



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LVIII

July 2017

Number 7a

PREZ

Thank you for the honor of the club Presidency.

SEZ:

I know I have big shoes to fill. I became a Packrat in 2004 and every President I've seen has impressed me

with the desire, time and effort they put into making the Packrats one of the premiere VHF clubs in the country. We only have to look at our club's standing in the January and June contests over the years to see this. All this is also the results of our dedicated BOD's and the many individual Packrats who take on many of the specialty jobs like chairing the January contest, just to mention one of many.

When it comes down to it, it's the many packrats who volunteer their time and efforts for the good of the club that make this club great! If you can, please consider volunteering and help make our club even better.

We've had a busy Spring and Summer already. May brought us Dayton at a new location with lots of mud but great attendance numbers. Most attendees had great things to say about it! Next year looks to be even better. This year there was lots of activity at night too. Dayton has a number of Brew pubs and several very good restaurants. The Crown Hotel also hosts several HAM banquets and other activities. This is a great place to meet up with some of your fellow hams you've talked to in the January contest.

June was the contest at Camelback. Again the

contest chairman and his band of volunteers made for lots of fun, a great score, new great stories and memories! And - who can forget the food. **Thanks Len!**

Several Packrats and friends also participated in WARC club's field day efforts. "Team VHF" was active on 6 and 2 meters. I think KB1JEY was re-bitten by the contest bug as he worked the Sporadic E on 6 meters. We couldn't get him out of the chair till the contest was completely over.

The upcoming months will bring the White Elephant sale at Bruce's QTH. It's an event not to be missed. Another great social event.

August is the Packrat Picnic at Michael's QTH. Bring a covered dish and your swim suit. This is an outing for the entire family and last year was a blast.

The September ARRL VHF is another great contest.

One of the Packrat crown jewels takes place in October, the Mid-Atlantic VHF Conference on the 6,7, and 8th. I saw the tentative lineup of speakers and the topics look top notch. Do you have a topic or experience that would be of interest to the VHF community? Talk to Rick, K1DS about speaking at the Conference. This event is not to be missed!

Contests aren't the only times to get on the bands. Don't forget to get on the weekly net check-ins. Not only do you find some of the

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

SUBSCRIPTION/ADVERTISING MANAGER:

Bob Fischer, W2SJ 23 Morning Glory Circle, Mullica Hill, NJ 08062
(609) 440-2916 bobw2sj@gmail.com

EDITOR:

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

CLUB TREASURER:

Dave Mascaro, W3KM 1603 Mink Road Ottsville, PA 18942
(215)-795-2648 w3km@verizon.net

TRUSTEE OF CLUB CALL - W3CCX

Mike Gullo WB2RVX
(609)-743-6643 MGullo3@comcast.net

PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz (PL 136.5) Hilltown, PA

OFFICERS 2016-2017

PRESIDENT KA3WXV, George Altemus	ka3wxv@yahoo.com
VICE PRES: WA3DRC, Ed Finn	edf11@gmail.com
CORR. SEC: WA3EHD Jim Antonacci	jjantonacci@verizon.net
SEC: KB1JEY Michael Davis	kb1jey@arrl.net
TREAS: W3KM Dave Mascaro	w3km@verizon.net

DIRECTORS:

KB3MTW Michelle London	mal61@comcast.net
W3SZ Roger Rehr	w3sz73@gmail.com
K3JJZ Elliott Weisman	k3jz@aol.com
K0BAK Pete Kobak	rxr978-vhf@yahoo.com
Honorary Director W3GAD Doc Whitticar	w3gad@arrl.net

COMMITTEE CHAIRMEN

January Contest	Bill K3EGE billk3ege@gmail.com
	Bob W2SJ bobw2sj@gmail.com
June Contest:	Phil K3TUF phil@k3tuf.com
VHF Conference:	Rick K1DS rick1ds@hotmail.com
	CoChairs
	George ka3wxv@yahoo.com
	Michael kb1jey@arrl.net
Awards Chairman	Joe WA3SRU wa3sru@verizon.net
Quartermaster:	Bert K3IUV bsoltoff@comcast.net
Membership Chairmen:	Rick K1DS rick1ds@hotmail.com
	Griff NE3I signalnaut@aol.com
	Jim WA3EHD jjantonacci@verizon.net

PACKRAT BEACONS - W3CCX/B

FM29jw Philadelphia, PA
50.080 144.300 222.062 432.290 903.072 1296.264 **2304.043**
3456.200 **5760.195** 10,368.034 MHz (as of 1/17, **red = off the air**)

MONDAY / TUESDAY NIGHT NETS

VHF/UHF Monday:

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
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
8:30 PM	224.58R MHz	W3GXB FN20jm Bob
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

limits of your current station but it may convince you to fix your antenna and tower problems now **BEFORE** the cold weather arrives. (I personally like to wait till after Christmas to fix that balky rotor of mine). If you need a ground crew or other help, let it be known at the next meeting or on the Packrat forum.



Talking about meetings again - the March meeting is usually Home Brew night. Some of your projects are down right ingenious and smart. The one thing I've noticed over the last 10 or 15 years is the number of projects brought to the meeting has decreased. I guess there are many reasons for this , smaller parts, failing eyesight, hard to get parts, lack of kits – no wait – that's not true. Down East Microwave has transverters and some accessories. W6PQL has a number of Solid State 1 KW amp kits that you can buy in various states of completion. He also has many accessories like sequencers, relative power indicators, Low Pass filters and more. If you check the internet you'll find far more than you might think. Many times these kits can be the starting point for more elaborate projects. Ah – now if there was only a way to test some of these projects, like that band pass filter you always thought about building. Well the availability of good, accurate, new and used test equipment has never been better. You can get usable results for little money or spend as much as you dare. Fellow Packrats may also have some to loan or sell too. There are some good SA/TG combinations out there. (Signal Hound is one of several). You can get a 2 port VNA from several firms also. (Array Solutions is one). Bottom line have some fun, learn more.

Build something!!

73, George KA3WXV

Editors NOTE: I'm breaking Cheese Bits into 2 separate documents this month. There were lots of photos I wanted you to see and a single large file might be rejected by some member's ISP's email servers. ENJOY!! 73, Lenny W2BVH

JUNE MEETING PICTURES



George
KA3WXV,
our new
Packrat
President for
2017 - 18



Tnx W3GAD for Pix



JUNE CONTEST COMMENTS AND SCORES

From Tom KA3FQS

I had most of the weekend to work the contest. My wife even gave up our usual Saturday night out. There were other interruptions but in the end I got to spend a lot of time in the chair. The main disappointment was that nothing above 902 MHz worked so I have some repair projects.

6 m was truly exciting giving me 52 grids and 121 Q's. On 902 I was able to work 3 grids, it should have been 4 but I messed up. In the end it all totaled up to 21070 points.

A great contest. Thanks to everyone that I worked.
73, Tom

From Doc W3GAD

My operation here was hampered by a very full schedule on Saturday - no chair time.

On Sunday I was able to recover from Saturday and get on the air - DEMI 50 MHz transverter was again NOT WORKING so I had to jury rig the FT857 6 meter output into the station switching arrangement. This rig is also the 144 IF for the upper bands - UGH!! more buttons to push. Tried working the E Skip but the antenna was too much of a compromise - not one single grid responded. KB3MTW had better success with the E Skip than I did. Reporting 3920 points for 2.6 hours in the chair, Need to get the station back into full contest operation from equipment to the computer and antennas - all is messed up.
73, Doc W3GAD

From Ken KA2LIM (K2LIM)

We followed our number 1 rule "HAVE FUN"
There is a complete write up of all contest activity on the internet at <http://ka2lim.com/10.html>

6M	40 states	552/128 (Q's/Grids)
2M	24 states	320/ 66 (Q's/Grids)
222	18 states	106/ 41 (Q's/Grids)
432	15 states	104/ 40 (Q's/Grids)

Our raw score is:

Total contacts 1084

Total score 359,546

73, Ken

From Michelle KB3MTW

Here are my 2017 VHF contest results. Didn't quite make it to 100 QSOs. There are many factors which contributed to this low score. I look forward to the next contest where my goal is to always improve.

Band	QSOs	Grids	Points
------	------	-------	--------

50	45	18	810
144	21	4	84
222	9	2	36
432	15	3	90
903	3	2	18
1296	2	2	12

TOTALS 95 31

Claimed score = 3999

73, Michelle

From Lenny W2BVH

Had out of town guests over for the weekend so operation in the contest was limited to a few hours here and there. It was still a lot of fun (and it's nice having guests here too!!). Managed to work some of the single hop Es that was present most of the weekend on 6M. Also made some nice microwave Qs up to 2304 (shooting through the leaves on the trees as close as 15 ft from the antennas!!). Results: 79 Q's, 52 Grids, 6760 Pts claimed.

73, Lenny

From Chris N3PLM

Hi Lenny, same here, only limited hours to get on the air and only 3 working bands. My main rig died a while back and I am still trying to figure how to hook up everything to the new one. Not as easy as I had planned. But I got 2760 in points but most amazing was 33 grids. Worked mostly just Sunday afternoon, 6 M was just alive with EM's and EN's.

A lot of fun.

73, Chris

....Contest Comments cont'd

From Dave K1RZ

Hi Lenny. Here is my report for the June contest. Thanks to everyone for their contacts last weekend.

Band QSOs Mults

6:	261	80
2:	165	47
222:	72	27
432:	94	33
903:	31	15
1.2:	43	20
2.3:	21	9
3.4:	13	7
5.7:	6	5
10G:	9	8

Total: 717 251
Total Score = 295,176
73, Dave K1RZ

From Pete K0BAK/r

Thanks to everyone for their contacts in the June contest!

Band	QSOs	points	grids	
50	47	47	24	
144	28	28	9	
222	12	24	5	
432	11	22	5	
grid activation bonus				99
totals	98	121	52	

Claimed score: 6292
(See Pete's extended report starting on p.12 of this issue of Cheese Bits --W2BVH)

From Ken K2WB

I want to thank all of those who participated in the VHF contest. It was a lot of hard work and a lot of fun putting W3CCX on the air. And the food was great, as well as the fellow hams who joined us at 2,000+ feet above sea level.
73 Ken

From Roger W3SZ

Man, you have that right, Ken!! Whoever would have thought that we'd have our very own FIVE-

STAR restaurant at the top of the mountain!! The hardest part of the week that followed was getting used to life without Len's cooking -- Thanks, Len!! And thanks again to everyone who made the weekend great!!
73, Roger

From Stephanie WX3K

I agree ! It was very nice to have real meals !
73, Stephanie

From Griff NE3I

Great food! And a very serious full scale multi-band deployment including two substantial and successful EME stations. Also, the opportunity to operate first class equipment. There were interesting though challenging conditions AND, an ever present atmosphere of great teamwork! My compliments to all of you who brought the institutional knowledge, and did the lion's share of preparation and work. Thanks.
73. Griff

From Al, KB2AYU

This was the first year I did the full 4 days on the mountain, and boy was I worn out by the time I got home. The weather was nearly perfect for the whole event, except for the howling wind each night. There is room for improvement in both the operational and logistical aspects of the event to make things run smoother. I will make some notes while things are still fresh in my mind, everyone else should too. One thing is certain, it takes a dedicated group of people to pull off such a major operation each year.
73, Al

Photo Credits

Many thanks for photos submitted to this month's Cheese Bits. It makes for a very colorful issue! --Lenny W2BVH

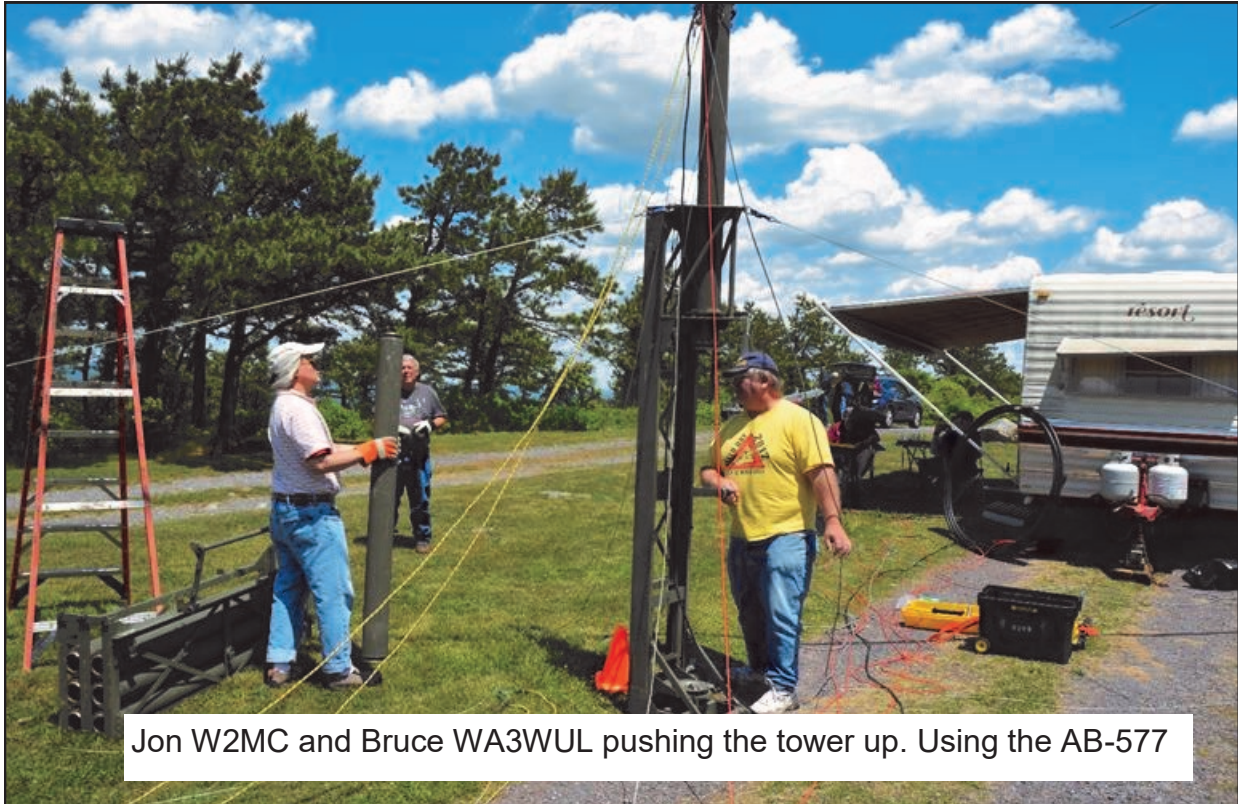
**Photographers:
K1DS, K2WB, K3JJZ, K0BAK, K3TUF,
W3GAD, NE3I, WX3K**

CQ CQ DE W3CCX

A Brief Overview of the June Contest

By Ken K2WB

Setup at the top of the mountain started on Friday afternoon. Thanks to Jon W2MC who met me on top of the hill to help with the assembly of the 6m tower. The typical configuration is a 7 element 6m beam on top of a Military Surplus AB-577 Tower. This puts the antenna at 50 feet above the mountain top.



Jon W2MC and Bruce WA3WUL pushing the tower up. Using the AB-577

By mid-afternoon both 6m and 2m were up and ready to go. Additional help was provided by John K3MD.



A cross pin was added this year to prevent the 2m meter beam from wind milling on the mast. This year the 2m antenna stayed pointed in the correct direction the entire contest.

...CQ CQ cont'd

6m and 2m operated throughout the night, as per our schedule, Sometime was spent operating meteor scatter. 5 new grids were added to the pile by this effort. The frustrating part is that the first two stations were a dupe. Apparently, we worked them earlier.

6m Band conditions were very good, holding up throughout the contest. It was like working a DX contest



Left 2m, Center 1.25m and Right 6m Antennas

All went well with the contest, and it was great that everyone left the hill at the same time. This year 6m and 2m worked very well. Many thanks to the operators who signed up and got into the schedule. Special thanks to Bob W2SJ who worked behind the scenes putting together the operator schedule.

Going home was another story.



Both rear tires blew. Naturally I carry only 1 spare. The good news is that I was able to get help from AAA and it all worked out. T3 now has 4 brand new Class D trailer tires.

Until next year 73's Ken K2WB

THE MOUNTAIN MEETS THE MOON

1296MHZ & 10GHZ EME ACTIVITY AT

W3CCX

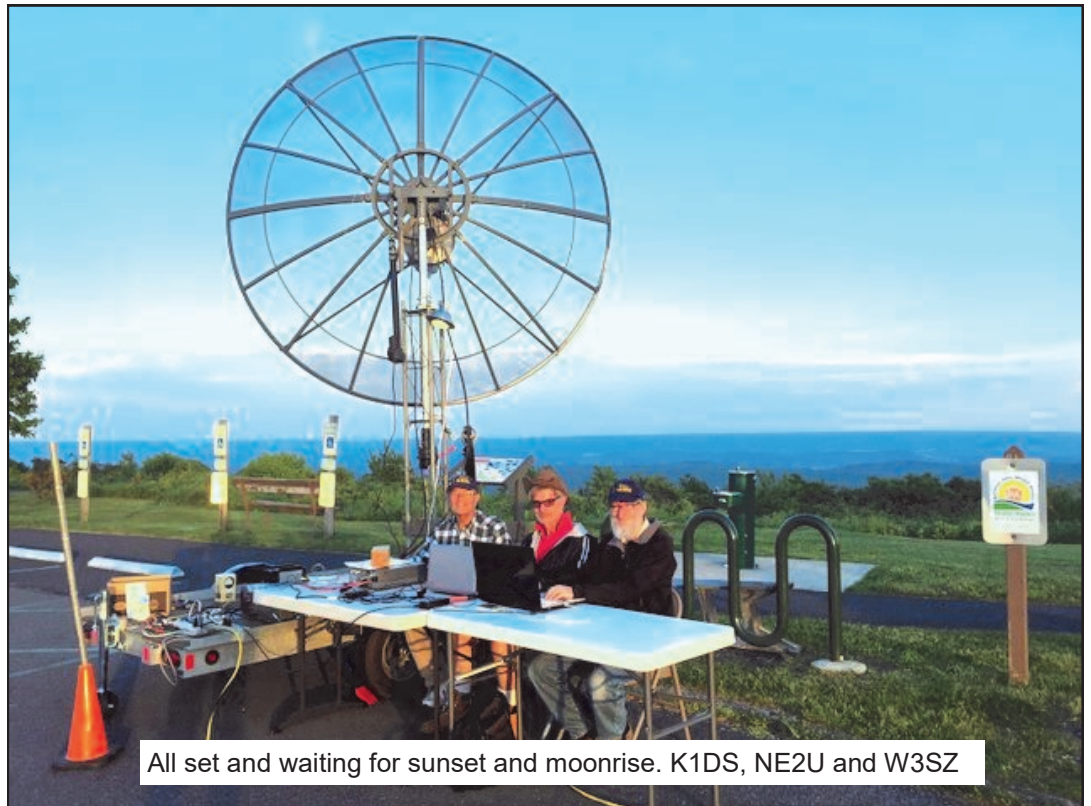
The June VHF Contest planning group was approached with the idea of having some moonbounce communications on Camelback this year. We discussed and debated the merits of what bands we could operate and how those choices would either interfere or interleave with the other bands and activities. We planned what resources would be needed and available to demonstrate the capabilities. The final plan was a team of club members Rick K1DS, Roger W3SZ, George NE2U and guest Jim WA3LBI with EME operations on 1296MHz and 10GHz.

Having already demonstrated the capabilities of the K1DS EME station on CW, I was concerned that I have the proper WSJT-X program available and the computer interfaced with the radios. Roger was extraordinarily helpful in making sure that both my computers and both rigblasters were capable of running the digital communications.

In the week prior to the contest, I loaded the rover van with boxes full of equipment and many redundancies, including 2 transceivers, several SDRs, 2 computers, 2 pre-amps, 2 power supplies, tools and cables. Fortunately, very little back-up equipment was actually needed.

Jim, WA3LBI, well known to several club members, has his 10GHz dish mounted on a trailer and fully integrated with his radios and controllers. We all arrived on Camelback shortly after noon on Friday, with plans to complete our set-ups and demonstrate communications capabilities on the moon pass that evening, prior to the start of the contest. After debating where the best place to set up our trailer mounted dishes, and consulting the data for moonrise azimuth, we decided to be on the southern side

of the parking lot. The 1296 station would be at the edge of the parking lot close to the bike rack and the 10GHz station would be closer to the ranger cabin on the grassy area. This allowed both dishes to “see” the moon from rise at about 115° to set at 245° as the moon would then vanish behind some of the short trees. Our decision to try EME on a weekend when moon conditions were difficult was problematic. The maximum moon elevation would be only 29° at the mountain and European stations would



All set and waiting for sunset and moonrise. K1DS, NE2U and W3SZ

...Mountain Meets Moon cont'd

hardly have a decent mutual window for communicating with us.

As we began to unpack the dish petals from my trailer, we noticed that the pulley used to direct the erection cable was missing, along with the $\frac{3}{4}$ " axle that it rode on. One of the big bolts holding the dish ring onto the mast had lost its nut and washer. Luckily the pulley was found underneath the padded packing blanket. It apparently had shaken out of its fixture on the ride up to the mountain. There were several replacement options available, but we settled on a large bolt and nut from Steele's Hardware in Tannersville, purchased when Roger and I drove down to get some additional needs and ice for the kitchen. Both of the trailers were leveled and the dishes set to aim at moon rise that started at 8:30PM local time. To set the azimuth and elevation of my 1296



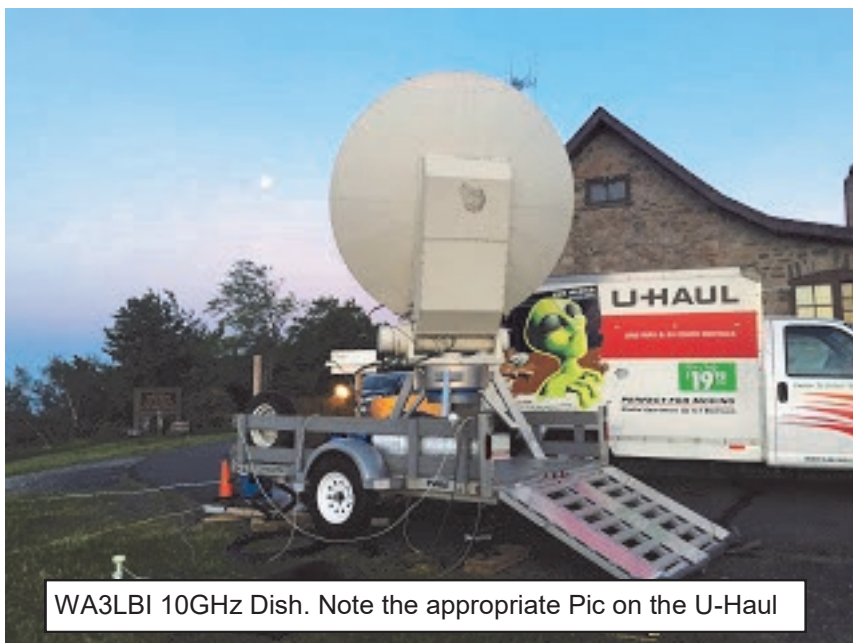
dish, we raised it to focus on the sun with the shadow of the feed falling right on the center of the dish. We then compared our settings of az and el to be right on the predicted astronomical data for that time and location. This was one of the many ways that a dish can be properly aligned to be able to track the moon. We were actually able to see the moon clearly when it was at -0.5 degrees, since the elevation at the mountain is 2200'. From our mountaintop perch and the clear weather we also saw many of the local towns doing their fireworks displays. There is a 1296.000MHz EME beacon station in the Netherlands that is operational under the call sign ONOEME¹. It provided a great demonstration of the receive capability, even though there was no ham activity on the moon on that band. The CW keying and the trace were clear to all who came to see the station in action.

We checked the various EME reflectors and chat boards and realized that there was not a station to be found on either band on EME that evening.

What we were able to see and hear were our own echoes, which was quite exciting, especially for a "small" station like mine.

With the bands quiet and the stations validated as operational, we went to sleep prepared for the next day's contest activity. covered the electronics on the trailer with a blanket and tarp, fastening all the edges down with bungee cords.

It was a mild night temperature-wise, but the winds howled all night long. Jim is able to close his dish easily, but my mesh dish stood erect during the night. In the morning we noted that the dish was slightly tilted, in the direction that the wind blew. But the tower and trailer were intact; it was the wheels that had deflated a bit, likely in the



WA3LBI 10GHz Dish. Note the appropriate Pic on the U-Haul

...Mountain Meets Moon cont'd

cool night air and with the pressure of the dish blowing in the wind. Ken K2WB came to our rescue. He had a Harbor Freight special compressor and 100 LB air tank that did the job and got the tower back to full vertical position. During the day we worked with the NOMIC Rigblaster, making sure that the settings of the WSJT-X program would allow for enough delay of the audio after the PTT signal was also fed to the sequencer for relay closure and preamp protection in transmit mode.

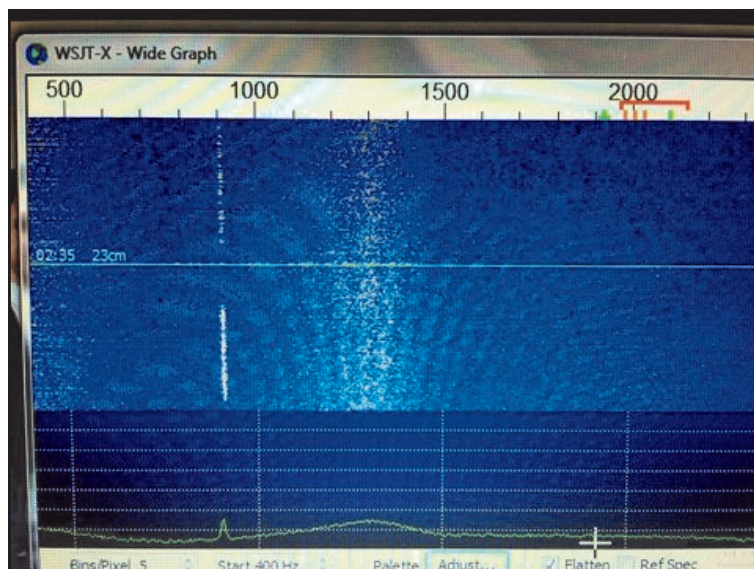
Saturday night moonrise was at 9:20PM local and we sought the beacon, which was easily seen and heard. We keyed up the transmitter, heard all the sequenced relays click and then pressed the memory key CQ button on the TS2000x. We sent 60 seconds of "CQ de W3CCX" in CW every few minutes while watching the receive spectrum on the computer and listening for any replies. The power meter indicated good output (~225W) and just a tickle of the meter needle of reverse power. There was no-one to be worked due to the poor moon conditions for most stations in the northern hemisphere. Fortunately, pre-arranged schedules with 2 stations were possible. Jim had been texting with Bruce, PY2BS in Brazil, who would have great moon conditions in the southern hemisphere. A sched was set up for 10PM. He also contacted the OK1KIR group in Czech Republic, and they would give us a try. As we continued to CQ and manually track the moon, at 9:50PM we easily heard PY2BS respond to our CQ, 10 minutes ahead of schedule. We exchanged grids and signal reports. His signal was nice and clear with a 559 report, and Bruce gave us a 549 report from his grid GG66. After 3 exchanges, we gave our TNX es 73s. At about the same time, Jim was able to work OK1KIR on 10GHz EME! We continued to call CQ, but there was insufficient communication with OK1KIR to coordinate a QSO and by the time we were able to alert them to our availability on 1296MHz, they had moonset.

A moment of panic set in when we were no longer seeing or hearing the ON0EME beacon. Then we realized, it too was off the air as the moon was less than 10 degrees visible in its QTH in the Netherlands. We were able to turn the dish toward Philadelphia and tune up to 1296.264 to hear the Packrat beacon 599+.

With the proof of concept completed and a dim prospect of another 1296 EME QSO, we decided at 11PM to pack up as much of the station as we could, and lower the dish and tower into "birdbath" position for further disassembly in the morning. It was fortunate that we made this choice as the winds gusted and howled on the mountain all night long. Jim was able to assist the 10GHz terrestrial station with a QSO to AF1T in FN43. Later on in the wee hours of the morning he also made a second EME QSO with PY2BS.

It was a lot of effort on the part of the four of us, but we all felt that the activity was worthwhile as "proof of concept." The moon conditions were poor, but the gear was able to be active and showed its capability. Several visitors and club members got a bit of a lesson in moonbounce communication. Some more members may try EME activity in the near future. As soon as I got home, I saw an email message from Jim to me and several other "lunatics" offering a thought on heading to the Marconi site in Cape Breton to do EME in the future. 73, Rick, K1DS

1. http://users.skynet.be/on0eme/ON0EME/Publi_files/1296%20MHz%20moon%20beacon.pdf



KOBAK/r June Rover Report

I roved in the June VHF contest with my minivan Limited Rover (4 low bands), in a north to south trip from FN12 & FN22 down to FM18 & FM28

Up to the Tuesday before the contest, I was assuming I wouldn't be in the contest at all. After two fairly long road trips, a couple weeks ago I woke up from a nap in a Connecticut hotel room with serious back pain. There was no obvious injury, it just flared up. Carrying a 50-pound battery and a radio rack, and operating in a twisted position in the driver's seat while logging contacts on the passenger seat, were beyond imagination. Any physical work at Camelback was similarly ruled out. My wife (a nurse) remarked that she'd have to drug me over the weekend if I had to stay home so she wouldn't have to put up with my sad whining.

By Wednesday I was starting to think there was some hope, so I began planning a rove. In a typical rove, I'd start at Camelback and stay overnight in Hazleton. But still not trusting my back, I wanted to aim at sleeping at home (FN20gd) in case I couldn't continue Sunday. So, I planned a north-to-south route that included a short visit to W3CCX on the way home Saturday night. By Friday, with my son's help, I outfitted the minivan with my standard summer Limited Rover station: 3 10' beams and a 6m Moxon, all on a mast only a few feet above the van's roof. Because of my back, unlike the previous two roves, I did not carry additional mast sections to get the beams up higher at long stops. I also carried the club's milliwatt microwave box and laser for W3CCX contacts on top of the mountain.

In two previous contests, I had operated from a couple of decent but not great locations in FN22 & FN21 near Binghamton, but to save time I wanted to operate from locations closer to the grid corner on the NY-PA border. I found four locations (FN11, FN12, FN21, FN22) with decent height in Google Maps, but that whole area is rolling hills with similar height and thick forest so there aren't any real good locations.

Traveling to the first stop in FN11 went smoothly. Most other contests I've gotten on the air late for one reason or another. In two of the stops (FN21 & FN22), I was able to get permission from private property owners to operate: one at a bible camp and another at a commercial facility with the guy's apartment above a garage. The other two locations were along tight roads with no shoulder, where I used traffic cones and hoped no one would be speeding. The FN12 location was the best, offering a large open field to the south; the others were hampered by fairly close trees. One unexpected surprise at the first stop was that by far the loudest CW signal on 6m turned out to be from Florida.

Hoping to get W3CCX in each location, I was disappointed that I often couldn't hear them on their calling frequencies. I only got about half the contacts with W3CCX that were possible. The W3CCX signals were strong when they were there at all, but I couldn't always hear them. I guess they either pointed away from me for long periods or maybe were not on the air at the time? After my first grid stop, K2LIM was a chip shot on all bands in all grids. Maybe they weren't on the air for the first half-hour? I was glad to give them a few Qs since I really appreciate getting FN12 from them when I operate closer to home in other contests.

My only station improvement was (mostly) fixing 6m noise when the car is running—this allowed me to operate with the air conditioner on ... a huge advantage sitting in a glass and metal box with hundreds of watts of electronic heat generators. In the area of most-wanted future improvements: more than once I forgot to operate the manual IF switch, creating confusion on both ends of contacts. This will probably happen more often as it gets harder for me to remember multiple steps of operation. I'm looking forward to having an automated switch, if I can restart working on that project after several out of state trips. I first

...K0BAK cont'd

bought some parts for an automatic switch more than two years ago, so that's a very overdue project. At least I can blame NPOTA for taking a lot of my ham time last year.

Leaving the grid corner, I was approximately on schedule for arriving at W3CCX at about 7:30pm. Along the FN21 travel route, I picked up a few contacts by monitoring 2 & 6, and pulling over when I heard a strong station ... this is not my favorite way to operate but it was a 2 hour drive so it seemed prudent to get a couple in the log. Arriving at the top of the mountain, **W3CCX is always an impressive sight**, even more so this year with two EME dishes set up. It was great to see Packrat friends up there, although being on a schedule to get home to take meds and sleep, I hope I wasn't too curt. Wish I could have spent more time there.

The club's milliwatt microwave box made 4 out of 6 possible contacts; we couldn't do it on 903 or 10G. These seem to be the box's problem bands, though it worked better in January. There's a lot that can go wrong mechanically with that box, especially in a rushed situation like this. Thanks to Ed and Paul for working hard with me to get those 4 bands. I made a mental note to bring two HTs for coordination next time; though we used a cell phone OK, having the phone channel open makes it a little too easy to "cross the line" while attempting a contact. I brought the club's laser too, but the W3CCX lasers were on a table under a tent and everyone there was involved with watching a slide show, so I didn't attempt the laser contact. After packing up I heard a warning that the gate lock-down was looming, and as I drove downhill I passed a security guy at the gate who may have been preparing to lock it. Close call!

On the drive home, shortly after I crossed the FN20 border, I exited the highway for a spot to operate, netting W3CCX on all but 6m. Then I shut down the station, not wanting to be tempted to operate on the way home since the stop at W3CCX took much longer than planned, so I would be driving tired well past my bed time.

Sunday morning, the plan was to operate around the grid corner in DelMarVa (FM29, FM28, FM19, FM18), stopping along the way for contacts. When I crossed the border from FN20 to FM29, I pulled over in Havertown hoping to get W3CCX before going too far south, but only got them on 6m and 2m. I was told to try the 222 CQ frequency, but never heard anything (I monitored it for quite a while down the road too). I also picked up a few other contacts, including 432 (CW) from W2SZ on Greylock. Not sure why I can get them on 432 but not W3CCX on 222 (or 432), since they're twice as far away at similar altitude. At the grid corner, I heard less activity than in previous years, and fewer responses to my CQs. I was disappointed I only heard W3CCX once (2m) in the four grids. I was glad to give K1RZ FM18 on all four bands. Responding to my emailed rove plans, Jeff K1TEO asked me to arrange a sched in FM28, and I also gave him 222 in FM18 he needed. I was happy to give just a little back to K1TEO after all the unique FN31 contacts he's given me in my short roving career. I was also amused that his signal strength went **up** as we went up the bands from 6m to 70cm, from being a bit of a struggle on 50 to cell phone quality on 432.

After visiting the 4 DelMarVa grids, I was bushed and quite disappointed with my low score (about 1500 I think). I made my way home thinking the contest was pretty much over for me, stopping for a slow lunch. A few miles from home, I decided to go up to my local high spot at a school, hoping for a few 'Rat contacts before limping home. Wow, was I surprised! As others undoubtedly already knew, 6m was open at that time to southern states (GA, AL, TN), so I got a bunch of multipliers at the end of my rove, and my score jumped by more than a factor of 3. I went from having my worst outing to a decent one (for me), so I was pretty happy when I got home. My wife and son greeted me in the living room, and I excitedly told them about the drama of my score jumping at the end. They had that polite look on their faces which read, as always, "happy for you, though I don't understand what you're talking about" and "I hope he'll be done with this monologue soon". Good enough. Claimed score: 6292

KB1JEY's Pop-Up Hotel

I remember my first weekend on the mountain almost 20 years ago. Ron W3RJW was the 432 band captain and I worked a bit with him. I think that I had my sleeping bag and that I slept on the floor of one of the trucks we rented that housed the 2m and 6m stations that were operational all night long. Many of the club members slept in tents or in their vehicles. Fast forward to this year's event. Four tents were set up on the mountain. One colossal trailer home was the main attraction and a second smaller trailer home was next to it. A third trailer served as the kitchen for Len N3NGE who made some of the best meals I have enjoyed on Camelback. Other members rented rooms at the Days Inn and the Chateau.

The accompanying picture is the "Michael Davis Mountain Mansion." This is KB1JEY's a double-wide tent, complete with sewn-in flooring (don't they all have that now?), two carpets, lounge chairs, a coffee table, a wide-screen flat TV that gets 40 channels, a man-sized cot bed and night table. There is a



central light fixture hanging from the center of the tent. All the comforts (almost) of home.

Submitted by K1DS

WX3K / KB3SIG Camelback Laser Experiment



This picture shows a BRIGHT dot of LASER light coming from Camelback that I saw **8.2 miles** away at my QTH. KB3SIG and I did a laser path experiment. It worked!!

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Phil Theis	K3TUF	Automation for VHF/UHF/uW Contesting
Jerome Byrd	K3GNC	"Apartmentyrinous Station Rex"
Steve Gross	N4PZ	Yagis: Tales, Tricks and Truths
Russ Lamm	NN3Q	Building and Operating the NN3Q Rover(+K3WGR)
Gary Hitchner	WA2OMY	The GPS Project and Packrat Beacon Update
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George Holubec	NE2U	Chasing the Propagation

ADD YOUR NAME, CALL and TOPIC HERE!

DETAILS AND UPDATES: www.packratvhf.com

**** Early Bird price good through Sept 20.**

Field Day On Deck

Griff, NE3I set up on his deck as a 1 Echo Field Day Station using a couple of small tractor batteries charged by a 10 Watt Solar Panel (lower left). All contacts were made with 5 watts or less and a Cushcraft R8 Vertical at 20 feet. This "Local" deployment provided many of the best aspects of Field Day Fun, Amateur Radio Outdoors (in the shade), Interesting Propagation, Short Feed Lines, Bratwurst from the Grill, Air Conditioned Comfort Breaks and, Cold Beer without prohibition. Despite the QRP power level and simple Vertical Antenna, 6 Hours of operating yielded **165 Phone and CW contacts** including 48 10 Meter Qs and 13 6 Meter Qs. There was some interesting short skip on 10 Meters particularly, a 300 Mile two-way S9 contact with WA3COM reportedly near Pittsburgh -- enhanced ground wave or some form of backscatter? There is, as Packrats know, a mountain range between here and Pittsburgh. Civil War Buffs will recognize the unit's flag in the background. Old Glory was on display out front for passers by.

Robert Alan Griffiths, NE3I



Central States VHF Society Conference Call for Papers

The Central States VHF Society is soliciting papers, presentations, and posters/tabletop displays for the 51st annual Central States VHF Society Conference, to be held in Albuquerque, New Mexico on 27-30 July, 2017 at the Sheraton Albuquerque Airport Hotel. Papers, presentations, and posters on all weak-signal VHF and above amateur radio topics are being sought.

CONFERENCE DETAILS:

Visit the Conference website at <http://2017.csvhfs.org>. Online registration will open on or shortly after May 1. Additional conference details will be announced as opening of registration nears!

In the meantime, please rally all of the VHF/UHF/Microwave hams you know in your area and across the country, mark your calendars for July 27-30, and plan to join us at the 2017 Central States VHF Society Conference in sunny Albuquerque, New Mexico.

73,
Brian N5ZGT
2017 CSVHFS President



Congratulations W3SZ!!

Featured on p74-78 in CQ magazine July issue is the work on airplane scatter by Roger, W3SZ. Another Packrat in a major Ham Publication

W2SJ June Contest Report

After automating my station, adding the Flex-1500, and learning to use N1MM+ in the SO2R mode for the January contest, I quickly became overwhelmed with all the new technology I needed to learn and only scored 14,945 points :-((

I decided to stay home for the June Contest and get it right! This contest was a 6 meter contest for sure, with the band open both days for long periods of time. 112 Q's and 54 Grids were from 6 meters. The balance of my Q's and grids came from 144 thru 3456 MHz. Final numbers were 274 Q's & 125 grids, for a score of 53,625 points! Quite an improvement from my January score.

The quote of the contest was from a station with many bands up thru most micros. I asked him when we could run the bands and he said "not while 6 meters is open". I replied that it looked like it was going to stay open all weekend and I would be glad to make a sked. He replied "I guess we won't be working on the micros then!! 2 meters seemed to be a graveyard and it was very hard to find the regulars to move up the bands.

I did have fun and got lots of practice with the Flex radio on the micros. Hope to "see" everyone in the August 222 & Up Distance contest!

73, Bob W2SJ

ARRL Headquarters Trip Planned

My general-interest club, Pottstown Area ARC, is organizing a bus trip to ARRL headquarters and W1AW.

Date: Sept. 11, 2017 Fee: \$55

More info:

<http://www.paarc.net/events/bus-trip-to-arrrl-2017>

If you've ever driven through NYC and southern CT, you know letting someone else drive is a good idea.

-- Pete K0BAK

NE3I Mini Rove in June

I activated Grids FN20 and FN21. The photo was taken in the Appalachian Trail parking lot near Bake Oven Knob, FN20DR, elevation, 1100 feet. This location is line of site and visible from the W3CCX Camelback location though over 30 miles distant. The location is also heavily wooded in June. The antennas, pointed toward W3CCX are a 4 element 2 Meter Yagi, homebrew 7 element 432 Quad, homebrew 6 Meter Dipole helically wound on a wooden dowel and a 5/8ths Wave mag-mount for 223. The 6 Meter Dipole, 432 Quad and the 2 Meter Mag-mount Squalo, not shown, met with calamity when the tripod fell over in this location and the Squalo became weightless on the Turnpike, (though fortunately tethered by coax into the trunk). As I was going to be a 6 Meter operator later at W3CCX, I did not work W3CCX except on Laser. Sunday morning I pulled off the road in the Pocono Pines area in FN 21, about 8-10 miles North West from W3CCX, (elevation 1800-2000 feet), and worked stations in EM60 and EM82 on 6 and FN31 on 2 using 40 watts and the HV7A vertical also shown in the photo. One just must try these things, even if only to rule out the delusion that roving and the mountaintop Qs are going to be easy. **73. Griff NE3I**



The Wayback Machine **In CHEESE BITS, 50 Years** **Ago**

Nibbles from June 1967. Vol. X Nr. 5
de Bert, K3IUV
(author's comments in italics)

- **“Our Prez Sez”**. The report was late getting to Helen, the editor, so she filled the front (14”) page with a human interest story. Extracted from the Evening Bulletin *(no longer there)*, it details the nesting of a Mallard Duck in the courtyard of the Philco-Ford computer plant *(also no longer there)* in Willow Grove. The courtyard was fully enclosed, and thus protected from passersby. The Philco crew monitored the progress of the 6-eggs, and watched them hatch. They then provided water for the pool, “chick mash” for the ducklings, and a bag of goldfish for the mother!
- **New Members**. 3 new members were voted in. Randy Bynum, WB2SZK *(Randy is the one that built the 5-band uwave transverter that the club rovers use)*. Also, W3ANW, Bruce Sternstein, from Upper Darby, and K3ZKO, Ron Cohen. *(Ron was / is very active in Amateur TV)*.
- **ARRL Bulletin. NR 118. 6/15/1967**. Two Amateur radio stations will operate at the World Scout Jamboree in Idaho. That weekend will commemorate the 10th Jamboree in which Amateur radio stations operated.
- **Meeting comment**. “Did You Know”, reported that the silent auction at the last meeting went over so well that it may be tried again. *(I have forms with the Packrat Logo, intended to use for silent auction items. If anyone wants some, let me know. Bert)*.
- **Transmitter Hunt report**. 6 and 2-meter transmitters were hidden by W3MFY, W3CL and W3OZP, at a farm near Penns Park. *(They didn't realize they hid it in a patch of poison Ivy!)*. K3UJD (of the Mario table fame) and WA3CAG found the transmitters at the same time, 1:45, and were declared the winners. They were followed in by K3MXM, K3DUC, K3JJZ, WA3ZFG, WA3FPS, W3SDG, and last as usual, K3GAS traveling with K3HSS, K3DLS and Loretta, the xyl of K3GAS. Next hunt scheduled for July 23. *(You will note the large number of participants. These hunts were a neat adjunct to operating. As I've mentioned before, why don't we try it again?)*
- **June Contest Report**. Interim report noted that the club worked 50, 144, 220, 432 and 1296 from their location at the Dutch Country Playhouse. A total of 620 contacts were made. More details in the next issue.
- **Packrats Picnic Reminder**. The 12th annual picnic was scheduled at the Fort Washington State Park on August 13th. Entrance fee, \$2 per family.

- **Technical Article.** “P.E.P Intake, and all that Jazz”. By W4ICH, borrowed from the Florida Skip exchange paper. Jack described definitions, reasons for the measurement requirement, and some techniques for making reasonably accurate measurements without access to an oscilloscope. Full details, as usual, in the copy posted on-line at W3CCX.
- **ARRL Headquarters Visit.** The planned visit was changed from September 9 to 16, to avoid a conflict with the CQ magazine VHF contest.
- **Meeting Notice.** July meeting will be the annual “White Elephant” sale, to be held at the QTH of Dave Zimmerman, W3LHF (Later, W3ZD, now SK).
- **Swap & Shoppe.** Wanted: A 220 xmtr and / or antenna. Will buy or swap. Contact K3WEU and W3ELI. (*Intended to be used on the club “intercom frequency” of 221.4*). K3GAS, Doc, listed a large number of items, including an Ameco 6-meter Nuvistor converter (*Michael, take note*).
- **Miscellany.** *Postage remained at 10c this month (4 sheets 8-1/2” x 14). 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 detail on the above items, visit www.W3CCX.COM and read the full issue posted there by our Webmaster, Ron, W3RJW.*



thirty, de K3IUU

Rover Recognition Award — THANKS !!

To the Members, Officers, and Board of Directors of the Mount Airy VHF Radio Club

I am honored to be the recipient of the 2016 Rover Recognition Award sponsored by The Mount Airy VHF Radio Club. The timing of this award could not have been better. After the January contest, I tore down my rover and committed to a redesign that was a bit more operator friendly and effective on the microwave bands (peaking by hand is not so easy to do!). I spent a few weekends building, but then life got in the way. The Tuesday before the contest I started building again. By Wednesday night it seemed fruitless. I had dozens of hours of work left without dozens of hours of time available. I thought that perhaps a 3 band effort from home may be my best option. Then on Thursday I received the last of the parts I needed in the mail along with a package from K1DS. I was surprised and touched by the letter and plaque.

(...Continued p. 21)

Events

For inclusion, please direct event notices to the editor.

"MWL Microwave Luncheon, a semiformal biweekly lunch meeting of hams in the FN10 - Elizabethtown, PA area. We meet at 11:00 at Hoss's Restaurant on Route 743 about 1 mile towards Etown. Those interested in microwave communications and wanting to attend please contact John Jaminet, w3hms@aol.com for details."

Valley Forge Hamfest - Hamfest - July 8, 2017 - at Kimberton Fire Co. Fairgrounds, Route 113 (Pike Springs Rd.) & Firehouse Lane • Kimberton / Phoenixville, PA. Details at <http://www.marc-radio.org/hamfest2.htm>

CQ WW VHF - Contest - July 15-16, 2017. See <https://www.cqww-vhf.com/> for details

Sussex County (NJ) ARC Hamfest - Hamfest - July 16, 2017. Sussex County Fair Grounds, 37 Plains Road Augusta, NJ 07822 . URL to follow.

222 MHz and Up Distance Contest - Contest - August 5-6, 2017. A re-formulated version of the ARRL UHF contest. New rules apply. See <http://www.arrl.org/222-mhz-and-up-distance-contest> for more info.

10 GHz and Up – First Round - Contest - August 19-20 , 2017. See <http://www.arrl.org/10-ghz-up> for additional info.

September VHF QSO Party - Contest - September 9-11, 2017. See <http://www.arrl.org/september-vhf> for additional details.

EME 2.3 GHz and up - Contest - September 9-10, 2017. See <http://www.arrl.org/eme-contest> for additional details.

10 GHz and Up – Second Round - Contest - September 16-17, 2017. See <http://www.arrl.org/10-ghz-up> for additional info.

EME 6M to 1296 MHz (round 1) - Contest - October 7-8, 2017. Details to follow.

June 2017 ARRL VHF Contest

Bill Schaffer, WS3O

This contest proved to be difficult for me. I got a late start, and there were many problems just getting on the air:

- The 6m beam was showing a short on the analyzer, but not at DC. We wound up disassembling it and rebuilding it. Still had a loose connection somewhere, but we lived with that.
- The 222 beam was misbehaving.
- One of the rotators had jammed up.
- And the antennas wound up about 10ft lower than planned, and not clear of the "ground clutter".

By the time everything was in the air, I no longer had the energy nor the drive to make contacts for awhile -- I didn't make the first contact until 9:21pm. It was Ray, N3RG, operating from K2LIM. And that was only because W2RES handed him over to me. Who wouldn't want to talk to Ray?

Sunday was much better, but I never overcame the deficit from Saturday. My summary: 83 contacts, 53 grids, estimated score of 5088.

I thought that the club might be interested in this picture that I took from my transceiver:



This was in the 6m band. The club puts out a very nice signal. **73, Bill WS3O**

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...Rover Recognition cont'd

The rover spirit exemplified by Mr. Seabreeze could not have involved giving up because things were getting too hard. So I took Friday off of work and put in 21 hours of work, but could only get 50-1296 ready to go. I still had another 8 hours of work to get the new roof rack mount built and fatigue was starting to show itself in mistakes that were costing time (and fuses!) that I did not have.

A few hours of sleep, an all out effort to get the antennas setup and I was finally ready to hit the road by 5pm on Saturday. I stayed local Saturday to minimize driving and to my surprise **everything worked!** After a real nights sleep, I headed out and had a blast on Sunday. Sure I missed having more microwave bands, but at least I was on the road. One of the highlights was working W3CCX up to 1296 for the first time. I found this quite fitting. The Rover Recognition Award is a great program, keep it up.

Sincerely,

Jarred Jackson
KF2MR/R

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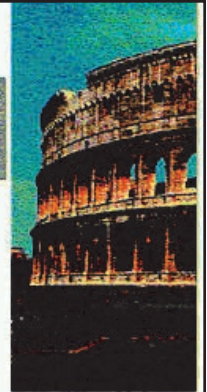
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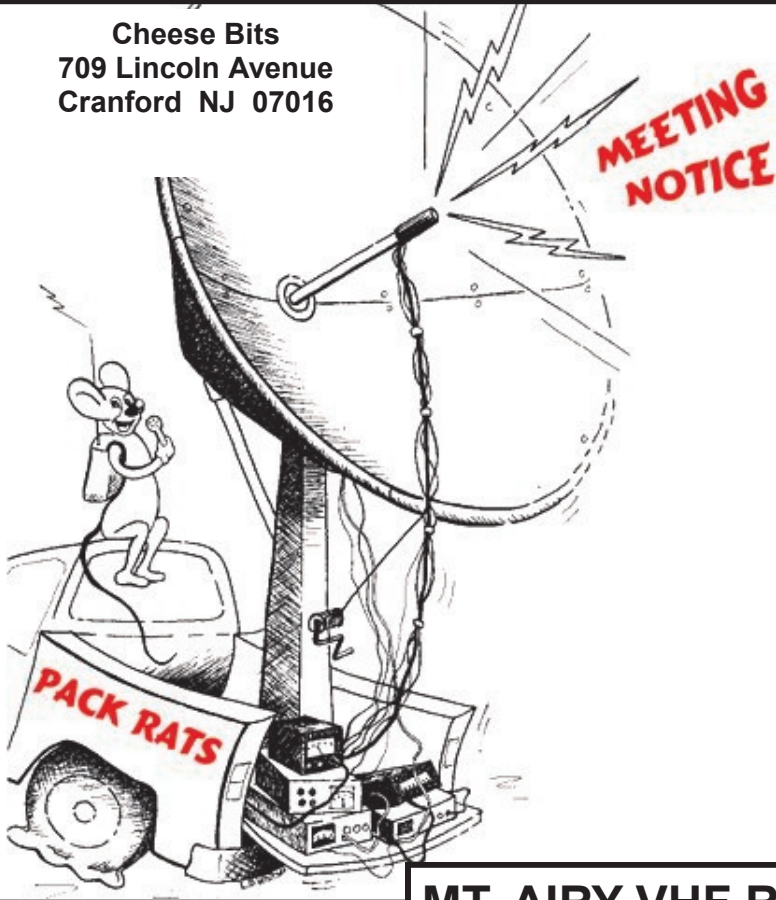
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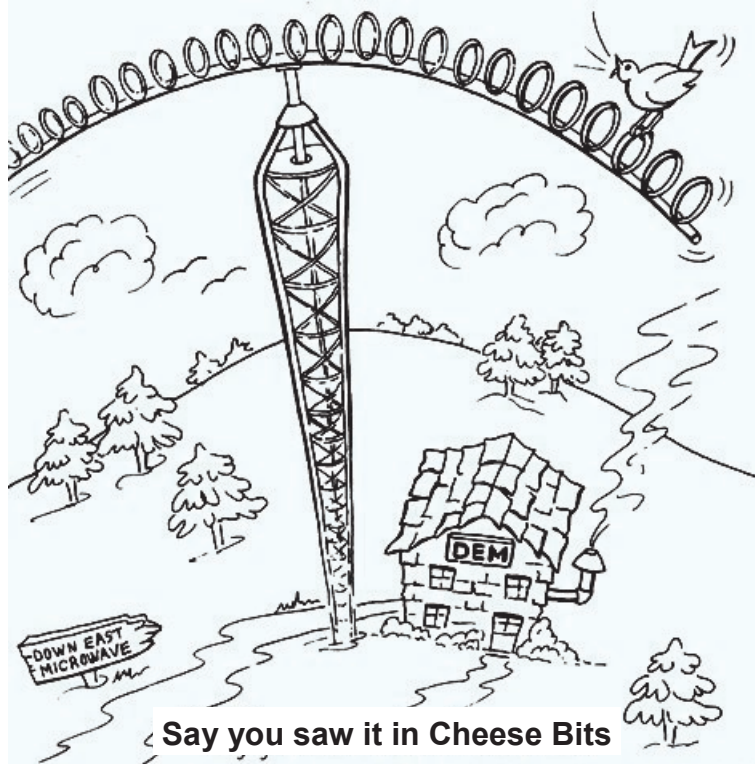
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Volume LVIII

July 2017

Number 7b

PICTURES FROM W3CCX JUNE CONTEST OPS

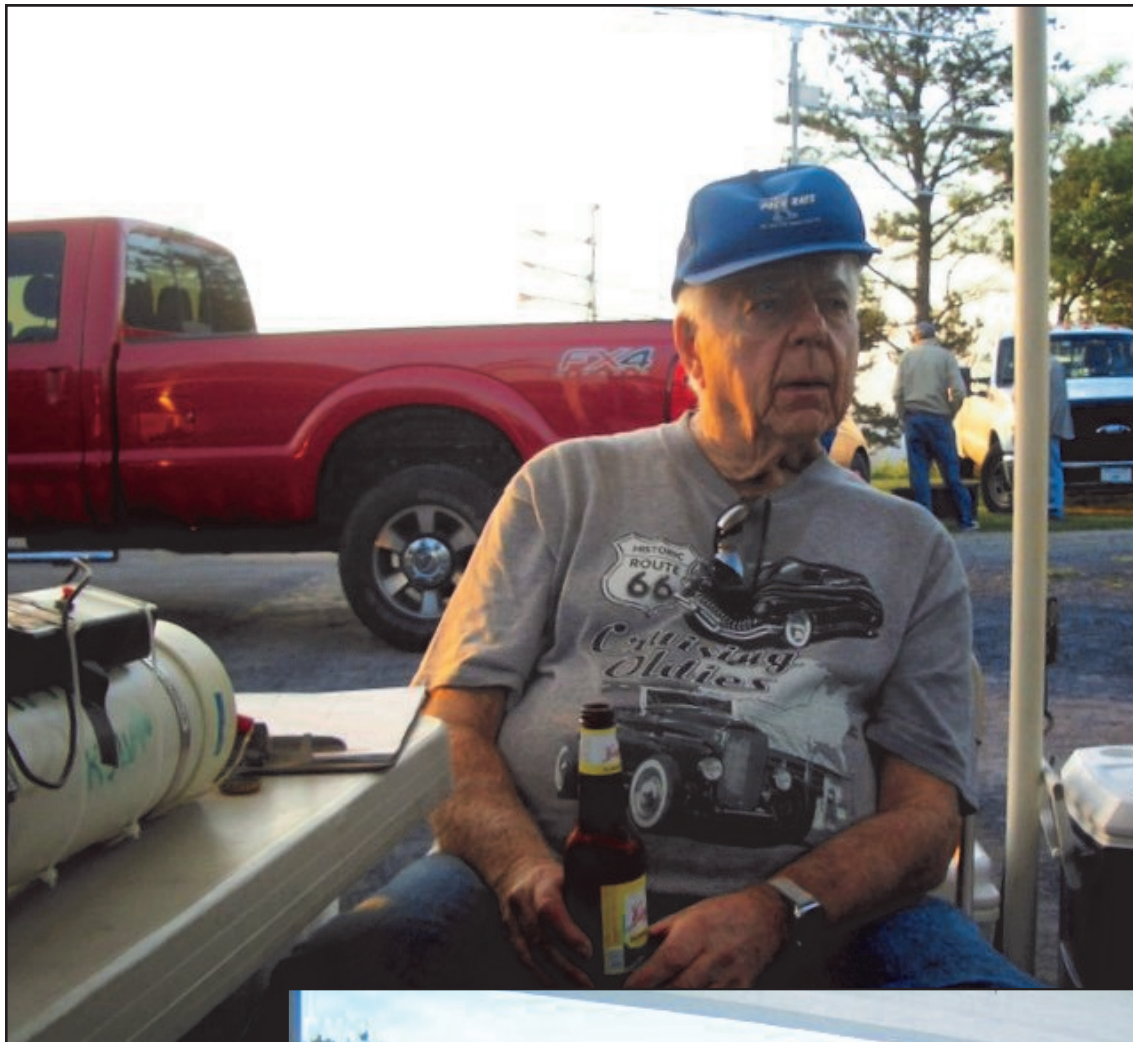




























4 'Hams' Will Bounce a Signal Off Moon From South America

Four local men are making the final arrangements to load 18 crates and themselves onto a southbound airliner this summer to make ham radio history.

The men, members of the Mt. Airy VHF Radio Club, known as the "Pack Rats," have been invited to Barranquilla, Colombia, to set up South America's first "moon bouncing" station.

As a Northeast Philadelphia pharmacist, Elliott T. Wiesman explains it, moon bouncing is a sophisticated broadcasting technique using the moon as a reflector for short wave signals.

While South America is apparently replete with "hams", it has just never tuned in to the worldwide moon bouncing network.

"We have contacts all over the world and we found that no one has contacted South America by this method," said Wiesman, a laboratory manager for Merck, Sharp & Dohme, West Point, Montgomery county.

Stumbled Onto Chance

The 78-member Pack Rats stumbled onto the chance to hook South America up with the rest of the world when Bolmar Aquilar, a Colombian national, moved into Wiesman's neighborhood.

Wiesman said the natural camaraderie among "hams" brought the two together.

"He noticed my antennas," said Wiesman, who lives on the 8500 block of Algon ave. in Oxford Circle.

Aquilar and his Baltimore brother-in-law, also contacted some of their relatives on farms back home, Wiesman contacted the Colombian authorities, and the club's antenna designer set to work.

Walt Bohlman, a ham who also builds antennas for a living, had fashioned the club's futuristic-looking 20-foot "dish" as it is called, on his farm in Revere, just above Doylestown.

Transit Problem

But as Wiesman pointed out, it's tough to get a 20-foot antenna into an airplane.

Bohlman's job was to design a portable moon bounce antenna, with parts no longer than six feet. Wiesman said the unit fills 18 crates and weighs 1,000 pounds.

He and the Pack Rats' moon bouncers, Tony Sousa, an environmental engineer from Ottsville, and Bill Olson, a motorcycle mechanic from

Please Turn to Page 24

Radio Signal From Moon

Continued From Page 23

Danboro, both Bucks county, will complete the quartet that will leave July 25 for two weeks in Barranquilla, a town on the Colombian coast. Wiesman said the trip will cost between \$7,000 and \$8,000. The club, which has members all over this area and New Jersey, will pick up part of the tab with the participants contributing the rest.

Once there, the Pack Rats—so named because they pride themselves on scrounging parts and building their own equipment—will set up the antenna and await the historic moment.

432 MHZ MOON BOUNCE OPERATION



Mt. Airy VHF Radio Club, Inc.

EQUIPMENT

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 Antennas: 16 K2RIW Yagis

HK1TL

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 Ottsville, Pa.
 18942 USA



K3BFP
 Walter Bohlman
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 18901 USA



W3HMU
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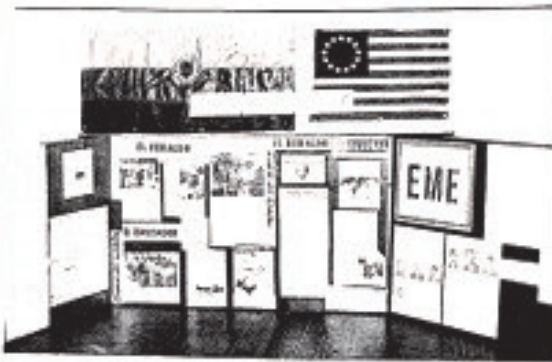


WA3NFV
 Daniel Mitten
 108 Fernway Circle
 Norristown Pa. 19043

The Colombian moonbounce project of the Mt. Airy VHF Radio Club is a combined effort. It could not have been accomplished without the dedication and assistance of a great many radio amateurs among whom are:

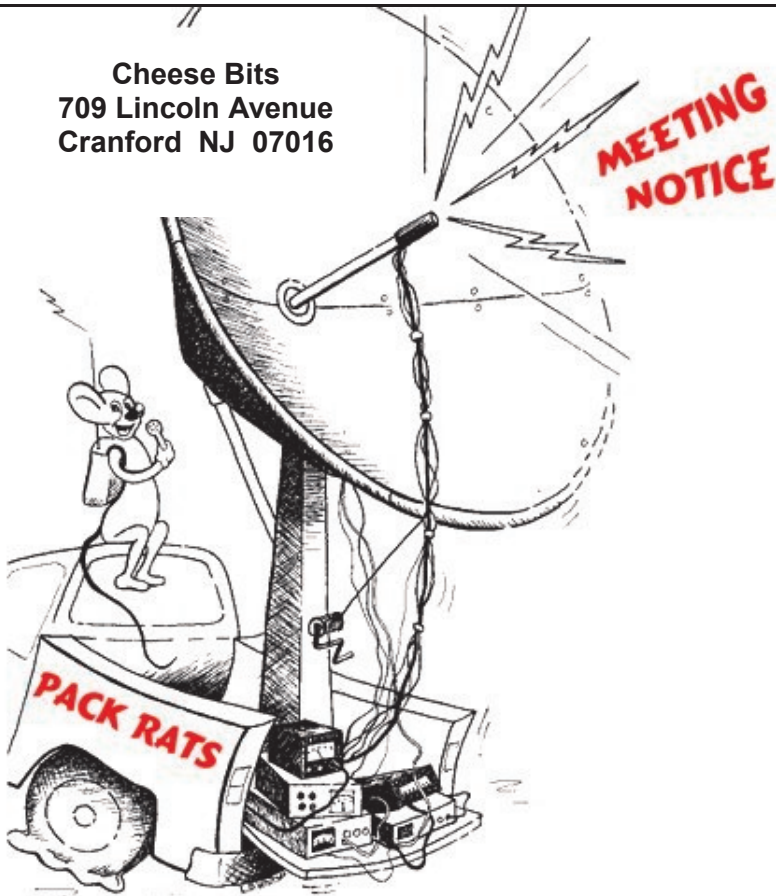
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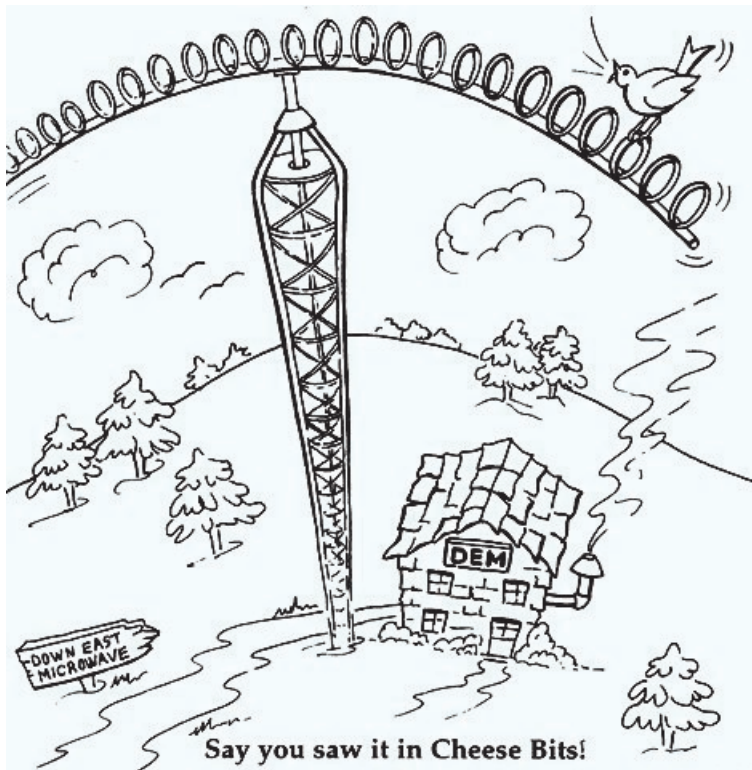


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