. I exited the car to set up the 1296 Yagi across the roof rack bars, only to feel the baking sun and checking the thermometer it was 94 degrees! I would have been better off setting up the rig on the front passenger seat and operating from the driver's seat with the car running and the air conditioning going full blast.

I called CQ on 432.100 on sideband several times using the 2m whip antenna that loads OK on the higher band. Using the memory voice and CW keyers, I called CQs for several minutes and heard nothing back. I tried CQs on 144.260. That was the typical "calling frequency" to set up QSOs on the higher bands. Nothing heard. Not having the internet was a bit of a handicap as I couldn't see the chat rooms to rustle up a contact, so I took to the phone and called K3TUF to set up a sched. He was ready and we easily made a phone contact on 432 and CW on 1296. I was waving the Yagi around to get it directed to him, but it didn't quite matter where I pointed, the signals were useable. I placed a call to W3SZ, another possible easy station to work, but Roger only had voice mail. I went back to CQs as previous, but hearing nothing, I packed up the Yagi and started the car to head back to our temporary apartment in Blue Bell. As I started to pull out my phone rang and it was Roger, returning my call. How timely. This time I pulled the car a bit further up the hill and onto the grass in the shade of a tree. It was still broiling out there. I quickly set up the Yagi and we easily made the 2 band QSOs on phone. This spot was one that Roger and I had used before to align my 10GHz and 24GHz dishes and the path of 51Km is just about line-of-sight. Easy-peasy.



Note half a 1296 yagi on the roof

I was a bit chagrined that I didn't pull out my 222 rig, but that needs 120VAC and I wasn't in the mood to bring the generator to the hill top. I left the gear in the car for a chance to return to the hill in the evening. I got back there at about 8:30PM, but only heard W3SZ cranking out CW and making contacts on 432.100. I was unable to raise anyone else. As we had family obligations that precluded any more operation for the weekend, I put the rig in the trunk, brought the paper log indoors and promptly sent in my log to ARRL. I hope others accomplished their missions and that we continue to have as many Packrats operate this contest as possible. I will be working on my LimeSDR to try and restore my operating capabilities through 10GHz in the future. 73, **Rick K1DS**

CQWW K2EZ/R Op Notes

Just a quick summary from my CQWW Rove.

I started in PA at FM19aw and roved from there out thru Illinois and finished up in Wisconsin. I had incorrectly understood this to be a 24 hour contest so I ceased operations 3 hours earlier than needed although I was on the road for those three hours and could have hit three more grids. Oh well, remember to check next time.

There was some okay Es including some very short skip which I guess meant I was in the wrong spot at the time to catch the 2m Es some were talking about.

Results were nothing spectacular: 138 Qs total with 106 mults for final score of 17808 which is a bit less than last year. Probably because of my SNAFU on the end time.

I saw a drop in 2M Qs from last year as 2m FT8 operation had picked up and drained away some of the SSB/CW operation. I wasn't operating FT8 on 2M to take advantage of the digital mode. I need more automation to run both 6m and 2m FT8 while moving.

My 6M Qs picked up despite much poorer Es this year than last and that was mostly because I was running 6m FT8. I didn't have FT8 going on 6m last year. FT8 accounted for about 50% of my 6m Qs and 40% of my overall Qs.

Unfortunately after the contest, I ended up killing my venerable 30 year old 160W 2m Lunar amp when I got into an extended FM QSO. The duty cycle caused it to get smoking hot. Most of the QSO I didn't need the amp as we were close. I carry a spare Mirage of the same power level that I was able to drop into place, but I really hate to see that amp go after being reliable for so many years.

On the other hand, at CSVHF I picked up a couple kilowatt amps one for 6m and one for 2m. So when I get the 50V power for those I should have a bit more power available as I continue my progress beyond the limited category into the classic category.

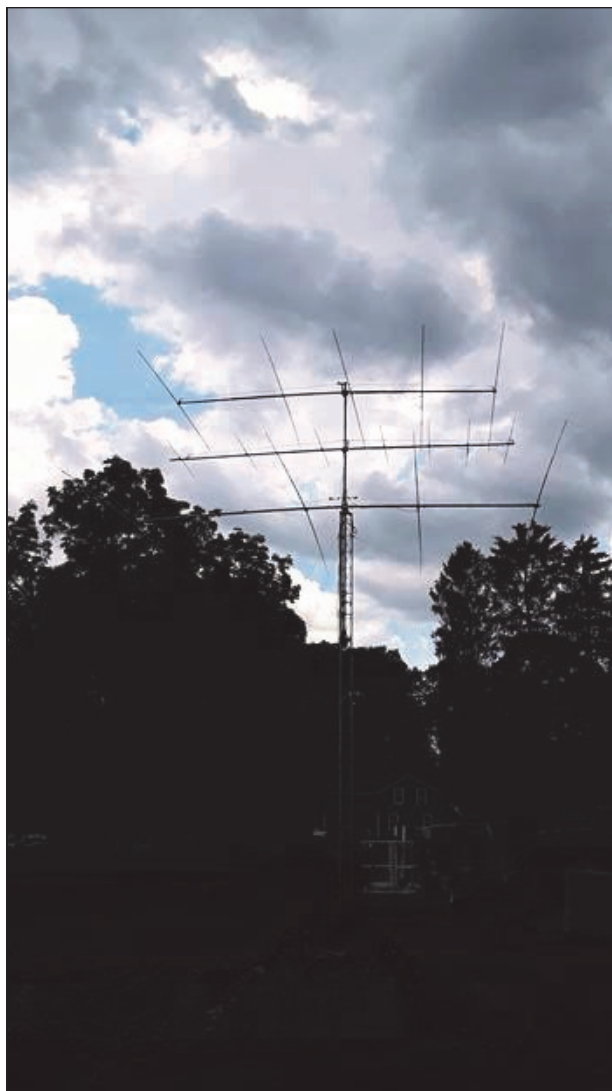
73 **Andrea**

Here is a follow-up to the short article "A 400GHz 28nm TX & RX with Chip-to-Waveguide Transitions" on p. 21 of last month's Cheese Bits.

Lenny,
Just wanted to let you know that the article: "A 400GHz 28nm TX & RX with Chip-to-Waveguide Transitions used in Fully Integrated Lensless Imaging System" is from a few of my colleagues here at my home university in Belgium and appeared in IEEE Transactions on Terahertz Science and Technology PP(99):1-1 · May 2019 If anyone would like the full article just let me know. 73, **Christophe ON4IY**

Lenny,
If no one can get it, I will get it for them. Let me know. 73, **AI K2UYH**

6/29/19 Newest 6M beam is up. 7 elements.
In between the 20M and 15M beams at 36' above ground. VSR is 1.2:1. 73, Ken **KA2LIM**



Lenny,
Just like the Bill Murphy pictures in last month's Cheese Bits, the past haunts us all.
There's almost 35 years between these photos.
From Left to right: Bernie VE2LC, Stu VE2XX, Rene VE2UG, Warren WB2ONA, Randy VE3AX
I think 4 out of 5 Canadians had different call signs when the first picture was taken.
73, **Warren WB2ONA**



What the Packrats Taught Me About Hill-Topping

Twenty years ago I was daily commuting to Warminster (a job in Ivyland) and since I could not drive home in time to get to my local radio club in Jim Thorpe PA, I joined the Warminster ARC and the Philmont Mobile Radio Club.

The Packrats did a presentation at a Warminster club meeting and I watched and said definitely I will come to this Camelback Mountain gig! And then the guy giving the presentation said "You must understand that its not anywhere near here its up in the Poconos. And then I said "Yep I live in Jim Thorpe". So he asked "What are you doing so far from home coming to Warminster radio club meetings?", and I told him I worked in Ivyland and drive here every day.

I had been to ARRL HF Field Day the year before with EPARA and PARK and I was very familiar with Camelback because I was a snowboard instructor when I wasn't doing IBM mainframe work. This was all 20 years ago. I do remember being invited out for "milk and cookies" after Warminster meetings (pizza and beers).

So I drove to visit Camelback and saw how box trucks were set up as tower anchors and how Doc had a school bus as an RV. Since then whenever anyone said "What do you want to do for Field Day?" I always thought it would be fun to rent an RV or just rent a box truck but none of my local guys thought that was a good idea. Mostly because they paid their bills and fed their kids and didn't have spare cash for field day. But I did save my picture of the Camelback setup 20 years ago on my hard drive. And here it is.



This image is the best way to say to ALL field day newbies no screwing around no buying tents and easyups and specialty camping equipment. Just pack a box truck and smile all the way to the mountain top.

I say this because there really is a huge gap between contesting knowledge and what newbies get to see at field days (HF) and VHF contests.

We always have thunderstorms in June and you guys really show how to protect gear and people with these trucks. All I'm saying is that if the construction of a field day site that actually makes contacts and does not burn out the operators is the goal then trucks / busses is the way to go.

73 **Rob KB3BYT**

(Sent to Cheese Bits by Jim WA3EHD)

My group designed the TV camera system used on the Apollo 15/16/17 missions. I also developed the TV system used on all of the Space Shuttle missions until its retirement. I've written a number of articles on the equipment design, which have been published in various journals.

Our RCA Camden plant (another thing that isn't there anymore, the plant, and RCA!) developed and delivered the transmitter / receiver and the deployable mesh dish used on the Lunar Rover for the Apollo missions. Designated by NASA as the LCRU (Lunar Communications Relay Unit), details on that might be interesting.

Would anyone be interested in a short article on this subject? Let me know

Bert, K3IUV

Microwave Update 2019

Dallas, Texas

October 3-5, 2019

Microwave Update (MUD) is an international conference dedicated to microwave equipment design, construction, and operation. It is focused on, but not limited to, amateur radio on the microwave bands.

The North Texas Microwave Society would like to invite you to the annual Microwave Update Conference to be held October 3rd through the 5th 2019 at the Hilton Garden Inn and Conference Center in Lewisville (Dallas) Texas.

We have a full slate of speakers already set up including Rex Moncur VK7MO, Tony Emanuele K8ZR, Rick Fogle WA5TNY, Paul Wade W1GHZ, Joe Jurecka N5PYK, Doug Miller K6JEY, Greg McIntire AA5C, Steve Kostro N2CEI, Kent Britain WA5VJB, Bob Stricklin N5BRG, Barry Malowanchuk VE4MA, Tom Williams WA1MBA, Tom Apel K5TRA, Tom McDermott N5EG, Sam Jewell G4DDK, Dave Robinson G4FRE, Brian Thorson AF6NA, Skip Macaulay VE6BGT and Al Ward W5LUA. If you are interested in speaking, please let us know. Topics will include small dish EME, microwave propagation, parabolic dish feedhorn design and construction, SSPAs, circuit design, latest microwave devices, software defined radios, digital modes just to name a few.

For full details please visit <http://www.microwaveupdate.org/>

A Long Listen On 1240 KHz , The "Graveyard Frequency"

Here is an interesting article on BCB DX'ing on the "Graveyard Frequencies" (1240-1490 KHz) at the top of the broadcast band. <https://www.amateurradio.com/a-long-listen-on-1240-khz/>

Find your location Declination

In case you missed it, the July issue of QST contained a nice link for calculating your magnetic declination (needed to locate true North, when using a magnetic compass). You can enter your location coordinates directly, or use your street address and the program will find you. Using the link, I verified that I am located at a declination of 12-degrees, 5' W, and Camelback Mountain is at 12-degrees, 8' W. The link is: www.ngdc.noaa.gov/geomag-web/#declination. Bert, **K3IUV**

Photography at a Trillion Frames Per Second

Here is a YouTube video of a presentation showing a 1 femtosecond (.001 picoseconds) light pulse traveling in slow motion through a coke bottle. The whole pulse, start to finish is contained in a small part of the bottle. https://www.youtube.com/watch?v=Y_9vd4HWIVA

The Wayback Machine In CHEESE BITS, 50 Years Ago

Nibbles from August 1969. Vol. XII Nr. 8
de Bert, K3IUUV
(*author's comments in italics*)

“Our Prez Sez”. New Prez Ernie, W3KKN, thanked the previous officers for their work in keeping the club a leader. He then laid out his ideas for the New Year. 1) Committee changes to relieve some of the overworked guys. 2) A working technical committee. 3) More reporters for Cheese Bits (*Lenny, take note*), 4) Policies geared to the new V.H.F. Amateur. But most of all, as a hobby, **each activity must be fun.**

ARRL Bulletin 225, 6/19/69. The ARRL announced that W1AW will transmit additional daily code practice at 1300 GMT on all regular code frequencies. There will be a six-month test to determine the usefulness (*always a good way to hone your cw skills*).

ARRL Bulletin 228, 7/3/69. The ARRL announced release of an updated Safety Code. This operating aid provides useful safety tips for operating, as well as equipment design and construction. The reverse side describes an ideal club safety program. Send an SASE to ARRL for a copy. (Still a good idea for us to have in the shack).

Getting to Know You. The first of a new series for Cheese Bits, this was intended to let members chronicle their background and ham radio activities. This first effort was an autobiography of W3GW, Sid Weiner. Fascinating to read about his radio interests which

developed in 1930. He included specific details showing how his ham experience developed, and he eventually became a Packrat. (*I recommend you read the full article.*) (**How about resuming this idea, now that we have so many new members in the club?**)

Six Meter Repeater. Club member W3HKZ, Ed, was the chief engineer at the WCAU TV station. He provided a full report on a new repeater that was set up on six meters by the WCAU radio club (19 members at the time). 53.75 in, 52.525 out. The antenna was installed on the WCAU tower, 600' above ground (**Committee please note. Did we explore such a location for our current beacons?**). Logging was 100%, using a VOX operated slow-speed ¼" tape recorder. (*I used to access the repeater using a “J-Pole” vertical antenna built from ½” copper tubing*).

From the Book Rack.” This month, the book review net, conducted by member Paul Behrman, K3WEU reviewed the book “*How to Use Grid-Dip Meters*” written by Rufus Turner (author of 22-books). \$2.95 paperback, 111 pages. The book included numerous applications for the GDO meter, other than the usual “dipping of a tuned circuit.” It featured lots of illustrations, and listed a variety of GDOs available assembled or in kit form. (*I still have a couple in the basement - rarely used now*).

Swap Shoppe. By W3ZRR. (*Always nostalgia.*) For sale by Bob Fox, W3GXB (*our recently deceased member*). Clegg 22'er Transceiver, new condition, \$165. 2-meter preamp

using 416B tube (*the cat's meow at the time*), 2-meter halo and 220 Barry Rig (not priced). Lots of coax. Sounded like Bob was cleaning house! From Stan, K3IPM, 2 table-top racks. 2 five-element 6-meter Telrex beams, 300-W amp for 6-meters. 432 commercial transmitter. (*Just as now, Stan was always upgrading his equipment*). From WA3KNM, S Carpati. A BC-348 receiver with International converters. Guaranteed "A1" condition, for \$50. (*If you didn't know, the BC-348 was a WW II surplus receiver, used by many hams as their primary unit. It was designed by RCA, in their Camden plant*). And last, from Mr. Phillips (no call) a Johnson Pacemaker 90 watt AM, CW SSB transmitter with internal VFO and manuals. \$90.

Meeting Notice. Next general meeting will be the annual outdoor meeting. At the QTH of Pres Funk. Swim party, and showing of Packrat slides.

Miscellany. *Postage for this copy (It was from Harry, W3CL) was a single 6-cent Roosevelt stamp. (6 double sided, 8-½ x 11" sheets.) As usual, many "folksy" comments about members, their families, and activities were included in this edition of Cheese Bits. If interested, or for more detail on the above items, visit our website (www.W3CCX.COM) and read the full issue scanned by K3IUUV (me), and posted on the website by W3SO, our webmaster. Remember, I have also posted the club Officers history, club Membership history, and Packrat Inventory (updated frequently) on the W3CCX website. These files are password protected, and only*

accessible to registered members. Have you registered? I hope you enjoyed reading these bits of nostalgia as much as I did in writing the article. If yes, you might let me know. Thanks to those that did.



thirty, de K3IUUV

Cheese Bits, Corrigenda

de Bert, K3IUUV

In the process of some research, I discovered an interesting fact. **Cheese Bits Volume numbering was screwed up** numerous times in the past! At the end of 1968, the Volume and issue numbers were changed to coincide with the January transition. So January 1969 which would have been Vol X, # 10 (*Vol I, #1 was April, 1958.*) was issued as Vol XI, #1. To confound the error, when I reviewed a number of subsequent issues I found some where the Volume # had reverted as far back as 6 years before!

Some of the future mix-ups seemed to be related to takeover by a new editor, where the numbering system may not have been obvious, or in some cases wasn't even included in the monthly revisions.

What to do? Had I noticed it when I did my scans, I would have hand corrected the numbering. It's too late for that. Lenny is aware of the issue, and has verified that numbering is now correct for current issues. The 2019 Volume number is LXII (62), and the January issue was #1,

So, if you happen to be researching an old article, use the year / month lookup and ignore the identifying numbers.

You may not care about this issue (no pun intended). It is simply meant to document the problem for future historians.

Interesting article you may want to read, about the Ocean Point and Manahawkin stations dismantling, including some detailed information on the antenna systems. Originally built and used in the 30s for ship traffic interface to the phone system, it also saw service for Voice of America broadcasts.

https://www.fws.gov/uploadedFiles/FINAL_Popular%20Report%20Draft_04062017.pdf

Bert, **K3IUW**

WHERE WERE YOU WHEN?

There's been a lot of talk on the reflector recently about "where were you when the Apollo 11 Moon Landing occurred in 1969?" Let's go back a little further. I'll ask "where were you when Sputnik flew?"

I remember it well. In 1957 I was working in the Color TV research lab at Philco, on Tioga street in Philadelphia. When we heard about the launch and the transmitted signal, we scoured the lab for something to listen with. Under a workbench, we found a dusty Hallicrafters S-36 receiver. Firing it up, we hung a wire antenna out the window and tuned for the signal (*transmission was at 20 and 40 MHz, but I don't recall which we copied*). Sure enough, with a little patience, we managed to hear the beeps (*it was transmitting telemetry which reported internal temperature and pressure*).

In retrospect, that was probably the event that turned my career toward space, and equipment development.

Bert, K3IUW

Events

For inclusion, please direct event notices to the editor.

10 GHz and Up Round 1- Contest - August 17 - 18, 2019. See <http://www.arrl.org/10-ghz-up> for details.

6M Fall Sprint - Contest - (2300Z August 24, 2019 to 0300Z August 25, 2019. Details at <http://svhfs.org/2019FallSprintRules.pdf>

September VHF- Contest - September 14 - 16, 2019. See <http://www.arrl.org/september-vhf> for details.

10 GHz and Up Round 2- Contest - September 21 - 22, 2019. See <http://www.arrl.org/10-ghz-up> for details.

2M Fall Sprint - Contest - September 23, 2019, 7-11pm local. Details at <http://svhfs.org/2019FallSprintRules.pdf>

EME 2.3 GHz and Up - Contest - September 21 - 22, 2019. See <http://www.arrl.org/eme-contest> for details.

222MHz Fall Sprint - Contest - October 1, 2019, 7-11pm local. Details at <http://svhfs.org/2019FallSprintRules.pdf>

Microwave Update -Conference- October 3-5, 2019. See <http://www.microwaveupdate.org/> for details.

Red Rose Repeater Assoc. - Hamfest - October 5, 2019. Talmadge, PA. See <http://www.w3rrr.org/> for details

432M Fall Sprint - Contest - October 9, 2019, 7-11pm local. Details at <http://svhfs.org/2019FallSprintRules.pdf>

902 and Up Fall Sprint - Contest - October 12, 2019, 8am-2pm local. Details at <http://svhfs.org/2019FallSprintRules.pdf>

EME 50 to 1296 MHz Round 1- Contest - October 19 - 20, 2019. See <http://www.arrl.org/eme-contest> for details.

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A couple of Packrats enjoying the sun at the Sussex County (NJ) ARC Hamfest. Others spotted there were N3EXA, WB2ONA, KA3WXV and W2BVH.



A Brief History of the Voice of America

As published in the LA Times: <https://www.latimes.com/entertainment-arts/story/2019-07-29/shortwave-exhibition-center-land-use-interpretation>

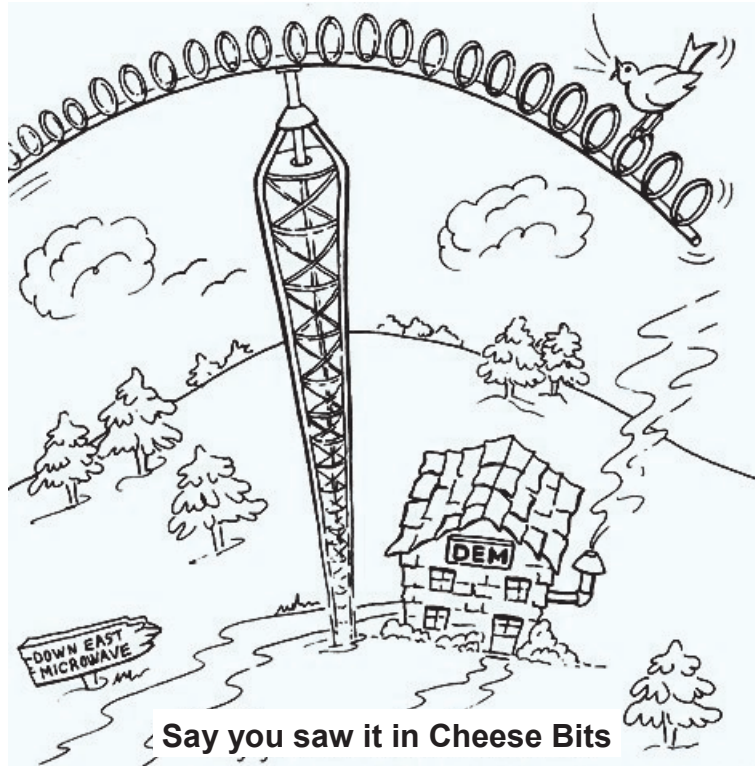
Tnx George **NE2U** for the link

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