



CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL
Affiliated
Club



Volume LXV

July 2022

Number 7

PREZ

SEZ:

. This column is my introduction to fellow Packrats as your incoming President. Over the past couple of months, I have considered what to share in my inaugural column. The first part relates how I became a ham and ultimately a Packrat. The second part is what I hope to accomplish as your president.

I have been a ham for only two decades. As a teenager, I was fascinated by Lissajous figures, dancing panel meters, and blinky lights as featured on the sci-fi TV shows of my teenage years. I started building Heathkits with my father as a teen and continued the building hobby when I left grad school and moved to Connecticut in the late 1970s.

I was also an avid cyclist and eventually found myself running the American Diabetes Association Tour de Cure Bicycle Ride presented in Middletown, CT. A problem we encountered was that analog cellphone coverage was impeded by the hilly terrain. The Middlesex Amateur Radio Society (MARS) supplied a 2 meter net but there were never enough hams for full route coverage. I asked a couple of MARS leaders about how to become a ham. Shortly after I was licensed as KB1JEY with an ICOM IC-T7H "walkie" and Mirage BD-35 amplifier.

In 2004, I began working for Aetna in Blue Bell, PA. A friend suggested that I meet one of the medical directors, Rick Rosen K1DS. Rick cultivated my interest in weak-signal VHF and sponsored my Packrat membership. In short order, I acquired the elements for my radio station, which includes a 54 foot crank-up tower, a Elecraft K3S transceiver, an assortment of DEMI transverters, and a complete collection of tools and test equipment. I also assumed a variety of Packrat roles. Among those roles: "logowear" procurer, picnic host, and elected club roles as director and recording secretary.

I did not seek the role of Packrat President. I recovered from major cardiac surgery in July 2021 and work six days per week. However, I successfully faced challenges similar to those facing our club. Several years ago, I became president of the Congregation Beth Or Brotherhood when a Bob Cohen, friend and mentor, shared his fear over breakfast at Pumpernick's Deli that without a president, the Brotherhood might cease to exist. I stepped up. My greatest satisfaction was that capable officers succeeded me and the Brotherhood became more vibrant after my tenure.

George KA3WXV recently asked me what my presidential program would be. I answered that my major goal was to recruit future Packrats leaders to succeed us as club officers. Radio

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-at-gmail.com

EDITOR:

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

TRUSTEE OF CLUB CALL - W3CCX

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

W3CCX QSL CARDS:

Bill Shaw K3EGE

PACKRAT 222 MHz REPEATER - W3CCX/R

222.98/224.58 MHz (PL 136.5) Hilltown, PA

OFFICERS 2019-2020

PRESIDENT KB1JEY Michael Davis president-at-packratvhf.com
VICE PRES: N2DEQ Mike Andrayo vicepresident-at-packratvhf.com
CORR. SEC: WA3EHD Jim Antonacci correspondence-at-packratvhf.com
REC SEC: KA3WXV George Altemus secretary-at-packratvhf.com
TREAS: W3KM Dave Mascaro

DIRECTORS:

K3JJZ El Weisman
WA3YUE Bruce Loss
KB3MTW Michelle London
KC3BVL Jim Huebotter
Honorary Director Bob Fischer W2SJ

COMMITTEE CHAIRMEN

January Contest OPEN
June Contest 2020: OPEN
June Contest Technical Chair Phil K3TUF phil-at-k3tuf.com
VHF / MUD Conference: Phil K3TUF / George KA3WXV
Awards Chairman OPEN
Quartermaster: Bert K3IUV bsoltoff-at-comcast.net
Membership Chairman: Michael KB1JEY kb1jey-at-arrrl.net

PACKRAT BEACONS - W3CCX/B

Located at FN21be except 2304 which is at FN20dh
50.080 144.300 222.062 432.290 903.072 903.3 1296.264 2304.3
3456.200 5760.3 10,368.3 MHz (red = temporarily off the air see <https://www.packratvhf.com/index.php/on-air> for details)

MONDAY / TUESDAY NIGHT NETS

VHF/UHF Monday:

<u>TIME</u>	<u>FREQUENCY</u>	<u>NET CONTROL</u>
7:00 PM	224.58R MHz	WR3P FN20kb Ralph
7:30 PM	50.150 MHz	N3RG FM29ki Ray
8:00 PM	144.150 MHz	K3GNC FN20ja Jerome
8:30 PM	222.125 MHz	KC3BVL FM29jw Jim
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

club leaders rarely declare their willingness to serve. “Broadcast” recruitment over email reflectors or during meetings often fails to uncover good candidates. I also add that I do not wish for the Packrat leadership to be viewed as a clique. If you aspire to a Packrat leadership role, please let me know!



Amateur radio is a hobby. Club membership is voluntary. I cannot coerce fellow members to do anything. My “call to service” pitch typically starts with a reminder that club participation is optional, should be personally satisfying, and also fun. The side benefit of my technique is that I uncover club members interested in filling other needed roles in our club. My follow-up question becomes “how can we help make you successful?”

I have met most Packrats in person and visited more than a few of their radio shacks and workshops. As Recording Secretary, I know a bit of Packrat history. I plan to put that knowledge to good use. Do not be surprised to receive a telephone call from me!

73,
Michael KB1JEY



All endeavors need a good foundation

JUNE MEETING PICTURES





Mt. Airy VHF Radio Club, 'The Packrats'

June 2022 VHF Contest

Total Logs: 36

Club Claimed Score: 2,289,856

Nr	Call	QSO's	Total-Grids	Score	6M	2M	222	432	902/3	1.3 GHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	24 GHz	Laser
1	K1TEO	1186	401	653630	672 206	230 54	72 33	92 37	34 21	46 20	25	8 8	7 5			
2	K1RZ	563	257	238496	185 85	138 43	66 30	83 35	28 19	29 15	22		4 4	8 8		
3	N3NGE	426	246	108486	262 183	150 53	7 5	6 4		1 1						
4	KR1ST	400	201	85425	317 154	62 31	7 6	10 6		4 4						
5	WA3DRC	259	163	47596	168 117	58 26	17 10	16 10								
6	N2SCJ	303	136	47192	158 100	105 27	11 2	25 4		4 3						
7	K3MD	-	-	30888												
8	K2TXB	220	137	30140	136 102	84 35										
9	W3ICC/R	238	73	29711	71 29	58 12	30 7	40 9		18 5	19 4			1 1	1 1	
10	W2BVH	198	114	27930	120 72	46 20	8 5	12 7	4 3	5 4	3 3					
11	N8MP	200	110	22000	200 110											
12	K1DY	174	119	21896	158 106	6 5	5 4	5 4								
13	W2KV	175	89	16910	114 66	46 14		15 9								
14	KC2TN	144	103	15656	121 83	15 12	5 5	3 3								
15	KA3FQS	138	68	13532	59 35	34 12	16 6	17 7	3 2	5 3	3 2	1 1				
16	N2DEQ	146	75	12750	104 56	24 8	4 3	8 3	3 3	3 2						
17	N3ITT	162	76	12388	99 52	62 23		1 1								
18	WA3EHD	159	71	12070	134 63	14 4	6 2	5 2								
19	W3GAD	109	64	11584	43 27	18 8	15 7	14 6	6 5	8 6	3 3			1 1	1 1	
20	WA3GFZ	127	81	11178	109 66	7 6	5 4	6 5								
21	K1DS	114	67	8442	97 54	8 4	2 2	4 4		3 3						
22	W3HMS	103	64	7232	65 40	29 17	4 3	4 3		1 1						
23	WS3O	76	35	3395	36 23	21 6	6 1	11 4		2 1						
24	N3PLM	75	32	2496	49 18	23 11		3 3								
25	WA3WUL	54	43	2322	54 43											
26	WB2RVX	28	21	1260		6 4	6 4	7 4	4 4	4 4			1 1			
27	W3KM	47	25	1225	42 21	3 2	1 1	1 1								
28	K0BAK	33	27	891	33 27											
29	WF3W	37	13	481	37 13											
30	KB3MTW	31	6	228		14 2	8 2	9 2								
31	K3IUV	18	6	138	1 1	12 3	3 1	2 1								
32	W3RJW	12	6	72	12 6											
33	N1XKT	9	7	70	9 7											
34	NE3I	6	6	42	4 4	1 1		1 1								
35	N3FTI	4	3	12	4 3											
36																

Multi-OPS

Nr	Call	QSO's	Total-Grids	Score	6M	2M	222	432	902/3	1.3 GHz	2.4 GHz	3.4 GHz	5.7 GHz	10 GHz	La-ser
1	W3CCX	1078	325	444275	682 189	207 49	46 20	78 24	15 10	15 7	18 10	6 5	7 7	4 4	
OPS Ops: K3JJZ KA3WXV KB1JEY KB2AYU KB3SIG KC3BVL N3RG N3YMS W2SJ W3JG W9KXI WA3YUE WX3K															
2	N2NT	1039	330	377190	642 228	293 60	47 23	57 19							
OPS Ops: N2NT N2NC WW2Y															
3	N3EXA	316	131	42837	233 101	72 24	5 3	6 3							
OPS N3EXA KS3Z															
4	KC3TQT	16	8	128	16 8										
OPS KC3TQT NE3I															

Members Outside Club Circle

K1DS operated in EL96, K1DY operated in FN54, N8MP operated in EN91
Score and log count not added to Club totals

Mt. Airy VHF Radio Club, Inc. `The Packrats`

June VHF Contest: QSO's with Packrats + Nr. Of Packrats Worked

Total Logs: 33

Total Packrats: 53

Nr	Call	Op	Pwr	QSO's	Total 'Rats
1	W3CCX	MO	HIGH	170	46
2	W3ICC/R	RO	HIGH	170	14
3	K1RZ	SO	HIGH	105	19
4	N2NT	MO	HIGH	98	34
5	W3GAD	SO	HIGH	75	20
6	N2SCJ	SO	HIGH	67	27
7	KA3FQS	SO	LOW	65	16
8	N3EXA	MO	HIGH	54	28
9	WA3DRC	SO	HIGH	52	16
10	N3NGE	SO	HIGH	52	26
11	N2DEQ	SO	LOW	50	24
12	W2BVH	SO	HIGH	44	18
13	WS3O	SO	LOW	40	14
14	KR1ST	SO	HIGH	39	20
15	WA3EHD	SO	HIGH	36	25
16	WA3GFZ	SO	LOW	34	14
17	N3ITT	SO	HIGH	29	21
18	K2TXB	SO	HIGH	28	20
19	W2KV	SO	HIGH	25	12

Nr	Call	Op	Pwr	QSO's	Total 'Rats
20	WB2RVX	SO	HIGH	25	6
21	KC2TN	SO	HIGH	24	14
22	N3PLM	SO	LOW	17	12
23	W3KM	SO	LOW	16	11
24	W3HMS	SO	HIGH	16	8
25	WF3W	SO	LOW	14	14
26	K3IUV	SO	LOW	14	8
27	KC3TQT	MO	LOW	5	5
28	K0BAK	SO	HIGH	3	3
29	N8MP	SO	HIGH	3	3
30	W3RJW	SO	LOW	2	2
31	N3FTI	SO	HIGH	2	2
32	K1DS	SO	LOW	2	2
33					
34					
35					
36					
37					
38					

Tnx **Dave W3KM** for processing log data used in the Contest Tables !

JUNE CONTEST CAMELBACK PICTURES





June VHF Contest Reports

From K3MD

Score: 30,888 19 Hours operation

From K0BAK

Pete's original (pre-contest) disappointment:

Covid finally got me a few weeks ago. While the worst symptoms were not fun, they were mostly done in about 9 days. I thought I was on the way back and had some hope I could complete the remaining work on the van in time, but a relapse of significant fatigue and inability to concentrate makes that impossible now. Hope you all have fun in the contest. I will be a sad ham this weekend.

Followed by:

I was glad I realized that some of the pay-to-play remote stations I can use ("Remote Ham Radio") include 6m, so I was able to participate in the contest on that one band. I picked a station that was well within the club participation circle in FN31eb (not that my tiny score makes any difference to the club score). My original goal was to at least contact W3CCX, but didn't hear them until 2:30 Saturday, in the meantime making a few other contacts. A couple other sessions yielded a few more contacts, though the usage charges can run up quickly and I find it hard to concentrate so wasn't on for long in total. Had an unusually (for me) high ratio of grids to contacts: 33 Qs in 27 grids all PH. I was glad I could minimally participate after all, but it sure wasn't the four-band 30' high rover I was aiming for. Thanks to the W3CCX planners, builders, and operators for your huge effort for the club.

From WA3GFZ

Worked many stations on 6 meter sideband with my small tower. 46 sideband QSOs and 33 grids. Got tired of doing FT8 so it was a nice to converse with humans.

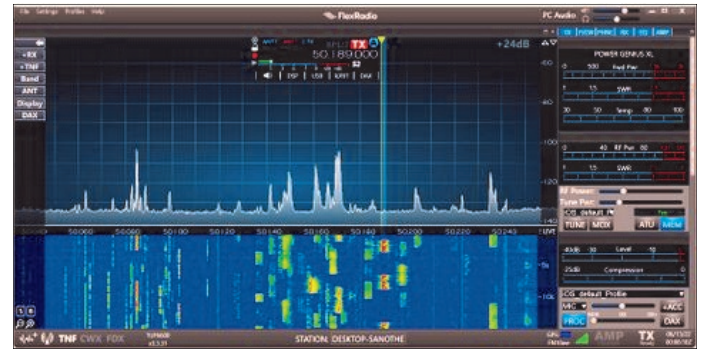
From WS3O

My plan for the June contest was to rove to FN11uj, FN10xu, FN21ef, and FN20gx. But, that got changed to operating from home, due to family scheduling issues. So it goes. I managed to get on the air with 50, 144, 223 FM, 432, and 1.2G. This was nice, as it has been a long time since I had that many bands up. The only problem was that my antennas have been geared for hiking to mountain tops. Thus, the masts are short, the antennas are compact. This put them

fairly low to the ground, in all the tree-clutter. In spite of this, I scored better than I have for a while, 3395 pts. Also of note, I made no digital contacts. I didn't even try. I have nothing against those modes, I just didn't feel like looking at the computer this weekend. No regrets. I still had fun.

From K3TUF

Lots of 6M FT8 along with CW. Remember that mode?



From N2SCJ

6m open most of the time

From WA3DRC

This was a fun contest! 37% analog 62% digital. Worked 20 different countries not including USA

From W9KXI

By far the best day was Sunday during the evening opening. I worked ~3 a minute for 2 hours without a break. Digital was the mode on Saturday. I decoded several JA stations before working one and then (as so often happens) ... the connection went away. [See Al's article elsewhere in this month's Cheese Bits]

From KB2AYU

Thanks to all who made the trip to the mountain. Overall things went pretty well. A few equipment problems required some "innovative" solutions. There are some changes to make so that things will run even smoother next year. Kudos to several of our "elder statesmen" who spent the whole 4 days there.

From W2BVH

The contest started out inauspiciously. My first Q attempt was 2 meter phone with WB2CUT and he reported distortion on my signal, so bad it was barely readable (from around 8 miles away). I checked the barrel connector between the power amplifier and the antenna and it was tight, but it's a very old one so I swapped it out for a cheap

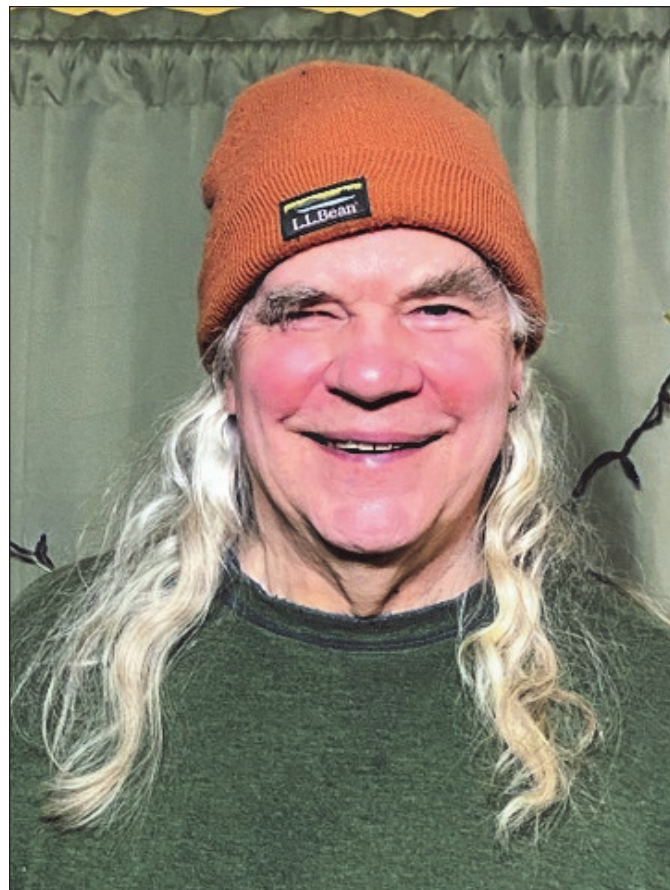
Chinese one. That didn't help. I removed that one and put a Bird meter inline to see what kind of power I was making and the Bird had no indication on it. The meters on the power amp were showing too much plate current. I wasn't looking forward to swapping out the 2 x 4CX250 amp for a spare brick. Before I did the swap-out I decided to check the rest of the jumpers leading to the antenna and found a loose connector shell on the lightning arrester. After I tightened it all was working perfectly. I have no explanation of how the shell could have loosened up since it's back against a wall where nothing touches it. And I was on the 2M sprint in May and it worked fine then. Who knows? This whole thing cost me 1 1/2 hours. Some brighter notes: 6 meter band noise was much quieter than it's been in years for most of the contest (it came back up to its normal, horrible self around 9pm Sunday). I had no rf feedback on 6 meter FT8 for the whole contest. This is something that's been dogging me for years. I have no explanation why it went away, but I'll take it! The 6 meter opening all of Saturday and on Sunday afternoon was very welcome and helped a lot. It completely distorted any semblance of a plan I had for the contest (such as picking up W3ICC/R on many grids) but it was good chaos. Another positive event: I was able to complete a 2.3 G QSO with W3CCX, and very uneventfully. This is only the second time (that I remember) I've been able to work them on 2.3G. Also, once W3CCX was able to fix their 1296 problems Sunday afternoon I completed with them on that band as well. I worked many more FT8 QSO's than I had expected to, but I'm not complaining at all. Summary: 198 Q's (including 4-5 dupes) and around 28K points. And most importantly, it was a lot of fun!

From K1DY

Whew, Well I had a bunch of stuff to do both days so it was a stretch to get in even my 8 hours of operating time. In that 8 hours 6 meters was always open somewhere, North America, Europe (and nearby Northern Africa and West Asia), and South America. I saw Korea and Japan Sunday afternoon, but had to



leave the shack and they were gone when I got back.. So for me this was truly a SIX METER contest. It was hard to justify leaving 6 as the q's and grids just kept piling up!! I made about half my 6M qso's on SSB and half on FT8 with all of the phone contacts being in the continental US. All the DX was on FT8. A half an hour before I



quit Sunday evening I went to 2M/222/432 and announced on ON4KST chat to give my grid to some of the "regulars". That was all on SSB... I will say this, I made 80+ 6M qso's in an hour on SSB. My guess is 40 new grids. It took the rest of the time (6 hours+) to make 80 Q's on 6M FT8, though I worked a few more grids on FT8. That certainly confirmed, to me anyway, that when the band is OPEN it's much more efficient to be on phone (and if you want to hunt grids, or work DX, FT8 is probably the place!! I did have to remember to get out of NA contest mode when working DX on 6, that incompatibility was a bit of a pain.

From W3HMS

Got 64 grids across bottom 4 es 1296. Worked 7 Euro stations on 6 m. Six were new which brought my DX worked total to 37.

From K1RZ

It was an amazing June Contest in every way. Lots of DX and grids on 6m, plus SSB activity. Es on 2m. Enhanced propagation on all bands different times of the weekend. A fun time to operate. Thanks to all Rovers too. In my log I had KD3PD, N9ZL, W3ICC, NN3Q, KF2MR, N2XRE, KM4OZH, W2RMA, W4IU, K3XY, W4YN, N4QX, N0LD, W5TN, NV4B, and KA5D. I know everyone really appreciates the enormous effort that all of you Rovers make to get on the air for the contests. It was good to see the multi-ops back in force after in some cases being off from your regular locations in recent years. Those I see in my log include W3CCX, W4IY, W3SO, W2SZ, K8GP, N2NT, W2RME, VE3MIS, VE3WCC, W2LV, AA4ZZ, W3RFC, N8GA, KV1J and K5QE. It is clear here to me that this June contest is one of the most active in recent years. Many thanks to the ARRL for sponsoring the contest and to everyone who got on and made some noise. Thanks for all the contacts my friends. CU in August.

From KC3TQT and NE3I

Members of the RF Hill Amateur Radio Club's "Field Expeditionary Deployment Squad" ("FEDS"), deploy to local parks most Sunday afternoons for a couple hours of HF and VHF QSOs. The second Sunday in June being the VHF Contest, field operations at Franconia Community Park, Harleysville, PA, focused on VHF/UHF activity. The photo below shows NE3I's Home Brew "Tilt Up Mast" and antenna system. From the ground up you'll see a 2x6 under the rear tire with swivel base bracket, 5 of those 4 Foot aluminum Military Surplus poles that many of us have, a TV Rotor, a 6/2 duplexer for single feed,. NE3I's Home Brew 2 Element 6 Meter "Ham Stick" Yagi, all of this topped by NE3I's "Two Element VHF/UHF Fan Dipole Driven Element Yagi." The TEVUFDDEY was featured in last month's Cheese Bits. Power for the rotor was supplied by the NE3I Jeep Cherokee's built in inverter. The photo shows Griff NE3I, wearing a Pack Rat shirt and holding the mast while Bryan KC3TQT, secures a guy line. Long time Pack Rat Dan, WA3NFV, (in blue shirt) looks on. Bryan, KC3TQT, is a brand new Technician and got his first experience with VHF Contesting. Using Bryan's TS 480 with 25-50 watts output, the KC3TQT Multi-Op Team made 17 Local

and Sporadic E range 6 Meter Contest QSOs. The Team's initial Q was with the W3CCX Expeditionary Force on Big Pocono. At least half of this Multi-Op Operating Team were Packrats, (NE3I, maybe WA3NFV overseeing counted too) The KC3TQT Multi-Op log was submitted affiliated to The Mt. Airy VHF Radio Club. NE3I made a few Qs later from his separate mobile station and submitted a second modest log for Packrat Club credit as well. Thanks for the Qs.



- Notes from a “New Pack Rat” – My first Camelback experience

AI – W9KXI

Most of you know that this was not my first VHF/UHF “multi” contest experience. Until 2018, I worked all of the contests with K2LIM (before that KA2LIM).

Below are random thoughts, experiences and comments. The order presented here does not reflect their significance to me.

Full disclosure. After proof reading my own text a dozen times, I find that I have invoked the name “Ray” numerous times. This happened quite by accident and (as much as I would like to) was not intended to embarrass my good friend Ray Golley.

I operated the contest in the 6M position. I was pleased (and excited) to be asked by Ray Golley to participate and operate. On Saturday, when Ray started out at 2pm, we (he) had some logging problems as the computer locked up and he had to log by hand until everything could be rebooted. Whatever it was that Ray did to the computer, it was really good (bad?) as even Task Manager would not work. I followed Ray on Saturday (it was, perhaps, late afternoon). By the time I was in the chair, the mode was definitely FT8.

There were a couple of highlights worth noting on **Saturday**: 1) I was fortunate enough to have the Best DX for the contest – Japan and 2) the computer didn’t lock up on me. At some point, the band opened to Europe and I saw that Ray worked Switzerland.

Ray had brought an FT-817, computer and Halo combination so that FT8 activity could be monitored, irrespective of the mode we were currently running. It was a great help to understand where the action was but also verification of where to point the beam.

Sunday: the mode to be on was definitely USB. Ray was “runnin’ ” what seemed to be an endless stream of stations and then the computer locked up again. It was impressive to watch as Ray worked stations, paper logged, rebooted a reluctant computer and reloaded software. I really don’t recall how long Ray was in the seat but it was shortly after 7pm when it was my turn. It was...unbelievable! No! It was...

UNBELIEVABLE!!! I was running 2, 3 or 4 a minute! I don’t know which and I don’t care which it was. There were a lot. They had to be at least 8 deep. My usual reaction to SSB operation is to stop and chit chat with the person I’m working. I now had to suppress that urge because this was all about production. Maximize production for those stations calling W3CCX. I knew that if there was “chit chat”, the “pool” of callers would go away. I kept encouraging them to “*stick with me; I’ll get all of ‘yuh’.*” By 9:15 or 9:30 (had it really been that long??) it was time to get out of the chair. It took until after 10:30pm for my adrenaline “rush” to wear off.

Random comments about the contacts that I had:

I have been licensed since 1960. Historically, 6M has not been my favorite band. At K2LIM/KA2LIM I avoided the band. Repeat: Avoided it! Think: less than 1 hour total in 15+ years of operating with K2LIM. Having said that, in the last 2 to 4 years, my activity on 6M (at home) has ramped up considerably and it is where I have spent the majority of my operating time for the past 2 years. This was not the first time that I have experienced being inundated with callers. It was the second time. The first, and only other time, was during a 10M contest at K2LIM. I have never had the

New Packrats
cont'd...

same experience on 2M, but I do look forward to that day.

Among the swarm of callers was K9EID. And just in case I didn't already recognize that call and voice one of my callers announced to the world "...hey! That's Bob Heil." I broke my own "rule of production" and did talk with Bob for a short bit.

Then there was the guy with a dipole in his attic and running 100 watts. He is in the log! Work the weak ones! No matter how long it takes.

And there was the guy with just a modest wire antenna, which I worked.

The three guys (recognizing the W3CCX call) who sent general greetings to the Packrats.

A QRP station.

The station which I logged as "/M", because he was in his car, even though he was in his driveway.

Two operators who gave the wrong grid square. – Both were US call signs. One a "5" station indicating that he was an **Echo Delta** grid?

My personal objectives for this contest were these:

To get to know some of the Packrats better.

To have some of the Packrats get to know me better.

To have fun.

To contribute significantly to the contest score.

I had a successful experience at Camelback.

JUNE VHF CONTESTING FROM SOUTH FLORIDA

This is the first time since we have moved to Florida that I remained here for the ARRL June VHF Contest and not roved or participated with the W3CCX activity on Camelback. The Boca Raton ARA has a nice air-conditioned big trailer that is complete with 6 operating positions. There are two towers and many antennas from 160m through 23cm (1296MHz).

My first experience in VHF contest down here was with WA2VNV as a multi-op this past January. Before George headed back north, he gave me a full orientation to all of the gear so that I could manage the 5 VHF bands: 50-144-222-432-1296 as a single-op. I also made it my business to operate the station in the week prior to the contest to assure things were all in working order. I was pleasantly surprised as 6m was open to Europe for both of the days that I was testing. I was hoping that we would have similar Es for the contest weekend.

As our club trailer is situated on the grounds of a county park, it is open from dawn 'til dusk, much as Camelback. And similarly, there is a gate and lock in a



Florida cont'd...

cage for which club members have a key. I decided that it would be best to operate from 2-7PM on Saturday and again from 8-11:30AM Sunday as we had other activities planned and were also packing to head north for a month.

The contest activity did not disappoint. As most of you did, I spent most of the operating time on 6m FT8 with openings to the Caribbean, Mexico, the Midwest, New England, Canada and some Europe. My 100W and the 6 el beam seemed to work well. I saw posts of stations calling W3CCX but never did see a decode of a signal sent by the club station. I did manage to work WA3EHD and K3MD as my only contacts in FN20 and FN10.

I did get to run the 5 bands with DEMI's Steve Kostro in Live Oak, FL, EM80. That was the first time that Steve and I had an intrastate QSO.

On Sunday morning I was delighted to work several stations on 6m SSB as conditions were excellent to the west. There was CW activity on 6m also, but neither the usual 1/4" nor the 1/8" key plugs would fit into the jack on the back of the IC-7300. Can someone tell me what fits there? Or did I blindly find the wrong receptacle?

The only glitch of the station was that the cabling of FT8 for the 144/432 transceiver was moved as there was a new computer installed on the 144-1296 bench. They also replaced a switching PS with an Astron 30A linear supply, but when I tried CW on 2m with the 150W SSPA, the rig balked at the low voltage and shut down. Not a big deal as there is so little VHF activity in Southern Florida. I managed to only have 7 QSOs on 144 plus two on 222, four on 432 and three on 1296. That left 6m as the workhorse band and I wound up with a little more than 8,000 points. I can't wait to see how everyone else made out. 73, Rick

K1DS

Central States VHF Society Conference

We'd love to have you attend. We'd especially like you to bring microwave gear for show-and-tell and QSO's in the park (and possibly further).

Lodging is the tough spot. Our event hotel is full or nearly full. But there are still many rooms available in the city of La Crosse. You'd just have a short drive to the event.

Start by going to <https://2022.csvhfs.org> . (Use a laptop or desktop-the website is not mobile-ready.) Look at the tabs to learn what we have planned for the conference. There are some options to consider on our Lodging tab.

SHF 3456 K "No-Tuned" 3400 MHz Conversion Comments from AF1T

This conversion article was inspired by the **Down East Microwave Design Notes # 39 (March 20, 2021) and # 40 (April 1, 2021)**. My transverters are all 1989 vintage from SHF Systems (WA3ETD) of Nashua, NH. These are older than the DEMI versions. These old units had unstable MAR-series MMICs, which must be replaced with ERA-series MMICs (these did not exist in 1989), as per the **"2304 and 3456 No-Tune Transverter Updates"** by Steve Kostro, N2CEI, in the 1996 Microwave Update Proceedings. The Local Oscillator chain should use an ERA-2 driving an ERA-1 between the two hair-pin filters. The MMICs needed for the Received chain will depend on whether you use an external pre-amplifier. The MMICs needed for the Transmit chain will depend on how much RF power you need out of the transverter. **Please read these articles!**

My main unit replaces the KK7B Local Oscillator and XVTR x 6 multiplier chain with a DIGI-LO. This is the best and easiest route to go. Since I didn't want to spend much on the loaner rigs I have the other units use relatively inexpensive 90.44444 MHz crystals.

Jim Davey, WA8NLC, (now, K8RZ), is responsible for the original hair-pin filter design (my article and one of the references has his call wrong). Rick Campbell, KK7B, came up with the 540-580 MHz Local Oscillator, as well as many other projects. Their work made it feasible for many of us to get on some of the exotic bands!

So, how did my 3400 MHz efforts pay off ? In the June, 2022, VHF Contest, I made 11 contacts in 6 grids from FN43 in New Hampshire using my main rig with the DIGI-LO and the loaner rigs with crystal LO's. The best DX was W3CCX in FN21.

Here are some useful modification notes for these rigs:

In the June 1989 issue of QST, WA8LNC described a practical circuit board transverter for 3456 MHz. This board was paired with a local oscillator (LO) as described by KK7B's in the July 1989 issue of QST. Some time later SHF Systems of Nashua, NH made available boards and parts for the above in kit form. I have built dozens of these units for various people and suspect some units may still exist. The recent loss of 3456 MHz band segment has prompted conversations about moving operating activities elsewhere within the band. Based on these discussions I have successfully converted **four** of the above transverters successfully to 3400 MHz: One incorporating a DIGI-LO synthesizer, and three using a crystal-based oscillator and multiplier circuits. The following article presents comments I believe are important to the conversion process. I hope others will find them useful.

As described above, the older MAR-series MMIC devices could not provide sufficient stability for 3456 MHz use so they were replaced with the newer ERA-series devices. Additionally, the x6 diode multiplier was replaced with a ERA-3 harmonic generator, which requires much less 552 MHz drive from the LO board. This allows elimination of the MAV-11 power stage. The MMICs in my units receive power from an +8 voltage regulator. Good voltage regulation keeps the output level constant when operating from battery supply. For each ERA-1 and ERA-2 stage, I used a 120 Ω , 1/4-watt carbon resistor; for the ERA-3 stage I used a 150 Ω resistor. If you prefer to use a 9-volt regulator, the corresponding value for the ERA-1 and ERA-2 stages is 150 Ω . For the ERA-3 stage the value is 180 Ω . In the Down East Microwave Design Notes, dated March 20, 2021 and April 1, 2021, DEMI suggests replacing the multiplier and oscillator circuits with a DIGI-LO synthesizer unit, which can be configured for 3256 MHz output (note 3256 MHz + 144 MHz = 3400 MHz). I did this in one transverter with excellent results. To replace the multiplier and oscillator circuits with a DIGI-LO, I added a 60-mil (0.060 in) wide piece of copper soldered

to copper micro strip line for all the 552 MHz to 3312 MHz x6 multiplier parts.

I found the DIGI-LO delivered plenty of drive (-2 dBm) with up to 6 dB additional attenuation. The attenuator didn't offer noticeable improvement so I left it out.

The DIGI-LO can be reused for many other programmed frequencies for possible future use, a definite advantage. The remaining three transverters I converted used 90.44444 MHz crystals. One crystal, now unobtainable, is a HY-Q fifth-overtone unit with a 60° C heater. The other two HC-49/U (wire lead) fifth-overtone, ±3 ppm, 0 to 50° C types came from Krystaly located in the Czech Republic (www.krystaly.cz). Cost was very reasonable, US \$15 each, plus \$8 shipping. The HY-Q crystal netted right on frequency, but the Krystaly crystals were high in frequency, meaning that the 144 MHz IF must be tuned lower by 20 to 30 KHz. This a minor inconvenience for loaner rigs—I attached a frequency offset label for operator convenience. In general, I found attempting to net the Krystaly crystals to the proper frequency sacrificed stability.

Note the crystal frequency multiplication factor of 36. The DEMI transverters use 184 MHz crystals and Micro LO oscillators. This requires a crystal change to 180.88888 MHz to provide the needed 3256 MHz local oscillator frequency. Making these adjustments can be difficult and may lead to unreliable oscillation. **The DIGI-LO route is the way to go**, all things considered. An HP 8595E spectrum analyzer provided by KB1QV simplified the conversion. Be sure to note the various spurious responses, LO feed-through, IF image levels, etc. before starting the conversion process. Comparing this information with the converted transverter (3400 MHz) will help determine the new unit's overall performance.

The overall frequency shift is about -1.6%. The KK7B 552 MHz local oscillator board will probably work well at 542.6666 MHz without modification, other than removing the MAV-11 stage. If the local oscillator board will not produce approximately 0 dBm (1 mW), try placing a few copper "snowflakes" on the filter lines. This may increase gain by a couple dB.

Some 5-pole hairpin filters had to be lowered in frequency to work well at 3400 MHz. The DEMI Design Notes describes "snowflake" tuning, but that I found dielectric loading is an easier approach to lowering the microstrip's frequency response. For this I used 1 inch wide, 2 mil (0.020 in) thick orange Kapton tape cut into 1 1/8 in x 3/4 in rectangles placed on the filters. This size will cover each filter completely. Add or remove tape as required to peak the filter's response. Scotch transparent tape will work as well, but it is harder to remove. Since no separate port to test the 3256 MHz local oscillator exists, I looked at it though the powered transmit chain and electrically peaked the LO filters for maximum LO signal on the spectrum analyzer. That completed, I applied 0 dBm (1 mW) 144 MHz drive to the transmit mixer port and peaked the transmit filters for maximum 3400 MHz output. The goal here was to place the desired 3400 MHz signal barely into the low-frequency part of the pass band of each filter while attenuating the 3256 MHz local oscillator and 3112 MHz image signals as much as possible.

Adding too much dielectric will lower the filter pass band range excessively, thus allowing undesired frequencies to leak through. The actual transmit output level at 3400 MHz differed between transverters since the MMIC lineup was not identical across units. The transverters drive amplifiers, which require only -10 dBm to 0 dBm input. The receive chain incorporates (unfortunately) only one filter, which is preceded by one or more RF stages. I gained several more dB of noise (and weak 3400.1 MHz signal) with a single layer of added Kapton tape. In all cases, loading the three hairpin filters nearest the mixers and power divider increased performance significantly at 3400 MHz. The transmit output and local oscillator input filters benefited much less. I hope you are able to resurrect some of these old transverters

Field Day Report

By Jim KC3BVL

A few months before Field Day, Phil-Mont RC Prez Jim AJ3DI asked if i would like to be VHF band captain for his club.

I would ride the tent on bicycle and take public transportation to the Field Day site: 2 miles to 30th St Station and 2 miles from station to the state park. Bill W3AOK offered to provide a 5 element Yagi and tri-band vertical antenna on a 'rocket launcher' mast, Armstrong rotated and fed with 9913 to a Yaesu FT847 radio.

Packrats President Michael KB1JEY offered to assist in any other way possible from set up to take down; providing laptop, signalink, mobile radio, generator, batteries, inverter and countless other comforts.

Arriving to erect the mast, I found Steve K3FZT had set up a screened gazebo over a picnic table for the VHF station. Shortly after setting up my tent, Clint WB3EHB was running the OMIK club net which Phil-Mont links to their networked club repeater.



As is usually the case in the field, there was trouble. When the squeak for help was sounded, Packrats scurried from their cheesy lairs and arrived as if to the deck of a sinking ship. They came fast and furious like waves of infantrymen onto the beaches of Normandy. There was George, Gus, Pete, Tom by telephone, and Alex on the air. There were others who's contributions will likely remain unknown.

ARRL vice-director Bob K3RF stopped by demonstrating ability to provide more ham related info per sentence than most hams can in a paragraph all while kissing babies and shaking hands.

You may know the Jim AJ3DI theory of operating: try something, have fun and don't be afraid to break (your own) stuff. I tried Field Day, had fun and punctured the front tire of my folding bicycle.

If you want to hear more about it, you will have to check into the Packrats Monday night 222.125 sideband net at 8:30 where I am your humble servant of ceremony.



ARRL Field Day 2022 VHF

Always have a plan B. I operated Field Day for about an hour from an old familiar rover site—the Nike Park close to Blue Bell. Plan A was to be a trip to Rhode Island to operate with the Providence Radio Association. They would be operating 3A from Beavertail, the southern tongue of Jamestown Island, looking out to the Atlantic Ocean through the opening of Narragansett Bay.

There is an old naval bunker that has observation windows that look out to the water for detecting foreign craft. There are also two large 4-legged towers for antennas and plenty of generator power. I operated there for several years with the PRA when I lived in RI. The caretaker for the property was a member of the PRA.

Per the poet Robert Burns, the plans of mice and men often go astray. We drove north from Florida and spent 5 days on the road with stops to see our friends and family and also a tourist stop at Monticello, Thomas Jefferson's mountain-top mansion in Virginia.

We pulled into Blue Bell at our summer rental, unpacked, and went to visit our daughter and her family for dinner. The next day she called to tell us she had Covid symptoms and a positive home test. The following day her children all tested positive too. Then my XYL developed symptoms and tested positive. We cancelled all travel plans and notified our friends and relatives in RI who were also experiencing Covid.

We quarantined ourselves for the next few days and I did not have symptoms or a positive test, so put my TS2000x and antennas for 6m and 2m in the car and headed to Nike Park to get on the air and make a few Field Day contacts. The location has recently been repurposed as a place for dropping off gardening debris and getting mulch. There was a sign on the gate that showed open hours from 11A-2P. No longer can you drive up to the top of the rise, although you could walk there.



I chatted briefly with the attendant and agreed to just park the car in the corner of the lot and set up the tripod and the antennas for an hour.

In the first 15 minutes of Field Day, I heard several stations on 6m SSB, but none responded to me until Phil, WA3NUF advised me that my signal was “motorboating” and likely had a power supply issue. I recognized immediately that the voltage output from the car battery was low and when I cut back the output power from 80 to 20 watts, everything worked fine.

I managed to make five 6m SSB QSOs and just two on 2m. The highlight was working my 1st harmonic Leon, N1XKT on both bands as he had his mobile “1C” category vehicle, visiting the Warminster group at Washington State Park. It was hot, the bands were quiet and I had proven my emergency communications capability, so I shut down, packed up and headed back into our airconditioned apartment. 73, **Rick K1DS**

Joe Keer W3KJ (KU3T, WA3LCB) SK

Joseph "Joe" Stafford Keer, 68, died at home in Souderton, PA on June 8, 2022. He was the husband of Peggy (Wright) Keer, to whom he was married for 43 years. He held various technical and engineering positions after he attended Penn State University. During his career as an engineer in the aerospace industry he was particularly proud of his role as final test engineer for the Landsat 7 satellite project. Landsat 7 provided images to NASA that were used by NOAA and USGS. He was a lifelong ham radio operator and his calls included WA3LCB, KU3T and his current W3KJ.

In the late 60s and early 70s, Joe was a fellow member of Amateur Radio Explorer Post 6 in Whitpain Township and we participated in many fun Field Days and even a June VHF Contest, in the field with Packrat and Mentor Bill Murphy, K3ZSG now, W0RSJ. Griff NE3I

This is sad. Although I haven't seen Joe for a number of years, he was previously a faithful Packrat. I got to know him well when we spent time at a Packrat conference in 2002. RIP Joe. Phil K3TUF

I did a lot of contesting with Joe, especially the 10GHz and Up. On our first rove with the van, you may remember that it lost the transmission driving up the Camelback road. Joe helped Leon and I empty out the radios and loaded them into Joe's vehicle so the van could be taken for repair. Before I sold my home in Blue Bell, I visited with him and sold him a 2m multimode rig that he was using to help get his on the air. He had significant medical issues that developed and he drifted away from club activity. Fond memories of our group 10GHz treks with WA3GFZ too as we did several grids together in NJ and PA. Sad to lose him. Rick K1DS

That is sad news indeed – I do remember Joe. 73, Steve W1SMS

Joe Keer was a great guy. Like all of us, I will miss him a lot. Joe, K1JT

Joe lived only a short distance away and was very helpful in getting my 1296 & 2304 station operational. We used to talk almost every night on the upper bands. However, We had lost touch in the past few years. I will always remember the call "Kilowatt Joe" that came with his last call sign. RIP. Chris - N3PLM

Blast from the Past

July QST came today. On Page 92, there is a scene I remember from over 50 years ago:

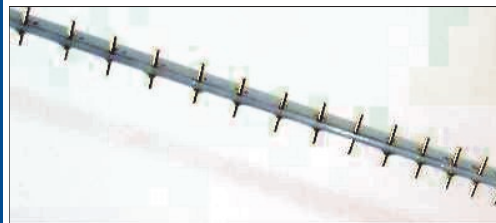
Dick Knadle, K2RIW, showed up at our Antenna Measuring event in NJ and put together his 12 foot stressed dish to measure at 1296. In the photo, a skinny Dick is aiming the dish.

Looking on is Dick Turrin, W2IMU. On the dish is the first example we had seen of the now famous IMU dual-mode feed.

RIP, Dick and Dick

73
Paul W1GHZ

Here are a couple of photos 10GHz yagi. These were sent to Cheese Bits by Packrat Al Katz, K2UYH. The boom on this 72 element antenna is 80 cm (31 inches) long. A smaller version of the same design will easily fit in a shirt pocket.



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

Nibbles from July 1972. Vol. XV Nr 7
de K3IUUV Bert
(author's comments in italics)

“Our Prez Sez”. Newly elected Prez Walt, **K3BPP** *(still active, 50 years later)* thanked the outgoing officers for their efforts in maintaining the high standards of the club, and committed to maintain the past traditions. He reflected briefly on his involvement with the club since 1958 *(Walt was one of our “student members.”)* He closed by encouraging members to identify new areas of common interest. *(The other new officers included Directors WA3AXV (now W3RJW), Ron Whitsel, and K3ZSG (now W0RSJ), Bill Murphy. Sadly, all the other officer-elects are now SKs.)*

Technical Article. “Matching Harnesses for 4 Yagi Antennas.” Jo, **W2EIF**, presented another of his frequent design articles on antennas and feed systems. Here he provided a nice tutorial on matching harness design and construction. He used home-brew open-wire construction to eliminate connectors at the antennas. He showed how to calculate the lengths for different bands. *(Still useful information today.)*

New Products of Interest to HAMS. From Lynn, **W3NSI**. 1) A set of Receiver and Transmitter modules for 144 and 220 are now available from VHF Engineering, both wired and tested, and as kits. Four separate modules make a complete receiver (converter, IF, LO and Audio.) Receiver modules are priced at \$19.95 each, or a set of 4 for \$59.95. Transmitter

kit (1-watt output) is priced at \$39.95. The etched boards alone are available for \$9.95 (receiver set) or \$5.95 (Transmitter.) 2) KW Electronics, an English company is offering Antenna Matchboxes. They claim to be able to match 15-to-5000-ohm impedances from 10 – 80 meters. The smaller “EZee Match” can handle up to 1000 watts if the initial SWR is low. For higher power or badly matched cases, they have the model 107 “Supermatch” which includes a watt meter, SWR meter and dummy load. No price given.

Calendar. August 13, Packrat Picnic at Ft Washington State Park. Games for both children and adults, mini transmitter hunt, free soda, door prizes and other events planned for a fun day. \$2 per family. September 20, Outdoor meeting, White Elephant Sale. Bring wrapped items for a fun auction. October 1, a Packrat sponsored Hamarama in Jamison, PA. *(This was the first Packrat Hamfest, organized by Dave, W3ZD).* A full-page flyer for the Hamarama was again included. Highlights included an ATV demonstration, a Civil Defense Van, and registration of \$1 per adult.

VHF Activity Report. As reported by Jo, **W2EIF**, openings on 6 meters continued well into July, with double hop contacts to the far west being particularly good. Two meters also has experienced high activity on SSB at the low end. 220 MHz had several good openings to Boston and Maine, and 432 has provided some contacts into Ohio.

Thank You. A letter was received and published, from Tom Gibson, deputy Director for Civil Defense, thanking the many Packrat members that supported

the recent Hurricane Agnes flooding emergency activity. (If you weren't around then, the Hurricane resulted in major flooding incidents in the Poconos, with a lot of rescues by Fire Trucks and other vehicles.) (Good publicity for the Packrats, and Hams in general.)

Swap Shoppe. By W3ZRR. (Always nostalgia. Now we use the club reflector.) For sale by Doc, **K3GAS**, "Exceptional sale" on a complete 6-meter station consisting of a Hallicrafters S-108 receiver, Ameco converter, Home-brew transmitter and power supplies. CW monitor and key. Also, a desk lamp. First \$60 takes it all (I'll bet it didn't last long!) From Carl, **WA3BIV**, a Tri-Band beam, needs some work. \$15.

Ads. The Jul 72 issue included 26 business card size ads, plus the half page back cover ad from club member Ham Buerger (a Drake TR-22 2-meter FM Transceiver for \$199.95!) I note the current Cheese Bits Ad complement includes only 4 small ads, a ¼ page from Beko and a ½ page from Down East. If you'd like to join them currently, contact the ad chairman, Bob, **W2SJ**.

Miscellany. Postage for this issue was a single 8-cent Eisenhower stamp. (7 double sided, 8-½ x 11" sheets). As usual, many "folksy" comments about members, their families, and activities were included in this edition of Cheese Bits. If interested, or for more detail on any of the above items, visit our website (www.W3CCX.COM) and read the full issue scanned by **K3IUV** (me), and posted on the website by **W3SO**, our webmaster. I have also posted the club Officers history, club Membership history,

and Packrat Inventory (updated frequently) on the **W3CCX** website. These files are password protected, and only accessible to registered members. Have you registered? I hope you enjoyed reading these bits of nostalgia as much as I did in writing the article. If yes, you might let me know. Thanks to those that did.

thirty, de K3IUV (comments or corrections to: K3IUV@ARRL.net)



Events

For inclusion, please direct event notices to the editor.

Sussex County (NJ) Hamfest - July 17, 2022. Augusta NJ. See <http://www.scarcnj.org/hamfest.html> for details

CQ Worldwide VHF Contest - July 16-17, 2022. See <https://www.cqww-vhf.com/> for details.

222 and Up Contest - Contest - August 6– 7, 2022. Details to follow.

6M Fall Sprint -Contest– Saturday/Sunday August 13-14, 2022 (2300Z—0300Z) See <https://svhfs.org/2022VHFSprintRules.pdf> for details.

Valley Forge Hamfest - August 14, 2022. Phoenixville PA. See <http://marc-radio.org/hamfest2.htm> for details.

10 GHz and Up Contest (Round 1) - Contest - August 20 –21, 2022. Details to follow.

September VHF Contest - Contest - September 10-12, 2022. Details to follow.

10 GHz and Up Contest (Round 2) - Contest - September 17-18, 2022. Details to follow.

EME - 2.3 GHz & Up – Wknd 1 - Contest - September 17-18, 2022. Details to follow.

2M Fall Sprint -Contest– Monday September 19, 2022 11 pm local See <https://svhfs.org/2022VHFSprintRules.pdf> for details.

Garden State ARA Hamfest - September 24, 2022. Tinton Falls NJ. See Details to follow at <http://gsara.club/>

222 MHz Fall Sprint -Contest– Tuesday September 27, 2022 11 pm local See <https://svhfs.org/2022VHFSprintRules.pdf> for details.

Antique Wireless Assoc Conference— October 4—8, 2022. Henrietta NY. See <https://www.antiquewireless.org/homepage/annual-conference/> for details

432 MHz Fall Sprint -Contest– Wednesday October 5, 2022 11 pm local See <https://svhfs.org/2022VHFSprintRules.pdf> for details.

Microwave Fall Sprint -Contest– Wednesday October 8, 2022 8am—2pm local See <https://svhfs.org/2022VHFSprintRules.pdf> for details.

EME - 50—1296 MHz – Wknd 2 - Contest - October 15-16, 2022 Details to follow.

EME - 50—1296 MHz – Wknd 3 - Contest - November 12-13, 2022. Details to follow.

KC3BVL Friday Net

Lately Packrat Jim KC3BVL has been conducting a Friday night net with schedule as follows:

7:30 pm	144.160
8 pm	50.160
8:30 pm	222.150
8:45 pm	1296.160
9 pm	432.160
9:15 pm	2304.100

Reminder: there are 3 FT8 VHF / UHF Activity Contests each month. For info see: <http://www.ft8activity.eu/index.php/en/>

For those interested in an online “Contest Only” event calendar for VHF+, see <https://www.qsl.net/n2sln/contestcalendar.html>

222 MHz Activity Night

There’s been an informal 222 activity night in the Northeast (and beyond) every Tuesday night starting around 7 pm (or so) Eastern Time. ON4KST is being used by some to coordinate Q’s when direct CQ’s are weak. —W2BVH

Bob Fischer

Uber / Lyft Services
Serving the Tri-State Area From
Mullica Hill, New Jersey
bobw2sj@gmail.com

609 440 2916

Please call, text, or email

Uber promo code **ROBERTF1107UE**

Lyft promo code **FISCHER8865**



G AND G ELECTRONICS OF MARYLAND

JEFF GOLDMAN, K3DUA

PO Box 222
Lisbon, MD 21765-0222
EMAIL: k3dua.jeff@gmail.com

(301)258-7373

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

DESTINATIONS TRAVEL

A Full Service Travel Agency

HARRIET SOLTOFF
Travel Consultant

XYL, K3IUV

229 Fairway Dr
Warminster, PA 18974-3797

Phone: 215-957-6084
Fax: 215-957-6085
E-Mail: BSoltoff@Comcast.net



PLEASE SEND IN 2022 DUES

Club dues are due as of Jan 1st, 2022. Go to https://www.qsl.net/w3km/MtAiryRC_Dues.htm and use the "check here" link to see if you already paid. If not, enter your callsign and click on "PayPal"

AS OF 7/6/22 21 DUES REMAIN UNPAID

Dave **W3KM**

BEKO ELEKTRONIK

World Class Solid State High Power Amplifiers for EME, Meteor Scatter, WSJT, FT8, Contest with Integrated Power Supplies



Instant ON • Built-In Preamp Sequencer • Overdrive ... Temp. & VSWR Protected

144-148 MHz	430-440 MHz	1270-1300 MHz	70-440 MHz
HLV-1000* 3,100	HLV-550* 2,900	HLV-350* 3,200	All models also available as LPD version with 1 mW P _{in} for SDRs
HLV-1400* 4,300	HLV-770* 3,150	HLV-800* 4,950	
HLV-2000* 5,250	HLV-1470* 4,580		

*P_{out} in Watts • WSJT Full Output Rated • 220 MHz and 70 MHz models on request

Island Amplifier USA

Alpha Service, Panel & Parts

Made in Bavaria/Germany

For BEKO-Elektronik Amplifiers in other areas

☎ 714-412-7399 • <https://islandamplifier.com>
Sales/Service: USA • Canada • S. America

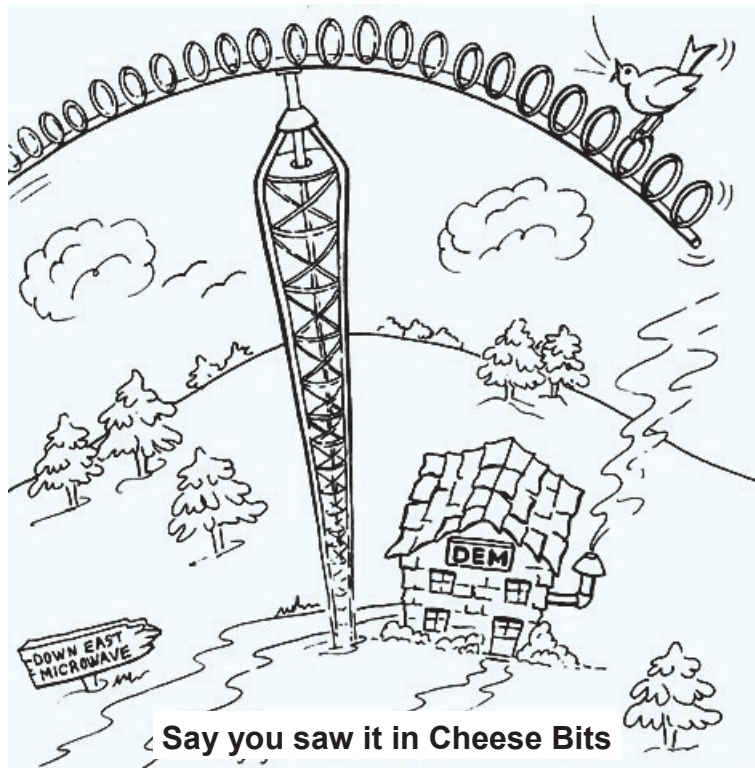
☎ #49 8131 27 61 70 www.beko-elektronik.de

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)