



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LVIII

August 2017

Number 8

PREZ

We've had a busy Summer already.

SEZ:

Several Packrats attended the Sussex County Hamfest in Augusta NJ. This appears to be one of the biggest in the NY, NJ, and PA area. It's a two hour or more ride from most Packrat QTH's but probably the best one to attend for parts old and new. The Internet is a great place for "stuff" but there is nothing like meeting up with old friends and making new ones, seeing people face to face. There will always be a need for places like Sussex.

This month was the White Elephant Sale at Bruce's QTH. Bruce, El, Dave and Bert did a great job of keeping the auction moving and making a fun event. The weather cooperated and the beer and soda was cold. I was successful in bidding on a 902 amp I've been looking for. Many things found new happy owners and a place in a new ham shack (at least till next year – HI). Another great event.

Many Packrats have been working the Sporadic E openings on 6 meters the last few weeks. The Packrat reflector was busy with posts alerting and inviting other Packrats to join the fun.

August 12th is the Packrat Picnic at Michael's QTH. Bring a covered dish and your swim suit. This is an outing for the entire family. There will be plenty of good food and conversation. There's something special about Hot Dogs and

Hamburgers on the grill. There will be watermelon and freshly picked corn on the cob. Did I mention one member is bringing Water Ice? Let Michael know soon if your coming.

Need help or suggestions on automating your shack or Rover? There will be a number of speakers at the October 6,7 and 8th Mid-Atlantic VHF Conference on this very topic. Come learn from some of the guys who have done it. Rick, Guy and other Packrats have been hard at work putting this together. The lineup of speakers and topics look great. Reliable sources have told me one of the door prizes at the dinner is a Flex 1500 ! Obviously one of our fellow Packrats is good at twisting someone's arm at Flex Radio! And of course the hospitality suite will be open serving your favorite snacks and beverages. All this will be topped off with a Mini-Fest on Sunday morning. Sign up is best done on the Packrat web site. You can pay using PayPal or pay Dave at the next General Meeting. **This event is not to be missed!** Call the Hotel direct and soon for special room rates. Be sure to mention the Conference.

Don't forget to get on the weekly check-ins to the Packrat Nets. Why wait till the next Contest to find out what needs fixing? If you need a ground crew or other help, let it be known at the next meeting or on the Packrat forum.

How is your latest project coming? I found a "Twofer" on the W6PQL website. He has kits for a low pass filters; just the right thing for those home brew and commercial Ham

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

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

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

SUBSCRIPTION/ADVERTISING MANAGER:

Bob Fischer, W2SJ 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 2017-2018

PRESIDENT KA3WXV, George Altemus ka3wxv@yahoo.com
VICE PRES: WA3DRC, Ed Finn edfinn11@gmail.com
CORR. SEC: WA3EHD Jim Antonacci jjantonacci@verizon.net
REC SEC: KB1JEY Michael Davis kb1jey@arrl.net
TREAS: W3KM Dave Mascaro w3km@verizon.net

DIRECTORS:

K3JJZ Elliott Weisman (2019) k3jjz@aol.com
K0BAK Pete Kobak (2019) rxr978-vhf@yahoo.com
KB3MTW Michelle London (2018) mal61@comcast.net
W3SZ Roger Rehr (2018) w3sz73@gmail.com
Honorary Director K3TUF Phil Theis phil@k3tuf.com

COMMITTEE CHAIRMEN

January Contest Bill K3EGE billk3ege@gmail.com
Bob W2SJ bobw2sj@gmail.com
Phil K3TUF phil@k3tuf.com
June Contest: CoChairs
VHF Conference: Rick K1DS rick1ds@hotmail.com
Guy WA3JZN wa3jzn@gmail.com
Joe WA3SRU wa3sru@verizon.net
Awards Chairman Bert K3IUV bsoltoff@comcast.net
Quartermaster: Rick K1DS rick1ds@hotmail.com
Membership Chairmen: 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:

TIME	FREQUENCY	NET CONTROL
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

modified solid state amps. Also built into the filter board is a dual directional detector!

You can then team this up with a pair of LED bar graph displays for a relative power, forward and reflected. Jim (W6PQL) supplies a number of "extra" surface mount resistors

for making the attenuators you need to get full scale readings on the displays regardless of the power you are running. This project can free up one of your expensive Bird watt meters and slugs and is great for use in the Rover or in the field. Mine is finished except for mounting the displays in a separate box.

I enjoy kits because many or most of the parts are acquired all at once. This increases the chances that I actually start and finish the project!

Have some fun, learn more.

Build something!!

73, George KA3WXV



Thanks!

THANKS to Bert, K3IUV and Ron W3RJW for archiving the full set of all issues of Cheese Bits and posting it on the Packrat web site.

It took a lot of work and persistence, finding organizing, scanning and posting the full set.

Congratulations!

From Lenny, W2BVH, For all of the Cheese Bits Editors and for the Packrats!

PICTURES FROM THE 2017 WHITE ELEPHANT SALE

This year's White Elephant Sale was again hosted at the WA3YUE driveway, complete with 3 coolers of liquid refreshment, several hoagie slices and a few bags of chips. A big crowd of Packrats, guests and a new member applicant Tom Hybiske K3GM were in attendance. Fun to see many rare members who come to this meeting to re-acquaint themselves with the gang. Aside from a few lots of irremediable parts and out-of-date gear, most everything was sold. Many items went the \$1 route, and the biggest bargain of all were three 150W 903MHz SSPAs that went for under \$50 each. There were three Elephants on the block, a white one, a brown one and a black one. You had to be the winning bidder to see what was inside and take it home. Two nice hanks of LMR600 with connectors went for about 60 cents per foot. Many other cables and connectors perked up the bidding at the end of the



evening. Thanks again to the host, Bruce, the auctioneer Elliott, the treasurer Dave and the runners Bert and Bruce who kept everything running smoothly. Look forward to next year's event and start planning and collecting the items that you'd like to see recycled into another Packrat's station.

73, Rick, K1DS

Sold! Says Elliott, K3JJZ as he successfully bid and won a box of four 2m FM Walkies and their accessories



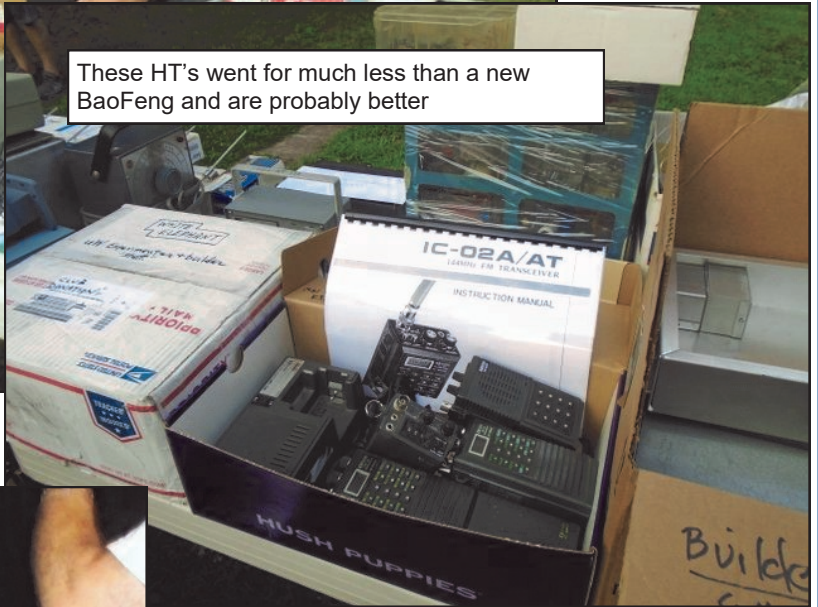
Tnx K3JJZ & K1DS
for pictures



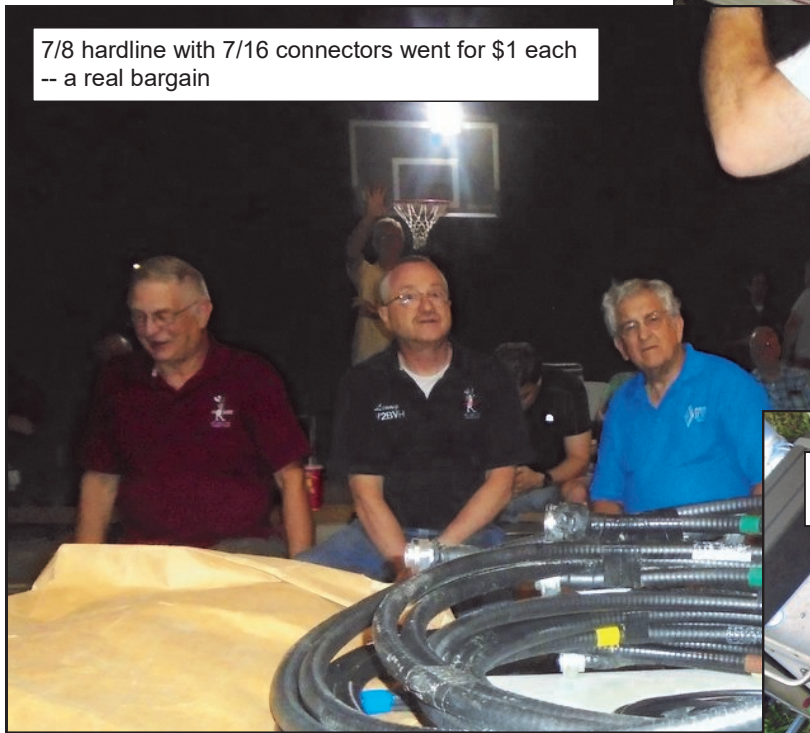




These HT's went for much less than a new BaoFeng and are probably better



7/8 hardline with 7/16 connectors went for \$1 each -- a real bargain



TWT's -- X-Band? Without power supply. No bids for these.

CQ WW VHF Contest Results and Comments

From John, K3MD:

Band QSOs Mults

6:	116	62
2:	22	14

Total: 149 76
Total Score = 11,324

Operating time 9 Hrs
2M sequencer linear output shorted AGAIN!!!

From Lenny, W2BVH:

I worked the CQ WW VHF for just a few hours (maybe 4 ?) with the following results: 34 Q's, 19 Grids, 1064 pts.
No Es while I was on, but propagation from the west was better than usual. W3SO and K3MD, and K3TUF were much stronger than usual. There were quite a few nearby calls heard/ worked that I usually don't hear in the Jan/Jun/ Sept 'tests, which is very nice indeed. I'd hope they would start participating in more of the VHF contests.

From Dave, W2KV:

I worked the contest (2 meters only) from Ship Bottom on Long Beach Island (FM29vp). 160 W to a single loop at 35 feet. Total of 22 Q's in 11 grids. Best DX a couple of FM16s to the south and FN33 and 42 to the north. I was called by K1HC in FN53 but no QSO despite a good try. Very little to the west but that's not unusual as nobody points their beams this way. Conditions were flat after good coastal prop all week. Not as much activity as the major contests but still a good time. 73, W2KV/2

From Joe K1JT:

I got on for a few hours in the CQ VHF contest, operating 6-meters and using digi-modes only. I made 12 QSOs using MSK144 (meteor scatter) and 54 QSOs using the new mode called FT8 (E-skip, extreme troposcatter, ...). My grid total was 35.

See <http://www.arrl.org/news/ft8-mode-is-latest-bright-shiny-object-in-amateur-radio-digital-world> for more info on FT8 --Ed.]

From Bill, AA2UK:

I was only on for a limited time, 110 Q's & 63 grids for a total of 8694. I used FT8 as well, it's a great mode for weak E's and Tropo.

I also used conventional modes like CW & SSB. Most of my contacts were on 6 meters.

From Mike, N1JEZ:

6M 128/64
2M 55/21
raw score 20,230

Not too bad a weekend. The only real opening on 6M for me was Saturday night.

This is the first time I used both MSK144 and FT8 in a contest. It helped fill in holes in my multiplier map with varying band conditions. 42 of my 6M contacts were via digital.

I missed my own grid on 2M!! That was made up for by the contact with XE2JS on SSB in DL68 Sunday afternoon during a really brief band opening. I run an SDR and saw the signal pop up. I was watching ON4KST all weekend, but posted nothing. It appears I mis-interpreted the rules this year for assistance. I thought you could only post for EME, but it appears I could have posted Call/ Freq/Mode of where I was operating.... I missed quite a few because of it! (Sry K1RZ, K3GNC, K3TUF etc) !!

Data Analysis: Contacts vs. Distance in the January 2016 & 2017 Contests

By Ben WA3RLT

A series of graphs are presented here that may be of some interest to the readers of Cheese Bits. The data in these graphs are based on logs submitted to Dave Mascaro for the January 2016 and January 2017 ARRL VHF Contests. The parameter of interest is number of contacts as a function of distance for the bands six meters through 10 GHz. To provide a more consistent picture, the data are limited to contacts between fixed stations. Where ever possible six digit grid squares were used to calculate distances. These six digit grid square data were extracted from the logs for each contest; where discrepancies arose, priority was given to self identified grids, followed by the most frequently logged grid. In the absence of any six digit information, a four digit grid was assigned to the center of its four digit grid.

As a quick summary there is a brief table (see below) that summarizes the activity between fixed stations for the two contests. Except for 50 MHz the number of QSO's are down in 2017; this is especially true for the microwave bands.

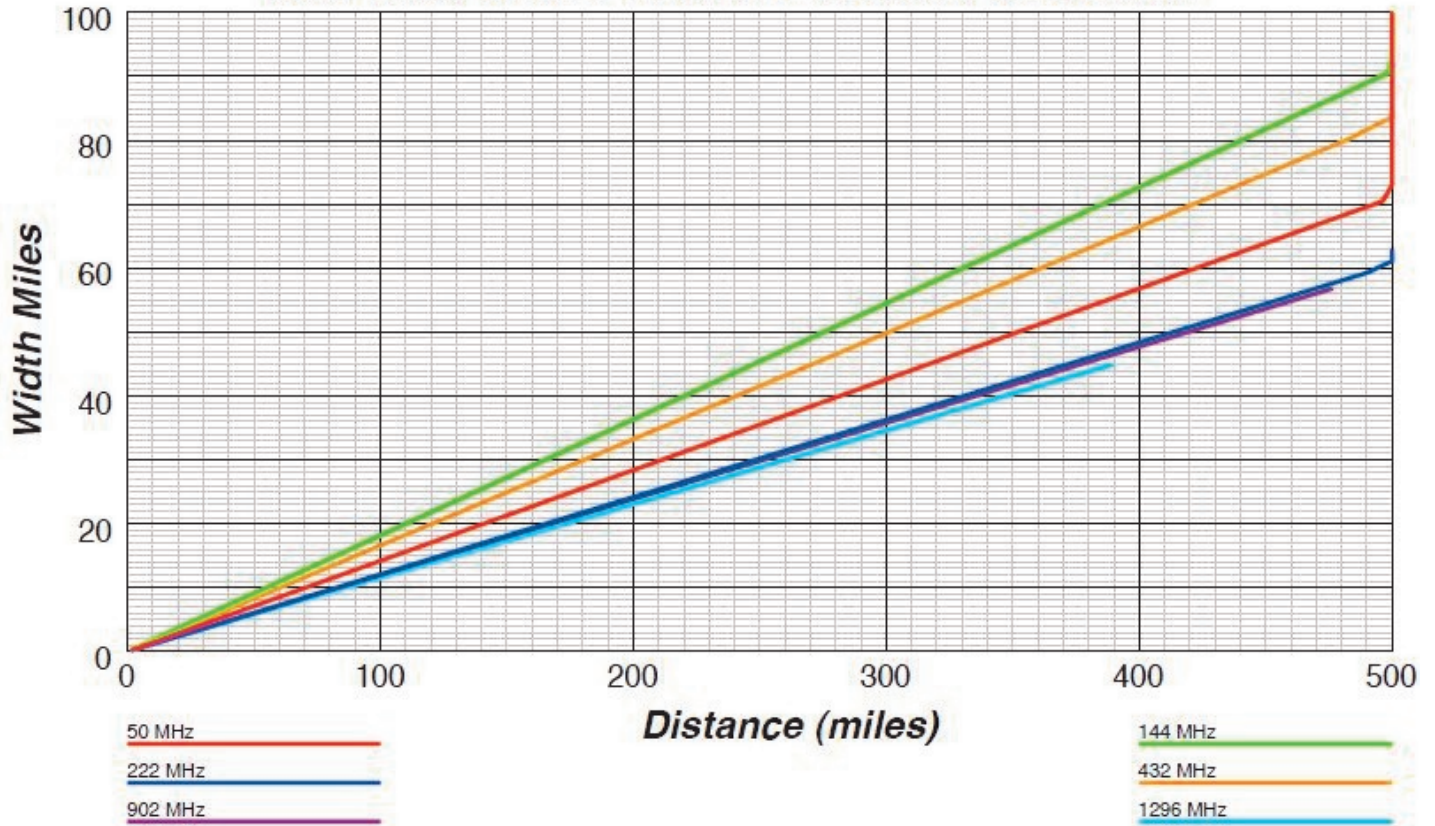
In order to make the responses easier to follow some smoothing was done to the distance data. As a consequence, for example, on 6 meters there are approximately 290 Contacts at a distance of 200 miles, 308 contacts at 180 miles and 241 contacts at 220 miles - this does not mean that there are 839 contacts between 180 and 220 miles, since all three regions overlap with each other. The first two figures show how wide the various QSO regions are for the different bands as a function of distance. Subsequent plots compare the actual distance for the 2016 and 2017 contests on a band-by-band basis. **It is worth noting that the weather was excellent (moderately warm and clear) for the 2016 contest while there was considerable drizzle and relatively heavy fog, locally, for the 2017 contest.**

As a final point, one could consider if the scheduling of contacts during the contest prevented a more dismal contest in 2017. ---WA3RLT

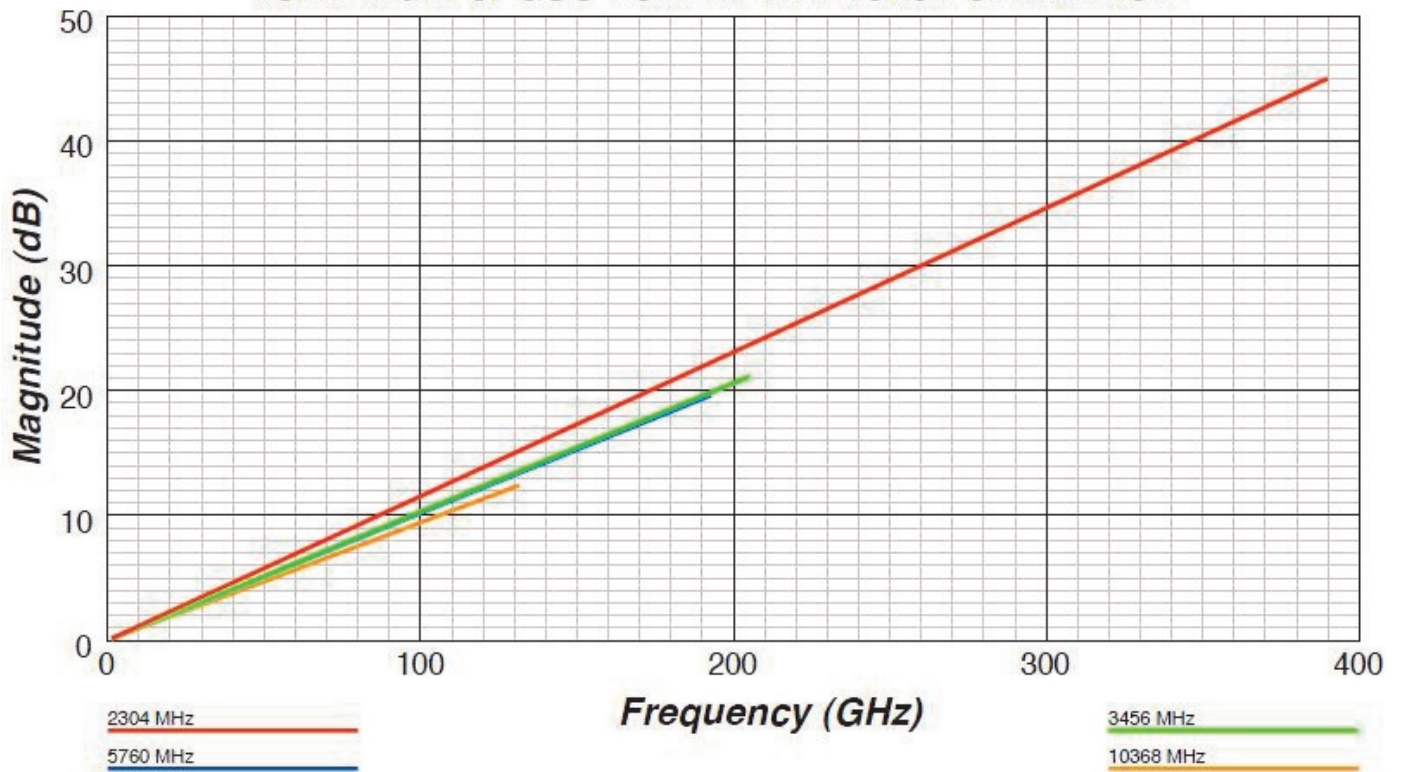
Table summarizing activity between fixed stations during the January 2016 and 2017 ARRL VHF contests.

Band	2016				2017			
MHz	Logs Fixed	QSOs Fixed	Max. Miles	Median Miles	Logs Fixed	QSOs Fixed	Max. Miles	Median Miles
50	52	3315	1205	44	53	3672	1204	53
144	58	4010	8373	48	57	3852	8686	51
222	46	1416	409	37	47	1402	421	38
432	52	2103	4409	40	52	1976	4008	41
902	23	404	295	40	24	299	386	41
1296	30	596	379	40	31	499	318	43
2304	17	196	280	32	20	194	318	32
3456	15	168	280	32	14	87	171	32
5760	9	50	169	44	9	35	161	41
10368	10	60	124	41	11	41	111	29

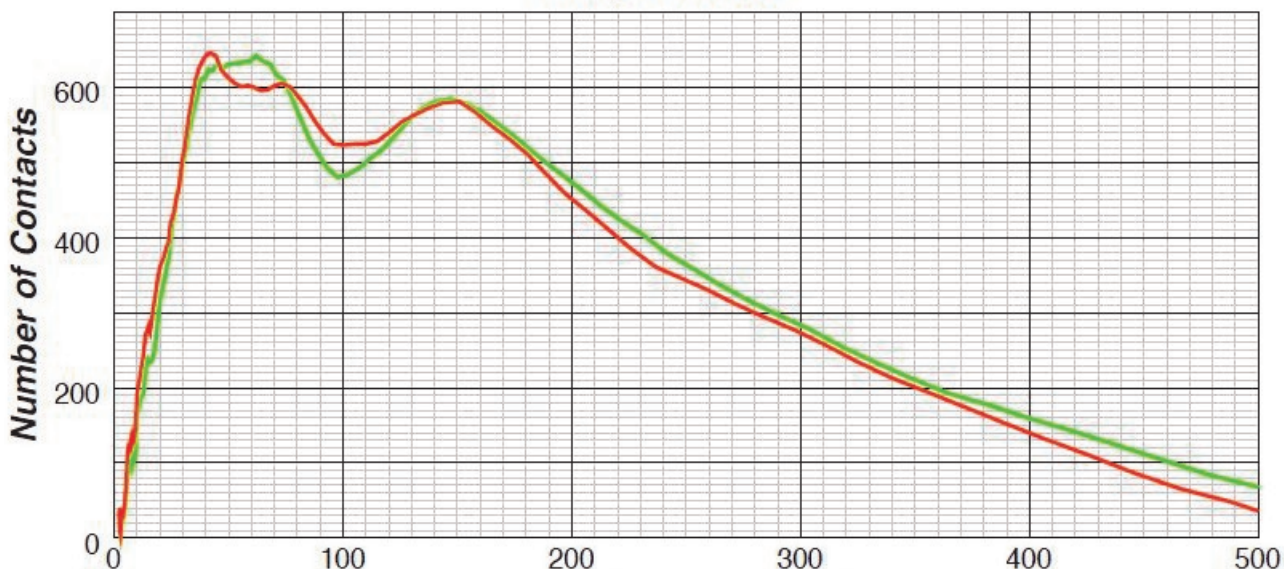
Total Width of QSO Zone as a Function of Distance



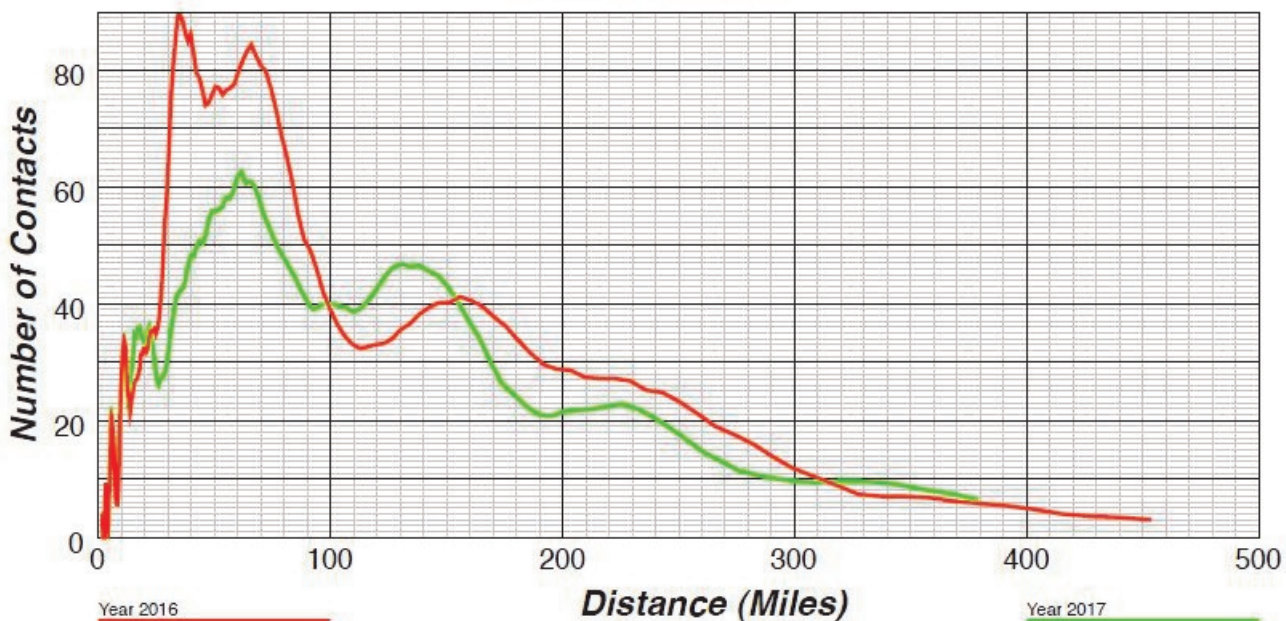
Total Width of QSO Zone as a Function of Distance



**Comparison of the Number of Pack Rat Contacts in January VHF Contests
Band 144 MHz**



**Comparison of the Number of Pack Rat Contacts in January VHF Contests
Band 1296 MHz**



The above graphs are for 1 VHF and 1 microwave band. They are two of the 10 bands analyzed in Ben's write-up. A PDF of the complete set of graphs for all the bands (and in higher resolution) is available from the editor. A few things that I see right away that these graphs show is that stations are not at all evenly spread across the landscape and they also show a bit about the propagation characteristics of each of the bands, (and equipment capabilities) of the stations. Email me and I'll send the complete set. --W2BVH

NN3Q/R IS GOING SOLAR

The NN3Q/r rover has gone solar! For years we wanted to keep the batteries up to charge as well as reduce the sulfation factor of stored batteries. This can easily be done by running an extension cord out to the rover van and using a good quality battery charger to keep the 320 AHr battery bank up to specs.

While pondering our options the idea came to me to use the existing solar panel fasteners on the garage roof (alongside which is the parked rover van), and install two small PV panels along with a small charger capable of the charging duties. A previous PV roof mounted system was moved to a field adjacent to the house, thus allowing snow removal in the winter -- keeping the PV system fully functional. So the panel fasteners were a prime choice, and ready for the reinstallation of some new panels. This way 'Ol Sol can be used for our charging source rather than PPL.

Two PV panels and a "Brat" solar charger were selected. The Brat (midnightsolar.com) is a compact, very sophisticated device enclosed in a weather proof acrylic box with numerous capabilities. The box is mounted on the outside of the garage and fed with the + and - from the two 230 watt (40 Vdc) panels simply connected to the charger. The system is set up like an off grid solar system. That is a system that does not connect to the electric grid, and has as its components solar panels, a charger/controller, batteries, and a load. The panels feeding the Brat Solar charger keep the batteries up to full charge. It also automatically monitors the battery bank, and when appropriate places the charger into a "trickle" charging mode. When necessary it switches back to bulk charging.

While the charging system is setup to have the batteries discharged during evening hours, we do not use that feature, and only call upon the Brat to keep the batteries up to charge and keep the sulfation away. So far so good!

This simple system can be created and added to any home station allowing operation during power outages allowing normal communication or for civil emergency operations (ARES/RACES).

73 AI K3WGR (1/2 NN3Q/r)

Angle Sensor

Rich, AB3RK reports that an angle sensor and display unit is available at <http://www.machine-dro.co.uk/catalogsearch/result/?q=Angle+sensor>

This may be useful for antenna elevation measurement / reporting. The price seems reasonable, though I'm not sure what shipping cost / customs (if any) would be from UK.

Check it out and see what you think.

--W2BVH

Info on New 10 GHz Transverter

The new 10 GHz transverter that I presented at the 2017 Eastern VHF/UHF/Microwave Conference is now on my web page: www.w1ghz.org

PC boards are available.

I've also attempted to modify the colors to help the visually impaired, according to Lighthouse International guidelines. Please let me know how this works -- it isn't consistent yet, so some choices may be better than others.

73 Paul W1GHZ

Packrat Chat Room Has A New URL!!

As many of you know, when I set up the Pack Rats' Chat Room last year I used the URL w3sz.com as the entry URL because [1] I already had the domain w3sz.com registered to me and [2] I thought that it would be easy to remember for all Pack Rats.

However, I have been surprised by the number of Pack Rats who cannot remember that the chat room URL is w3sz.com [don't worry, your secret is safe with me]. So I decided to see if I could change the URL to something even easier to remember, something like "W3CCX". I figure if someone can't remember the club call sign then that person is not likely to be able to make use of the chat room, either!

w3ccx.net was still available as a Domain, so I have just purchased it and redirected it to the PackRats' Chat Room.

So now to get to the chat room you can just type "w3ccx.net". For the time being "w3sz.com" also works, but I plan to disconnect that link soon, so I would recommend that everyone start using "w3ccx.net" to access the chat room. NOTE THAT THE SUFFIX IS "**NET**". Hopefully everyone can remember that the suffix is "net" since what the chat room really is, is an online net.

73 to all, Roger W3SZ

Connector Repair

I don't suppose I am the first one to do this, but I repaired a female N connector on my 7/8" hardline. The center pin had broken off. I thought it was pretty slick how I did it, so I will post it here.

I recovered a center pin from a broken, cheap Chinese adapter. With a Dremel and cutoff wheel, I dressed the broken stub of the pin. Using the flat side of the cutoff wheel as a mini-grinder and a jeweler's file, I reduced the diameters of the new pin and the old stub slightly. Then I removed about a quarter inch of UT-141 Shield and slipped it over the two pieces and soldered.

The finished product is strong and should last through many matings.

Now I know that altering the geometry of these connectors changes the impedance, so I measured with my caliper to see just how badly I had altered the impedance. I used the well known $138 \log b/a$ formula to calculate the new impedance. I found some surprising results. An original, unaltered connector yielded the value of 55.35 ohms. With the repaired connector having a .141 center diameter now, the value calculated to be 52.75 ohms. What!!? Do you mean to say that I actually improved the impedance with my repair? I doubt it very much. The SWR and loss measurements on the repaired cable show no significant degradation, compared to the original. I will accept it for what it is. I have avoided buying another connector to repair this cable run.

73,

Dave, K4TO

HK1TL EME Transmitter Details

As a follow-up to last month's article on the 41st anniversary of the Packrat HK1TL EME operation, I've "stitched together" this article from some correspondence between myself and Bill Olson K1DY. --Lenny W2BVH

The original transmitter was what we had at the time that we thought would be reliable. It was a boat anchor that Walt had: crystal controlled exciter driving a 4CX300 power amp with all power supplies built in. The exciter might have been a taxicab rig I'm not sure... It all fit behind a 10" high rack panel. Definitely not state of the art but it gave us no problems whatsoever. The power amp was totally state of the art, 8938 triode in a "K2RIW" style 1/2 wave stripline tank circuit configuration. (8938 - 1.5 KW plate dissipation at 3.5 KV). It was easily capable of making 1.5 KW. The tube we had conveniently "fell off a truck" for the Colombia amp many months before the trip.

We were pegging a 1000 watt slug on the Bird key down, but of course on CW the "average power" was who knows, much less than that for sure.



In this pic you see the 8938 amp in the center, on the floor. Behind Ate's legs is the 3KV HV power supply. To the left of the amp is the 100 watt all tube exciter partially concealed. To the right is a pair of Drake 2B's (one spare) that worked with a Parks converter (state of the art at the time) and a bipolar preamp at the antenna ~ 1.5dB NF was what we were using. We had spares and that was good because we blew a few. Feedline was maybe 40 ft of 7/8" spiroflex on transmit, 1/2" foamflex on receive and a pair of Transco Y's for T/R relay up top. Pretty straight forward actually.

Bert K3IUUV reports: I think (but am not certain) that I have the original front end of the transmitter here in the basement. If it turns out that I do, would it be of interest to anyone?

CRESCENT SUPERMOON VS. FULL MINI-MOON:

The Moon's orbit is an ellipse, with one side 50,000 km closer to Earth than the other. This has an effect on the apparent size of the Moon. The lunar disk grows larger when the Moon is nearby and smaller when far away. In the past two weeks we have witnessed two extremes--a crescent supermoon followed by a full 'mini-Moon.' Peter Lowenstein of Mutare, Zimbabwe, photographed them both:



"The size difference was so great, the crescent Moon of May 27th could hold the full Moon of June 9th with room to spare!" says Lowenstein. "I took these photographs from the same location in Mutare using the same optical zoom setting (x60) on the same Panasonic Lumix DMC TZ-60 camera within two hours of moonset."

Some people say that mini-Moons and supermoons all appear to be the same size. After all, there are no rulers floating in the sky to measure lunar diameters, and without reference points to provide a sense of scale, one Moon can indeed look much like any other. However, Lowenstein's photo shows there is a real difference.

(From the Mid-West VHF/UHF Society's "Anomalous Propagation" newsletter of June/ July 2017)

SAVE THE DATE
MID-ATLANTIC STATES VHF CONFERENCE

Friday October 6--Sunday, October 8, 2017

*****PAPERS AND PRESENTATIONS SOLICITED NOW*****

Register on-line at www.packratvhf.com

Conference Early Bird** Registration only \$40

Saturday Evening Early Bird Banquet \$40

Contact Rick1ds@hotmail.com or www.packratvhf.com

Friday Afternoon seminar "Station Automation"

Friday evening hospitality and table-top selling

Saturday conference presentations & auctions

Registration includes pizza lunch and snacks

Rohde & Schwarz Technical Testing Room

Saturday evening Banquet buffet dinner with door prizes*

Sunday morning free outdoor mini-flea market

TENTATIVE SPEAKERS AND TOPICS:

Roger Rehr	W3SZ	Station Automation Seminar (+K3TUF & WA3DRC)
Phil Theis	K3TUF	Automation for VHF/UHF/uW Contesting
Jerome Byrd	K3GNC	"Apartmentyranous 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
Joe Jesson	W2JEJ	Dongle Developments
Al Katz	K2UYH	Getting started on microwave EME (+K1DS)
Joe Horanzy	AA3JH	Talking on 440 THz- Easy LASER! (+AC2CL)
Michael Davis	KB1JEY	Enhancing your Test Bench Capabilities
Ray Golley	N3RG	Practical Solutions for Station Automation
Steve Simons	W1SMS	RF Tower Safety and Construction
Pete Kobak	K0BAK	Rover Adventures and Automation
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.**

On The Bands

By Jerome Byrd – K3GNC

Tropo Scatterings:

Summer has delivered better tropo conditions and an abundance of 6 meter E-Skip as promised. The June VHF Contest was once again a 6 meter contest with the band being open most of the contest weekend. Anyone who put in a few hours probably got more grids on 6 meters than they did on all bands in the January contest. For the first time in my ham radio career I had a “decent setup” with 350W to a 3 element beam. Not being a seasoned 6 meter operator I missed a lot and didn’t CQ enough, but I had fun!

The morning 2 meter “woof” hunt (400+ mile contact) continues. I work N1GC (em95) and K8TQK (em89) every morning we are all available. Ray, N3RG is also a regular working the above two and more when possible. W1VD works K8TQK almost every try and that is a 560 mile path and so does Jeff, K1TEO when around.

We have the 222 and up Distance Contest and the September VHF Contest coming up, but it is not too early to think about the 2018 January Vhf Contest. Adding bands dramatically helps your score and the club’s score. However, if you truly want to improve your score you must put out the strongest signal possible on 2 meters! You can have 2-10 bands but without a strong 2 meter connection to the dx station you will never even get to run those 2-10 bands. If you don’t have a strong 2 meters signal CQing will become frustrating and you will return to hunting and pouncing. How many times have you been on a frequency when you hear some “big gun” working some 350+ mile station and you hear them too, but you can’t get your call in with a powerful enough signal for the dx station to catch it before leaving to run the bands, never to be seen again? I realize other life activities take precedence over ham radio but .. if you can go big on 2 meters, do it!

My parting thought is that the competitive among us will or already have moved towards digital modes. However, cw is still extremely important and underutilized by many of us. You are still 10 times more likely to setup a schedule during a contest on cw than on digital for 2 meters and up.

**** Please edit your QRZ.COM page to at least list your station rundown (see Aa2uk, K3tuf, Wb2rvx, etc.)**

Nets and Scheds: The following is a rundown of the nets and group meetings in the ‘local area’ (<= 250 miles, only nets that don’t conflict with the Packrats nets are shown).

Mondays: 2130 local – 1296.110 (group sched with Wa2ltm, K1pxe, Wz1v, N2slo, Wa2onk, wb2sih, W2bvh, K3gnc and others. All are welcomed.

Tuesday: 2000 local – “Mudtoads Net”, Kd8ud fm17uv net control. 144.175, All are welcomed.

Wednesday: 2030 local - 432.150 – group sched, Wa2ltm, K1pxe, Wz1v, N2slo, Wa2onk, wb2sih, K3gnc and others. All are welcomed.

Thursday: 2030 local - 144.250 – N.E.W.S club net, W1cot fn31st net control. All are welcomed

Saturday: 2130 local -144.205 – Chesapeake Net, W3BFC net control. All are welcomed

Sunday: 1030 local – 144.250, Sunday Morning Memorial Net, Bill AA2TT fn30br net control, All are welcomed, 2030 - - 432.150 – group sched, Wa2ltm, K1pxe, Wz1v, N2slo, Wa2onk, Wb2sih, K3gnc and others. All are welcomed.

...Cont’d next page

The Lunatic Fringe:

“If you can’t hear them, you can’t work them”. My setup is 2 x 8el yagis (equivalent to a single FO15) with rotatable polarity and 700w using Jt65B. It’s very rare that I answer a station calling CQ who doesn’t hear me. When I call CQ, however, I never see many of the stations answering my call. Sometimes it is Faraday, but the sad fact is most other committed eme stations hear better than me. Right now my rx system noise figure is about 1.5 db which isn’t good for eme. Because of my noisy environment I saw no urgency to place the LNA at the power divider instead of in the shack where it is now. I will be activating an LNA at the power divider soon, and I suspect it will be a significant improvement, noise or no noise. I will report my findings in the September report.

EME Tidbits – For the first 6 hours of a moon-pass Europeans stations are available. The next 3 hours are limited to NA and SA. The final 3 hours feature the Pacific islands, AU, ZL, Japan and the far east at the very tail end of moonset.

Until next time please stay/get radioactive!

73 K3GNC

Submitted to
Cheese Bits
by K3IUW

History of Amateur Radio Call Sign

W3CCX

Issued To:

MT. AIRY VHF RADIO CLUB

Previous Holders:

1923, 24, 25 and 26
HORACE G. NOCH 2200 N. THIRD ST. HARRISBURG PENNA

1930
HARRY ADELMAN 118 S. FIFTEENTH NEWARK N.J.

1932, 33, 34 and 35
CHARLES ABRAMS 228 FITNEY AVE. ATLANTIC CITY N.J.

1948, 49, 50, 51, 52, and 53
MATTHEW GELARDI 5301 LEBANON AVE. PHILADELPHIA PENNA

1954, 55, 56, 57 and 58
MATTHEW GELARDI 2606 HORSHAM HATBORO PENNA

1960 to 1998
MT AIRY VHF RADIO CLUB
CURRENT ADDRESS 209 FROG HOLLOW RD. CHURCHVILLE PENNA

Attested To by: *RAell* W3OR 9/30/98



I was excited to receive this trophy plaque from the Italian Radio Association for my efforts on 2304MHz CW EME last fall. The plaque was given to Norm Fusaro W3IZ, the ARRL Affiliated Club Mentor Program Manager, who was able to get it for me while attending the European radio convention in Friedrichshafen, Germany in July. **--K1DS**

Single Yagi Moonbounce

There’s a very nice article on single yagi moonbounce on the internet (sort of an extension of K3GNC’s “Ankle Biter” articles from a few months ago). See <http://ve7sl.blogspot.com/2016/02/single-yagi-moonbounce.html>

The Wayback Machine In CHEESE BITS, 50 Years Ago

Nibbles from August 1967. Vol. X Nr. 6
de Bert, K3IUV
(*author's comments in italics*)

- **“Our Prez Sez”**. A surprise letter of resignation by Helen (Mother Rat, xyl of W3SAO) headed the first page. Helen was the creator the club paper “Cheese Bits” in 1958. She served as the editor and frequent contributor. She cited “reasons beyond her control” as the reason for resigning. In response, the new Prez W3LHF, Dave thanked Helen for her long years of service, and her success in “building the paper to its present size and enviable position among radio club papers.”
- **New Members**. 5 new members were voted in. K3DUC, Phil Delano; WA3HIT, Paul Rilling, WB2NOK Bob Jaep, K0ZZM, Chuck Bemavides, and WB2IOE, Lou Arnao.
- **ARRL Bulletin. Number omitted**. A reminder about the many operating aids available free from the ARRL. These included, for example, Pointers for Good Operating, WAS map and card record, phonetic alphabet, and a long list of others. (*Most of these are still readily available from the ARRL.*)
- **Insurance Reminder**. From another club paper, a reminder to make sure your automobile Insurance covers mobile rigs and equipment. Many do not, without specifically adding these items to your policy. Also, record the S/Ns of your equipment to aid in recovery if stolen. (*Still a good suggestion.*)
- **Transmitter Hunt report**. 6 and 2-meter transmitters were hidden by K3UJD “The Ivyland Kid” and Walt, K3BPP (does Walt remember that day?). Hiding place was in Furlong, on a dog farm. The hint they gave out was “the place is going to the dogs”! The first finders were the father / son team of Pres, W3MFY and Dave, W3CAG. Elapsed time, 45 minutes. The second team consisted of Mort, WA3BPS, and our auctioneer El, K3JJZ. Their time was 1.5 hours. There were no hunters on two meters. As first in, Pres and Dave get the honor of hiding the rigs the next time!
- **Oscar Report**. W2AXU, Jack, provided a detailed status report on the Oscar building projects in progress at this time. These included Euro-Oscar (designed by DJ4ZC) and Australis Oscar, a beacon and telemetry satellite designed to operate from non-rechargeable batteries for an expected life of several weeks. It will be used for testing control stations and telemetry reception. Other designs in progress were described.
- **Packrats Picnic Reminder**. The 12th annual picnic was scheduled at the Fort Washington State Park on August 13th. Entrance fee, \$2 per family. Children’s prizes for the games.
- **Technical Article**. “Why not improve your low power dummy load”? An interesting article, borrowed from the SJRA newsletter “Harmonics”. Common practice was to use a #47 bulb as a

dummy load when testing rigs. The author expounded on the non-linearity of the bulb's impedance, and offers suggestions for using different bulbs which would operate in a more linear manner. Measurements and circuits were shown. *(Side note. In lieu of today's inline wattmeter [everyone uses them], we commonly would use a small coupling loop placed near the final tank circuit to pick off a bit of power and drive a bulb. The bulb was mounted through the front panel using a rubber bushing. Worked well to tune the final, for "maximum brilliance". Different power levels were accommodated by changing the spacing of the coupling loop.)*

- **Humor?** A minute by minute description of his travails in getting home in the midst of heavy rain and flooding, by our Humorist, EI, K3JJZ. He reports on contacts made with W3CL and others, using his Heathkit "Sixer", trying to get a message to his wife at home. *(Long before today's cell phones, which we now take for granted. If you want to laugh along with EI, read the full article in the issue posted on the W3CCX website.)*
- **Saved by a Rat.** In the same rainstorm, packrat Alan, K3AUH came upon a car sliding down Edgehill Road into an intersection 5' deep in water. Four children were in the car, with their mother. Without hesitation, Al swam to the car, managed to open the rear door and get two of the children out. He swam back to a nearby gas station with them, then returned to help the mother with the other two children. A hero's medal to Al!
- **ARRL Headquarters Visit.** A reminder

to make your reservations for the planned visit to ARRL headquarters in September. Total cost was \$12.00 p/p, which includes dinner. *(Do you remember when things were that cheap?)*

- **Swap & Shoppe.** For sale: 4CX250 in sealed envelopes. \$6 each. Contact EI, K3JJZ.

Miscellany. *Postage remained at 10c this month (5 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

Still Available 222 Power Amp

"That online auction site" still has a 222 MHz power amp for sale . Currently at 213 MHz, it makes 20000 watts and is housed in three 6 foot rack cabinets. This is likely to make your signal more noticeable in the next contest. See it at <http://www.ebay.com/itm/20KW-200-MHz-Cyclotron-Driver-220-Ham-Radio-AM-FM-Station-Transmitter-Amplifier-/302027783200?> Note: criminal defense lawyer not included. (Tnx W3CMP for URL!).

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."

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.

Reading Radio Club - Hamfest - August 5, 2017. Sinking Spring, PA. See <http://readingradioclub.org> for details.

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.

Mid Atlantic VHF Conference - Conference - October 6-8, 2017. Details to follow

RF Hill ARC - Hamfest - October 15, 2017. Sellersville, PA. See <http://www.rfhillarc.org> for details.

Microwave Update 2017 Call For Papers

The MUD 2017 program committee is now calling for papers and presentations on the technical and operational aspects of microwave amateur radio communications. Tell us about your latest project, design or operating adventures. The technical program will take place Friday and Saturday, **October 27 and 28, 2017**, in Santa Clara, California.

Please click on the >> Call for Papers << link on the MUD webpage to learn how to submit your paper and presentation. Surely you have something new and exciting to share this year! Submissions are due in the first week of September, but please send a short email to mud2017.papers@gmail.com sooner with a proposal. Don't wait until the beginning of September to let us know what you're planning! Papers may be submitted even if there will not be a presentation, with the same publication deadlines. **Mike Lavelle, K6ML, MUD 2017 Technical Program**
mud2017.papers@gmail.com

Suggested topics include:

- * Centimeter, millimeter, submillimeter and light wavelengths
- * Antenna and feed design, simulation, construction, measurement, application
- * Microwave building blocks (LNAs, PAs, LO chains, Mixers, Synthesizers, Filters, etc)
- * Transverters (single and multiband)
- * Software defined radios
- * Fixed station, Rover and Beacon design, packaging and operation
- * EME, Satellite and Earth station design and operation
- * Operating techniques, software and other aids
- * Weak signal propagation modes and enhancements
- * Digital modes for weak signals or data communications
- * CAD tools (preferably free or low cost) for circuit, antenna, path and system simulation and design
- * Homebrew designs with modern commercial components
- * Or – suggest your own topic

Lunar-Link International

VHF & UHF amplifiers
for demanding modes

50 - 144 - 222 - 432 MHz

EME - Digital - Contesting



www.lunarlink.com

info@lunarlink.com

33 Ball Pond Road Danbury, CT

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

Did you know?

(From K3IUUV's archives)

50-years or more a Packrat:

W3GXB, Bob. 1957 (60 years)

K3BPP, Walt. 1959 (58 years)

K3IUUV, Bert. 1959 (58 years)

K3IPM, Stan. 1961 (56 years)

K3JJZ, El. 1961 (56 years)

WA3EHD, Jim. 1965 (52 years)

NR6CA (ex WB2SZK), Randy. 1967 (50 years)

G AND G ELECTRONICS OF MARYLAND

JEFF GOLDMAN, K3DUA

PO Box 222

Lisbon, MD 21765-0222

(301)258-7373

EMAIL: k3dua@erols.com

-Dealers in New and used electronics-



Bob Fischer Company, Inc

Eastern Van Ladder Sales Representative

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

283-B Egg Harbor Rd. #125

Sewell, NJ 08080

(800) 852-0120

Cell: (609) 440-2916

bobfischercompany@gmail.com

Bob Fischer

DESTINATIONS TRAVEL

A Full Service Travel Agency

HARRIET SOLTOFF

Travel Consultant

XYL, K3IUUV

229 Fairway Dr

Warminster, PA 18974-3797

Phone: 215-957-6084

Fax: 215-957-6085

E-Mail: BSoltoff@Comcast.net



Joel Knoblock W3RFC

www.therfc.com

The R.F.Connection

213 N. Frederick Ave. #11WWW

Gaithersburg, MD 20877 USA

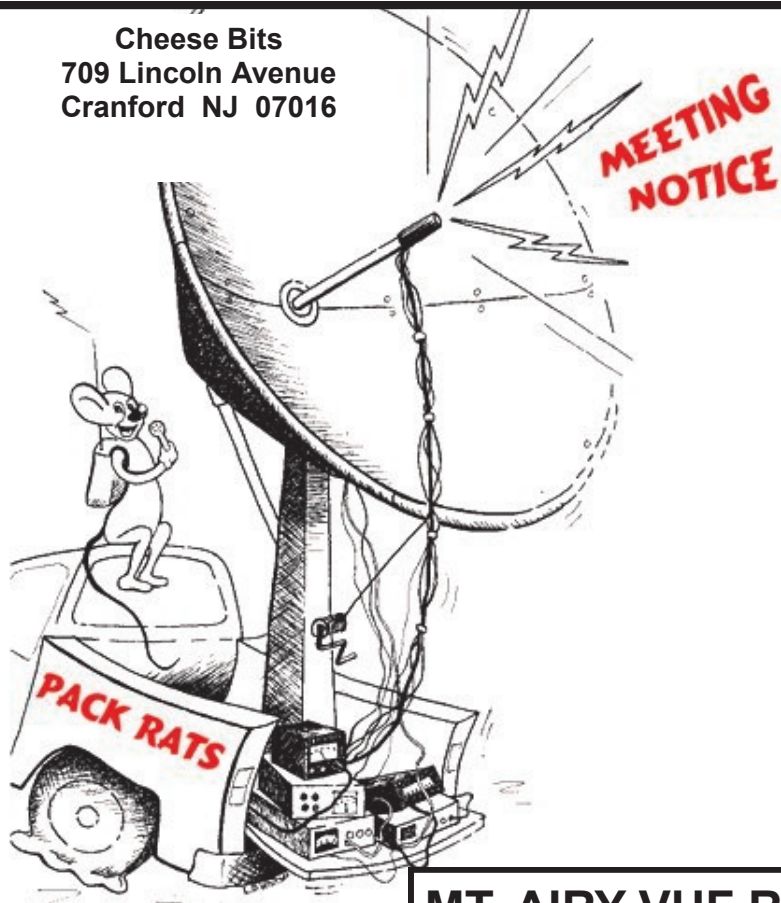
World wide shipping via FED-EX or US Post Office

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

Fax Line 301/869-3680

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

Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016



TO:

MT. AIRY VHF RADIO CLUB, INC.

DOWN EAST MICROWAVE

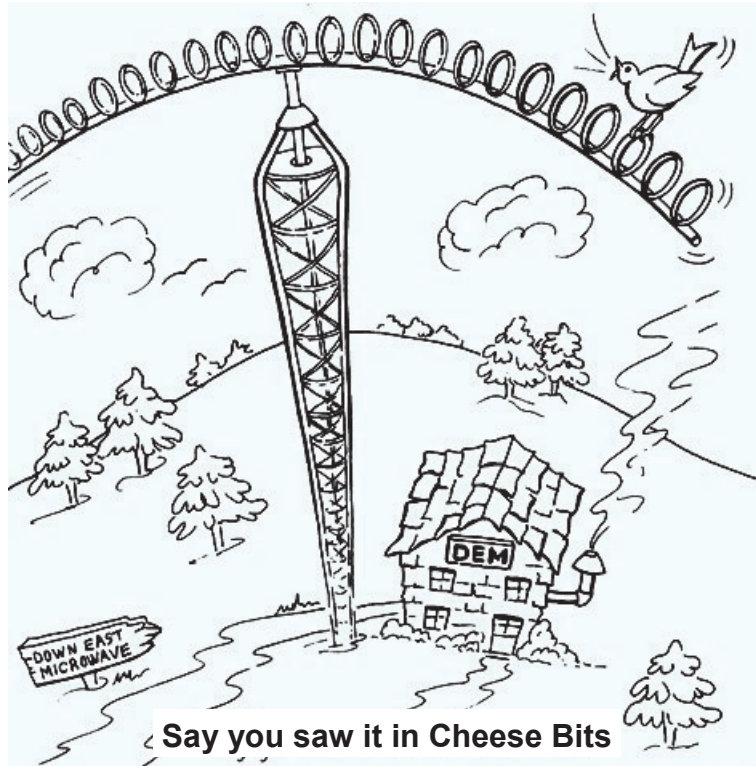
Manufacturers and Distributors
Of VHF/UHF/SHF Equipment and Parts
50 to 10,368 MHz

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

For All Equipment
Steve Kostro, N2CEI

<http://www.downeastmicrowave.com>

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



Say you saw it in Cheese Bits