Mt. AIRY V.H.F. RADIO CLUB, INC.

CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL Affiliated Club

Volume LXIII | July 2020 | Number 7

PREZ SEZ:

Well the "June Stay at Home Contest" has come and gone. Who would have thought the Covid-19 pandemic would have happened, let alone stop the Packrats from ascending to our favorite Camelback Mountain operating site in the Poconos for the Contest? Being Packrats, not to be defeated, and with contest fever in our blood, we decided to regroup and participate from home combining our individual scores in the club category! How did we do? Be sure to check out the exciting results articles in this issue. The amount of Pack Rat participation was outstanding! NN3Q/R, W2PED/R, and K2EZ/R were all out to add to the fun. Way to go Packrats!!

As one of the members of the Nominating Committee this year, I thought I was in a safe place and “exempt” from being nominated for office. So I polished some of my best sales pitches along with some learned PRATT, aka “Packrat Arm Twisting Techniques” acquired from observing the pros in the club for many years, and started to call potential candidates for President. I went through my sales pitch mentioning how good each person would be in that position, etc. Then I went in to close the sale and failed miserably. No one said yes! I was humbled that many said, “Bob you have those qualities, why don't you run?” I called my mentor Elliot and said “What do I do, no one wants to run for President?” The best arm twister in the Packrats replied, “I nominate you!”

And that my friends is how it all happened. The moral of this story is: Watch out if the President asks you to be on the nominating committee!

And now to our many diverse, kind, and talented members: This is your club and all about you! The best clubs are successful because the members care about one another, and are rewarded by the efforts they put into making the club even better. Please let me or another officer know if you have a vision for the club going forward. Do you have a suggestion or idea that we could use to make the club experience better for everyone? Also, be sure to let us know if you think something is really wrong or even just annoying and we will make every effort possible to make improvements for the good of all members.

July’s general meeting will be a WebEx meeting. Presentations are scheduled for Alan Wolke, W2AEW on IMD in Receivers, and by Mike, N2DEQ on the “June Contest from Home" Wrap -Up.

Lots of operating fun coming up in the next few months including: CQ World Wide VHF Contest, 222 MHz & Up Contest, 10GHz Contests, -

Pack Rats **CHEESE BITS** is a monthly publication of the
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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:

TIME	FREQUENCY	NET CONTROL
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	KB1JEY FN20je Michael
9:00 PM	432.110 MHz	WB2RVX FM29mt Mike

Microwave Tuesday:
7:30 Coordinate QSO's on 144.260 for all Microwave bands you'd like to work. Also setup Q's at w4dex.com/uhfqso or **Packrat Chat Page W3SZ.COM**
Visit the Mt Airy VHF Radio Club at: www.packratvhf.com or www.w3ccx.com

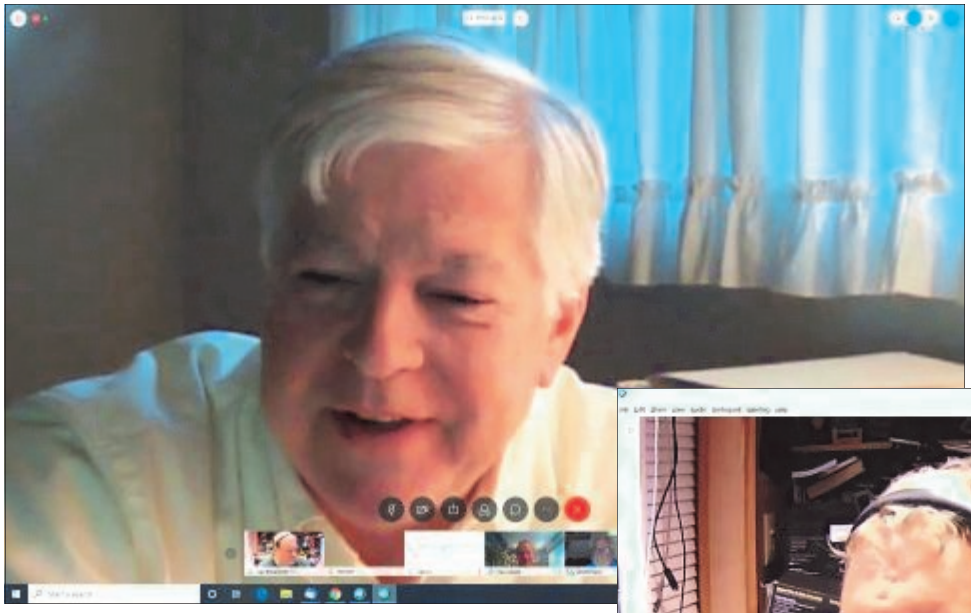
Rounds 1 & 2, September VHF Contest, 2.3 Ghz & Up EME Contest, and the 50 -1296Mhz EME contest. Whew! Be sure to check the dates and times in this issue under "Events".

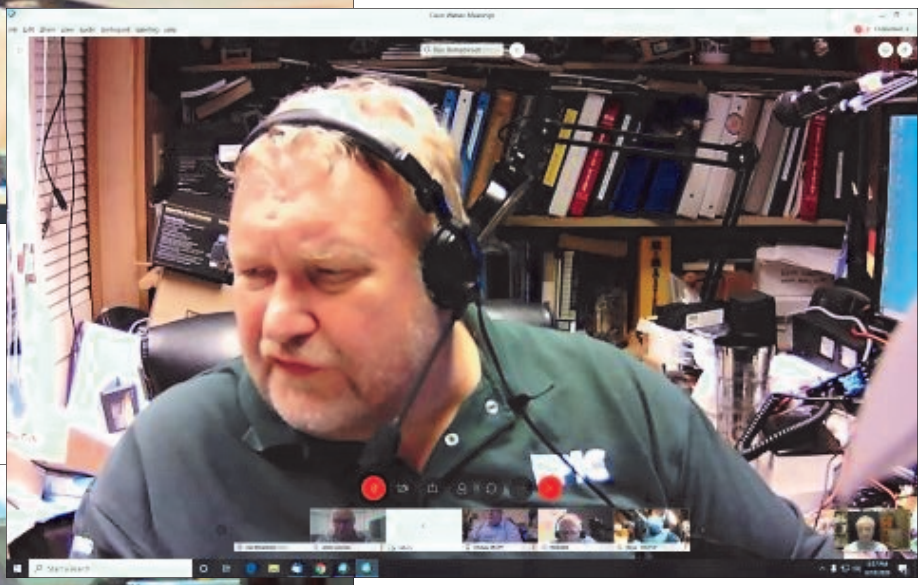
Hamfests are starting up again! Be sure to check with organizers on dates and times before leaving at 4AM in the morning with ever changing Covid-19 restrictions.

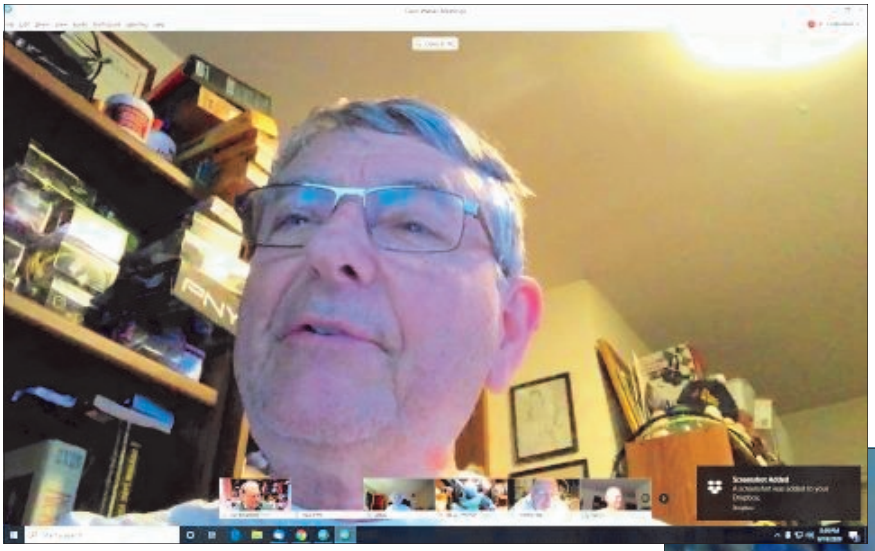
Until next month: finish a project on the bench, keep one ear listening for the weak ones, and the other ear on the "Magic Band"!

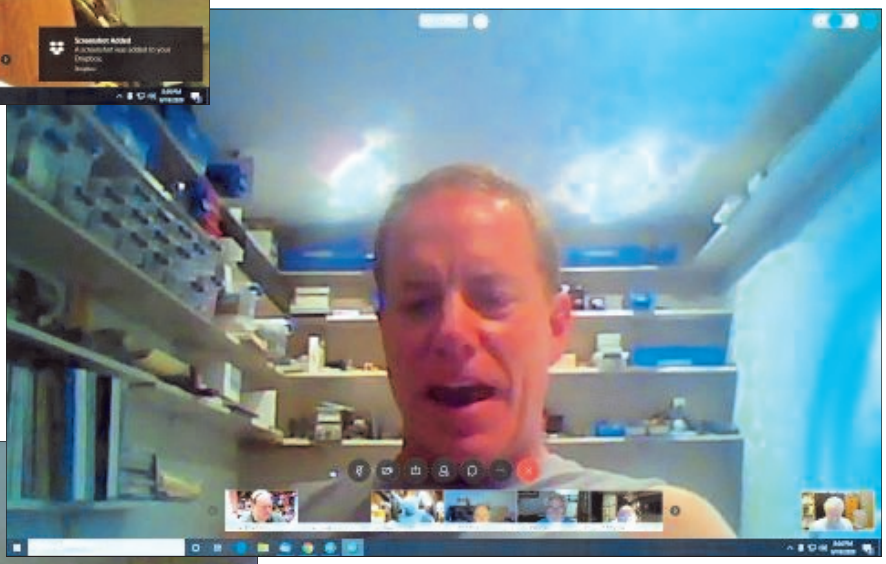
Vy 73, Bob W2SJ

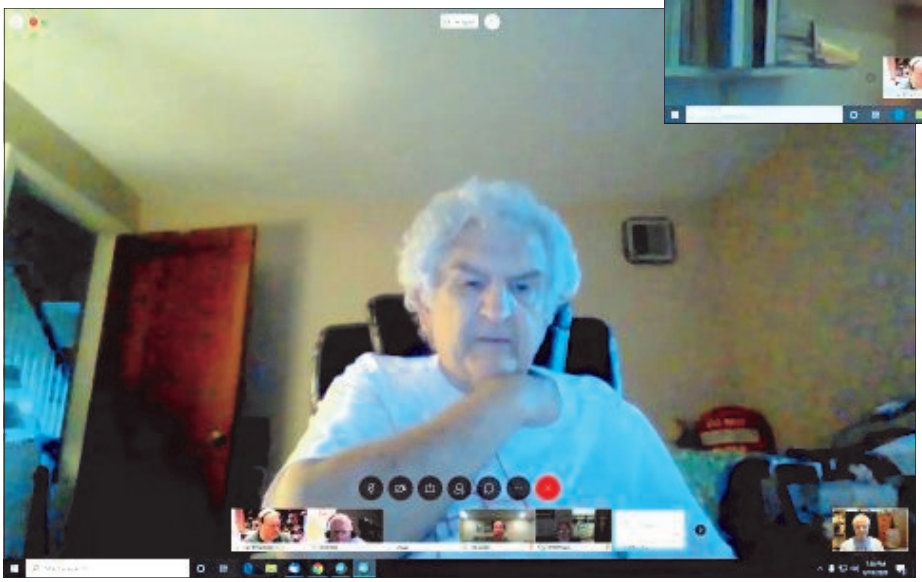
June (WebEx) Meeting Pics

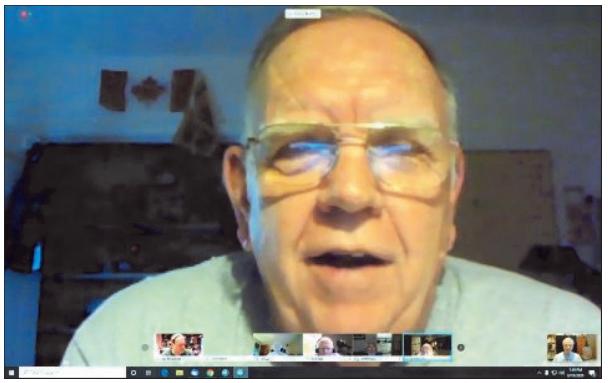




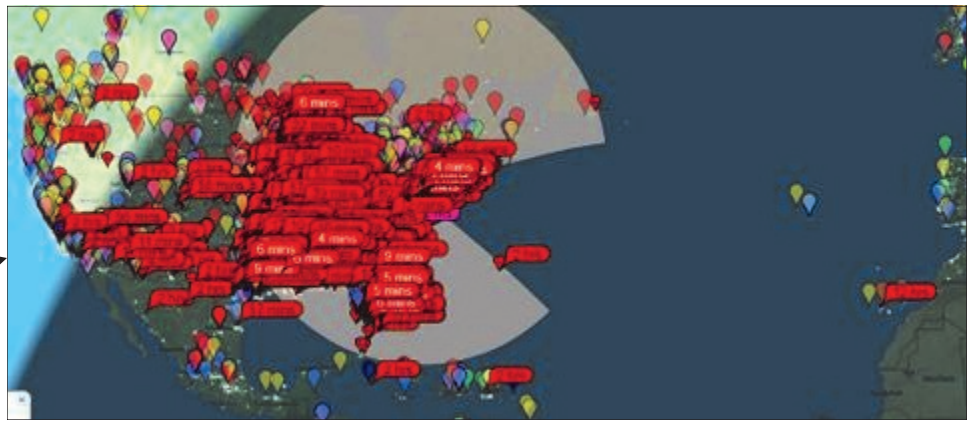








Example of who was hearing K2WB on 6 Meters with his busted antenna



Mt. Airy VHF Radio Club, Inc.
`The Packrats`
June 2020 VHF Contest

Total Logs: 56 **Club Claimed Score 2,086,553**

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	Laser
1	K1RZ	751	256	306176	358 117	127 28	61 22	78 22	31 16	44 18	23	10 7	6 4	13 9	
2	KR1ST	567	213	130143	468 178	60 17	16 7	18 7		5 4					
3	KA2LIM/R	484	185	119695	279 115	86 26	31 11	55 15	9 5	13 5	4 2	3 2		4 1	
4	WA3NUF	530	178	119260	359 125	84 22	21 6	26 7	12 5	15 5	8 5	4 2	1 1		
5	WA3DRC	386	189	104517	250 137	34 10	28 9	28 9	11 5	16 8	10 5	4 2	3 2	2 2	
6	W3ICC/R	375	106	60844	182 67	60 12	40 6	48 8		24 4	21 4				
7	K2TXB	330	169	55770	240 133	90 36									
8	W2KV	357	132	52140	202 93	117 29		38 10							
9	W2SJ	312	113	51754	171 66	50 13	23 7	29 7	10 5	13 5	10 5	5 4			1 1
10	W9KXI	303	152	48488	273 130	15 11	7 5	7 5		1 1					
11	K1JT	291	150	43650	291 150										
12	W3KM	289	138	42642	227 114	42 13	9 5	11 6							
13	W0RSJ	313	125	40375	303 120			10 5							
14	K3MD	313	129	40086	225 102	74 16	7 6	7 5							
15	K3TUF	285	109	38586	170 81	46 10	28 8	41 10							
16	WA3EHD	287	95	38190	188 74	28 4	13 2	25 4	10 3	12 3	7 3	4 2			
17	WA2FGK	256	135	34560	256 135										
18	AA2UK	238	125	29750	179 100	59 25									
19	WA3GFZ	206	106	28832	126 71	36 14	14 6	14 6	4 2	6 3	5 3	1 1			
20	KA3FQS	236	76	27132	111 47	39 9	27 7	32 7	9 2	10 2	5 1	3 1			
21	NN3Q/R	211	79	27018	75 33	65 14	17 6	14 5	10 3	10 4	8 3	3 2	4 2	5 3	
22	WN3A	260	94	26226	140 65	101 21	4 4	15 4							
23	W2BVH	192	91	23205	106 56	40 10	14 7	18 7	4 3	7 5	3 3				
24	WA2OMY	198	81	19116	112 59	60 14	11 2	4 2	6 1	4 2	1 1				
25	K3JJZ	204	77	18942	128 59	35 6	18 6	22 5	1 1						
26	W3SZ	142	67	16951	55 25	23 7	16 7	18 7	5 3	8 4	7 5	4 3	3 3	3 3	
27	N2DEQ	177	62	13082	121 49	28 4	8 2	14 3	4 2	2 2					
28	WB3IGR	124	81	12231	73 55	30 11	8 6	8 4	2 2	2 2					1 1
29	WS3O	144	70	11200	104 59	26 7	3 1	9 2		2 1					
30	KA3WXV	152	61	10675	107 52	22 4	6 2	17 3							
31	W3GAD	151	47	10622	65 25	30 6	17 6	23 5	9 3	4 1	3 1				
32	WX3K	111	74	9250	89 65	8 3	6 3	8 3							
33	KB3MTW	121	43	7396	60 31	22 3	14 3	13 3	7 2	5 1					
34	N2CG	111	57	6327	81 45	30 12									
35	N3PLM	116	54	6264	115 53	1 1									

Mt. Airy VHF Radio Club, Inc.
`The Packrats`
June 2020 VHF Contest (cont'd)

Total Logs: 56 **Club Claimed Score 2,086,553**

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	Laser
36	**W1PV**	102	61	6222	102 61										
37	**KC3BVL**	106	33	5676	31 11	26 7	16 5	22 6		5 2	6 2				
38	**W3HMS**	83	48	4704	67 39	4 2	5 3	4 2	2 1	1 1					
39	**K0BAK/R**	96	46	4416	82 34	14 7									
40	**WA3WUL**	84	52	4368	84 52										
41	**NE3I**	92	41	4223	64 30	18 6	2 1	7 3		1 1					
42	**WA3JZN**	82	37	3034	72 33	10 4									
43	**W3RJW**	72	42	3024	72 42										
44	**WA3YUE**	66	30	2820	35 22	9 2	9 2	7 2	5 1	1 1					
45	**WF3W**	86	27	2511	68 22	12 2		5 2		1 1					
46	**K2WB**	62	38	2394	49 29	12 8	1 1								
47	**NE2U**	38	28	1064	38 28										
48	**K3BPP**	37	26	988	31 20	5 5		1 1							
49	**WA3RLT**	32	19	703	14 9	13 7		5 3							
50	**KB1JEY**	63	9	693	31 3	18 3	5 1	9 2							
51	**WB2ONA**	22	13	286	22 13										
52	**N1XKT**	22	6	132	22 6										
53	**KB3SIG**	10	9	90	10 9										
54	**K2UYH**	3	3	24				1 1		2 2					

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	**N2NT**	1164	266	339948	786 184	264 43	54 19	60 20							
OPS	**N2NT N2NC WW2Y**														
2	**N3NGE**	373	157	68138	244 107	88 25	14 6	11 5	6 5	6 5	4 4				
OPS	**N3NGE KB3MAW**														

Members outside Club Circle

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	**K2EZ/R**	659	154	215908	113 44	107 16	97 15	117 15	73 12	73 14	43 12	36 11			
2	**K1DS**	84	36	3024	82 35	2 1									

K2EZ/R roved in TX and OK
K1DS operated in EL96
Those scores and log counts not added to the Club totals

Mt. Airy VHF Radio Club, Inc.
`The Packrats`
June VHF Contest: QSO's with Packrats + Nr. Of Packrats Worked

Total Logs: 55 **Total Packrats:64**

Nr	Call	Op Category	Pwr Category	QSO's	Total 'Rats
1	W3ICC/R	RO	HIGH	202	22
2	WA3DRC	SO	HIGH	151	38
3	W2SJ	SO	HIGH	144	36
4	K1RZ	SO	HIGH	136	30
5	WA3NUF	SO	LOW	136	44
6	N2NT	MO	HIGH	132	46
7	KA3FQS	SO	LOW	122	29
8	K3TUF	SO	HIGH	113	34
9	WA3EHD	SO	LOW	109	30
10	NN3Q/R	RO	HIGH	106	28
11	W3SZ	SO	HIGH	100	19
12	W3GAD	SO	HIGH	100	28
13	K3JJZ	SO	HIGH	82	29
14	KR1ST	SO	HIGH	80	34
15	WA3GFZ	SO	LOW	79	27
16	W2KV	SO	HIGH	79	35
17	KB3MTW	SO	LOW	76	22
18	KC3BVL	SO	HIGH	75	20
19	WA2OMY	SO	HIGH	72	36
20	N2DEQ	SO	LOW	71	29
21	KA3WXV	SO	LOW	69	28
22	W3KM	SO	LOW	66	40
23	N3NGE	MO	HIGH	63	31
24	W2BVH	SO	HIGH	58	17
25	WS3O	SO	LOW	55	26
26	KB1JEY	SO	LOW	43	19
27	WF3W	SO	LOW	39	25
28	WA3YUE	SO	HIGH	38	10

Nr	Call	Op Category	Pwr Category	QSO's	Total 'Rats
29	W0RSJ	SO	HIGH	34	25
30	W9KXI	SO	HIGH	33	12
31	KA2LIM/R	RO	HIGH	30	7
32	WX3K	SO	LOW	30	10
33	K2TXB	SO	HIGH	29	26
34	WB3IGR	SO	LOW	28	14
35	NE3I	SO	LOW	27	14
36	AA2UK	SO	HIGH	25	22
37	W3HMS	SO	HIGH	19	11
38	WA3RLT	SO	LOW	18	8
39	K0BAK/R	SO	HIGH	15	13
40	WN3A	SO	LOW	15	11
41	K2WB	SO	LOW	12	10
42	WA3JZN	SO	LOW	12	9
43	N3PLM	SO	LOW	11	11
44	K2LNS	SO	HIGH	10	10
45	K1DS	SO	LOW	10	10
46	W3RJW	SO	LOW	8	8
47	N2CG	SO	HIGH	8	8
48	W1PV	SO	LOW	7	7
49	K2EZ/R	RO	HIGH	6	6
50	WB2ONA	SO	LOW	4	4
51	NE2U	SO	LOW	2	2
52	KB3SIG	SO	LOW	1	1
53	WA3WUL	SO	LOW	1	1
54	K3BPP	SO	LOW	0	0
55	K2UYH	SO	HIGH	0	0

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

June 2020 VHF Contest Reports

From Mike N2DEQ Contest Chairman
I personally want to thank all the members who participated in the contest. It was a great turnout. The total Club Claimed Score was 2,086,553 with 56 logs turned in. Possibly the best Club turnout ever for a June contest.

In general, over 2000 logs were submitted to the league, 1000 more than in previous years. It is true that the pandemic has forced a great number of us to be at home and did account for some of the increase in logs submitted. But as far as our club is concerned, you guys and gals put the time in and got on the air and scored a lot of points.

There is no doubt that the weekend long opening (E Skip) on six meters contributed to the higher scores, but, boy was it fun. Maybe my memory has eroded with my age, but I can't remember a six meter opening like the one we just experienced. I plan to discuss the contest further at the July WebEx meeting.

Finally, I would like to thank Dave W3KM for all his work in tabulating the results and putting it in a form that we can analyze and that Lenny can use for Cheese Bits. It is greatly appreciated.

Thanks again Packrats for a truly great June Contest. I hope you had fun.

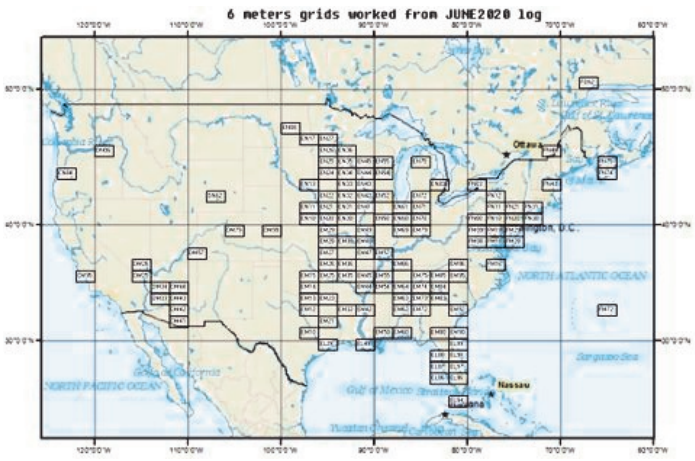
From Russ K2TXB
Hope you all had a great contest weekend. I know I did. I made it through the weekend with only 4 hours sleep! I never would have believed I could still do that at my age. But with six meters hopping the way it was it just kept the excitement going and going.

So, we all know what six meters did. I only operated FT8 and FT4 on six. Two meter activity was way down, as was my 2m participation. It was just so much more productive to stay on six. Even so I managed 90 contacts on 2, so it was worth while.

I tried out FT4 for the first time during the contest. It took me a couple minutes to get the hang of it, but it was much more efficient than FT8 in making contacts rapidly. But there were a limited number of ops using FT4, and then I discovered that the FT4 contacts were not getting transferred to my main log, which means I could not dupe them in real time, so I only stayed for 14 minutes – making 16 contacts. I have now fixed my logging program to recognize the FT4 contacts, so I am all set to use that mode again – **thanks Joe**!

Here are my totals: 300 Q's 330 Pts 169 Grids 55770 Total. I had 133 grids on six! I am just flabbergasted. And I only have a small 5 element CushCraft Yagi, 12 feet long and 20 feet high. I can't wait to see what those of us with full sized antennas and a good location were able to work.

Below is my grid map for just the USA. I guess there were at least a dozen grids that I heard but was unable to work. So it was another great contest experience from here in South Jersey. Thanks for all the Packrat contacts and hope you all did well too.



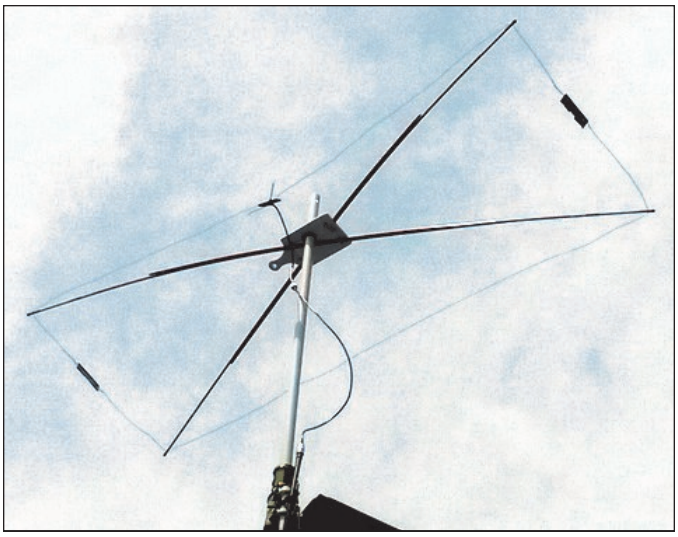
From Herb WA2FGK
I operated about 8 hours on and off. Two hours on Saturday afternoon, and the other six on Sunday. I have the front of my A frame ripped apart and I'm changing the cedar siding. BTW I'll take tower climbing over ladders any day in the week.

I only did digital on six meters. 256 Q's and 135 grids = 34,560. Surely one tenth of what I used to do score wise, but better than nothing. Hope all had fun

From Bill WS3O
This was the first contest I was really able to participate in since January 2019. So, just getting on the air at all made it a good weekend. I managed a personal best score, 11200, 144 contacts across 70 multipliers. 75 SSB, 3 FM, and 66 FT4/8.

I found myself splitting my time between voice and digital based on having worked everyone I could on either mode. When there was no one else on SSB that could hear me, I moved to digital. When I had exhausted digital, I checked back on SSB. I wound up mowing the yard somewhere in there too. Admittedly, most of my grid count was due to the digital modes, with the most exotic being Brazil, but I did get a bunch of Midwest grids on voice.

My perennial problem has been, and still is, my antenna setup. My 6m beam came down in the wind storms last November. It was too damaged to repair. I managed to finish building a new antenna, a wire Moxon, on Saturday morning. It was fabricated using 17ga electric fence wire, orange fiberglass driveway markers, two dollar-store cutting boards, and some PVC outlet covers. I am glad to report that it was quite usable, and very lightweight. I also used a home-made yagi for 1.2G. This worked very well, but was handicapped by being on a tripod at ground level. My 2m yagi is still doing double-duty for 70cm. One of these years, I will get all the antennas up high where they belong.



From Jim WA3EHD
This weekend reminded me of the VHF contests of old. Almost no space between stations to call CQ. I did not have my digital operation fully functional so all of my QSO's were on SSB and CW except for three of them. So, here is what I did. 286 Q's 400 Pts 95 Grids 38000 Total.

From Dave K1RZ
This contest was the most fun contest I have experienced in a few years. Of course, the ESkip openings on 6m made a big difference since the 6m band was open for long distance contacts a good share of both days. Rates were often very high on sideband and went on and on for many hours. I also found many Rovers on in this region to include Paul & Drex W3ICC, Marco KD3PD, Jack AB4CR, Bill W2RMA, Rich & Al NN3Q, John N9ZL, Duane KK4BZ, Jason W4EO, Jarred KF2MR, and Gil KM4OZH, plus so many more on 6m from the Midwest and Southwest, to include Andrea K2EZ in EM16. Andrea is missed out here in the east for sure. The Rovers make a big difference for the rest of us. And I always feel we owe them a huge debt of gratitude for braving the roadways and trails to mountain tops or the plains to give us all some extra points. I was able to discipline myself to get to the other higher bands too, so it was a high energy contest. I became a believer in the FT4 mode this weekend too. Great addition to the digital toolbox. Thanks everyone for getting on and making some noise.

From Griff NE3I
Despite the additional points per Q for contacts and the limited additional Mults to be earned "Running the Bands", an open 6 Meter Band coupled with the multitude of additional grids now obtainable on 6 and 2 via FT8 and FT4 argues against investing all of the effort and maintenance necessary to be able to creditably Run the Bands on up through the Microwaves. God Love You Guys (and Gals) who do it and for being there. However, I suspect that the **VHF Contests have been changed forever**. A couple of our Big Guns local to me apparently suffered recent storm damage. There just were not many CW and SSB signals heard on 2 Meters and above. As it turned out, in about 10 Hours of operating time, I "Ran" (3 to 5 Bands) with only about 3 of our guys. 64 of my 92 Qs were on 6 and probably half of those were via FT4 and FT8. [See separate article by Griff later in this issue of Cheese Bits —W2BVH]

From Michelle KB3MTW
Here is my 2020 June VHF summery contest results. 121 Q's 172 Pts 43 Grids 7396 Total. Now if only a couple more locals could have gotten on who I can easily hit in the microwave bands I might have beaten my highest score of 8800. That is why I need to get slightly less compromised antennas up, but still stealthy.

From Tom KA3FQS
I have a few people to thank for making it possible for me to be active on this contest. My new Alpha Spid rotor failed sometime between January and June. The motor winding showed a very high resistance. Jeff at Green Heron Engineering, from who I bought the rotor, suggested that there may be a cabling problem so I bought new cable and George (KA3WXV), Tom (K3GM), and Michael (KB1JEY) came over and replaced the cable. This did not solve the problem so the day before the contest my brother and I rented an arm lift and replaced the Alpha Spid with my old HAM 4. The trusty old HyGain rotor got me through the contest. Had it not been for the generosity of George, Tom, Michael, and Chris my antennas would have been stuck at 333 degrees and I probably would have only worked KR1ST.

As everyone knows this contest featured some fantastic 6 m openings and thus much of the activity was concentrated on that band. I had a personal best of 111 Q's and 47 Grids on 6 using only phone. It was exciting to experience openings like that. W2SJ and I worked up through 1296 which gave me a second grid on 903 and 1296 but we were not able to make it on 2304 and 3456, maybe next contest. I worked three locals on 2304 and 3456. My total score was 27132. My goals for the next contest are to get the Alpha Spid/Green Heron combo working, get set up for WSJT, and get some preamps on the upper bands. Thanks to everyone I worked.

From Lenny W2BVH
This was a great contest with tremendous activity on 6M due to the almost continuous Es opening over the entire weekend. I did very limited FT8 participation because the computer audio (I assume it's the computer and not the rig) was making a mess across a lot of the FT8 channel. (I got a phone call from WA3FZW, about 6 miles from me about this problem). It's going to be a BEAR figuring out why. Very frustrating. And I have to figure it out soon or I'll miss a lot of the Es season. Despite all that I did alright. I had plenty of phone and CW Q's to pick from on 6M. I was happy to get a fair number of microwave Q's which for me is always a thrill. 2.3 GHz propagation was worse than usual even taking in to account the leaves on the trees. And I missed WA3DRC this time (he goes to 2.3 G and is usually a slam dunk all the way up). 192 Q's 91 Grids 23K points so no complaining from me. Now to solving the FT8 problem. Wish me luck, I'll need it.

6/2/20

I would like to thank Alex KR1ST (one of our newer members) for getting on 1296. We easily completed a CW contact on 1296 this morning. Alex is currently only running 10 watts with an ICOM 9700. He has a PE1RKI 150+ watt SSPA that he will be building up. I would think that Alex will be sought after in the upcoming contest. Since K2LNS left the microwaves FN21 has become a difficult grid to work. Even with his current power level I expect Alex will work many in the club. Welcome to 1296 Alex.
Bill AA2UK

Thanks for my first ever 23cm Q this morning, Bill! You were easy copy here. I'm still surprised you were able to hear my QRP CW signal. I hope I can get to work on that amp soon, but I still have a lot of work to do. 73, --Alex KR1ST

June VHF—Packrat In Florida

I was anticipating a wild opening on 6m for the contest because I was working South and Central America, the Caribbean, the British Isles and half-way across the US using FT8. This was 2 days before the contest as I only set my antenna up temporarily. I used my usual 6m loop at 16' (lower than the building and much of the surrounding vegetation). I measured 60W output using FT8. Never having used FT4, I sought another station to test and I was able to QSO using FT8 with Dave K3DM, but we did not see FT4 traces on 6m. Dave, K1RZ was also extremely helpful with the settings, enabling my signal reports to be followed on PSKReporter. Things were a bit slow to start, but I worked Stan, K3IPM, right away on SSB. We are about 12 miles apart. I had worked him using FT8 a few hours before the contest, and I was glad to hear him active again. I chugged along on Saturday, but a real opening didn't occur until Sunday.

The 6m opening here started mid-morning and there were several stations from the northeast that were popping up. As FT8 got busier, I switched over to CW. Much to my surprise, I worked a string of stations from 1-land. Moving up the band to SSB, I was able to work many more. I moved back to FT8 and noted several Packrats were active. I was able to work the following: WA2FGK, N3NGE, K2TXB, WA3PTV, W3RJW, W3KM, W1PV, and W3HMS. I had a partial with WA3GFZ, but we weren't able to complete. I also saw the following 'Rats decoded: WA3DRC, AA2UK, WA3NUF, W9KXI, WB3IGR, KC3ACQ, WA2OMY and WX3K. At each 15 second interval, over 20 stations were being decoded. I think I need a bigger screen than just my 15" laptop.

I wound up with 83 6m QSOs in 32 grids. I made only two 2m FM QSOs as I only used my mag-mount whip and 50W. Due to local thunderstorms, I had to dismantle the antenna by 3PM Sunday, just about the time the band went quiet here again. Contesting in Southern Florida is quite different than the experience in Packrat territory. Although my modest 2,000 points will not add to the club score because I am more than 175 miles away, I was happy to add to a few member logs and put a smile on a few faces when I contacted old friends. **73, Rick K1DS**

The 5BHBFECSDRTASS (Five Band Home Brew Field Expedient Close Spaced Deed Restricted Temporary Aerial Simple System) and 2020 June VHF Contest Statistics de NE3I

The compelling desire to add at least modest Points to the Packrats Club Score in the face of Deed Restrictions and a limited amount of patience and technological genius necessitated the development and deployment of a 5 Band Home Brew Field Expedient Close Spaced Deed Restricted Temporary Aerial Simple System hereinafter, the "5BHBFECSDRTASS" or "…ASS" for short. (Some of you may not be mature enough to handle the term "Aerial", please do not be offended and endure on.) I have included a photo for VHF/UHF/Microwave Enthusiasts who may be inclined to improvise an …ASS of their own. As you can see, from the top down, the …ASS consists of a Home Brew Ground Plane for 223.5 FM interfaced by an MX62 Duplexer to a Home Brew Helically Wound Scrunched 6 Meter Dipole below it. (SWR optimum is obtained by Trial and Error "Scrunching" or Stretching of the coiled portions.) Below the 6 Meter Dipole, a separate feed line serves a 2 Meter/432 Multiband Dipole constructed from 450 Twin Lead Line, (separate legs for 144 and 432 MHz are connected together at the center). Mounted on the top portion of a Fiberglass Telescoping Pole, the Array was elevated and oriented by

...ASS Cont'd

the Armstrong Technique to 25-30 feet respectively. My …ASS performed admirably, yielding 92 QSOs in 41 Grids (64/30 on 6M) and 4223 Points for the Club in about 10 Hours Operating Time. I even made a 1296 Q with Roger, W3SZ at an estimated distance of over 40 Miles! (Thanks Roger.) 1296? You Newbies ask, but how? Simple, the Forty Meter Dipole Rule. Novices from yesteryear will recall that a 40 Meter Dipole would Load Up on 15 Meters, (40's Third Harmonic). Consequently, I theorized that the 432 Leg of the Multiband Dipole would resonate well enough on 1296 to Dip the Plate. Desperate times may call for a Field Expedient solution. Future adaptations of the …ASS concept are left to the innovation of others. 73 and Thanks for the Qs. **Griff NE3I**

KOBAK USE-WHAT-YA-GOT JUNE ROVE

My TV van continued to be under repair the week before the June contest. Between not having the van and the baseline of our new pandemic lives, melancholic days were getting more frequent. When I mentioned attempting a minimal VHF rove my wife Gerry was encouraging, not only to do a challenging and engaging activity to lift my mood, but also I suspect she knew I'd be moping that weekend if I wasn't participating.

My little Subaru WRX was the only vehicle available for a rove. Due to its small interior space and only having a 1.25" trailer hitch receiver for antennas, I had to use 6m and 2m halos on a ~20' walk-up mast assembled at each site. For quick and compact setup, I'd use my backpack-installed ICOM IC-7100 that's normally used for pedestrian portable operations. Although the backpack includes a 20Ah battery, I decided to use my separate 60Ah LiFePO4 battery because I thought my new use of FT8 would be a larger energy draw.

The USB connection from my laptop to the 7100 is both the CAT connection for the N1MM logger and the audio connection for WSJT. It was one of my biggest concerns since I've always had issues with the 7100's USB connection dropping and requiring a computer reboot, which was annoying when I was using SSB but would be more disruptive on FT8.

My typical June route would include a visit to W3CCX, an overnight stay in Hazleton, and a Sunday trip to Bear Mountain NY. None of those were available this year – no W3CCX, no hotel stays, and the road to the top of Bear Mtn is closed. Plus the whole point of that route is to stay within CCX's coverage area. Roves are typically planned meticulously, with a strict schedule and precise operating locations on a Google Sheet so I can follow it on my phone. None of that this year … I barely had an outline in my head and certainly no written schedule. Early Saturday I bench-tested the radio and computer to verify N1MM and WSJT operation, and I test-built the walk-up antenna mast system, but didn't have time for a full on-air systems check. Leaving an hour late without having made component connections, I arrived at a low FN10xa location near the Gap PA grid corner. By the time I set up, it was nearly 3pm.

I decided to listen on 2m, but only heard one caller. Even though I heard K3AJ quite well, he could barely hear me. I only had a halo and 50w but I should have been stronger to him. To his credit, with many repeats, we finally completed a contact. Not hearing anyone else on Phone, not even the very strong Packrat stations in the area, I went to FT8 on 2m. I was happy to see a number of CQing stations, but I couldn't make any contacts. No one seemed to hear me. I posted desperate messages on Slack and checked my computer time. Then I decided to check connections … in my haste setting up after the contest started, I had reversed the coax connections to the radio. No wonder K3AJ could barely hear me, my poor radio was trying to push a 2m signal out a 6m antenna and certainly cut power back to almost nothing. After I connected the right antennas on the radio, my FT8 responses were now miraculously completed and I made a handful of 2m and 6m contacts in rapid succession.

I drove only 10 minutes to an FM19xx township park that's been used before by NN3Q/R among others. Not surprisingly, I got similar meh results on 6 and 2. Still no "neighborhood" superstations were

heard. The highlight and my farthest 2m SSB contact was NN3Q/R in FN21, presumably on top of Camelback Mtn, and my only rover-to-rover contact. I left that location after 8 contacts total in 50 minutes, though that pathetic rate included some computer connection glitches. Operating the Gap grid corner usually includes an FM29 stop at a relatively high spot along Route 30 on the way home eastward. However I had always made this stop at night and didn't feel comfortable exposed in the daylight along a busy road, especially since I had the walkup mast to build. Getting just a handful of contacts at the previous two grids didn't give me much incentive either. I drove directly home to recover after a tiring day of scrambling to get the station put together.

Saturday night I made my only real plan of the weekend. I decided to try a rover operation on Sandy Hook NJ in FN30. In many other contests I had stopped at a sliver of FN30 along the Palisades Parkway while traveling south toward NYC. The Sandy Hook location made more sense to cover FN30 if I wasn't going up to the Hudson River valley. K1DS/R among other Packrat rovers have operated from Sandy Hook, so I was curious about this operating location. FN20 is also available on the peninsula, but I did not plan to do the short hop to that grid.

I woke up early enough Sunday to get there by 10am. I had read online that the National Park Service's big beach-oriented Recreation Area was not charging admission till later that week, and of course restrooms were closed, but at least it was open for visitors. Not having comfort facilities is a big problem for me, and would determine when I had to leave. When I got on site, about one out of every two parking lots were closed, probably to reduce overall beach population.

As everyone knows now, there was a major opening on 6m Saturday morning, and I was really surprised at the rate of SSB contacts I was getting with only an omni antenna and barefoot power. It's a special thrill for me to operate during an opening because not having a 6m station at home (my 66' doublet notwithstanding), I only experience the magic if an opening coincides with a contest rove.

When I switched over to 6m FT8, I had problems with the USB connection dropping and also getting my laptop time-synced. After making only 3 digital contacts, I hopped to 2m but connectivity was a problem again so I listened for SSB. I only heard one CQing station N2NT, who suggested flipping over to 6m for a second contact. My previous problems with 6m FT8 left my radio in digital mode such that modulation would only be accepted over the USB computer connection. Frankly I never had to manually switch out of digital mode because N1MM performs the required mode changes using CAT commands. I could hear N2NT trying to contact me but my radio didn't go into transmit when I hit the microphone key; quite frustrating. Finally I found for the first time the touch screen button on the 7100 that switched out of digital mode. N2NT was still there and we made contact. Thanks to N2NT for your considerable patience waiting several minutes for a contact from me.

As much as I would have wanted to stay for more 6m contacts, bio realities forced me to pack up and backtrack toward the GS Parkway and NJ Turnpike. As I drove past the main gate a little before noon, I saw the NPS had closed the Area to further visitors and disappointed families were being forced to make a U-turn. My next intended stop was in FM29 somewhere in SNJ. My "plan" was to drive to I-295 south and use my grid square app to tell me when I crossed the FM29 border then get off the next exit. Not seeing an

obvious place to set up after exiting, I pulled over and looked for the nearest school or park without close trees. Fleetwood Elementary fit the requirements. Feeling a little less time pressure while the opening was still raging, I had my most contacts there. Contacts were about evenly split on 6m between SSB and FT8, plus a small number on 2m on both DG and PH.

Heading toward home, I wasn't sure if I'd activate my home grid FN20 before putting the car away because I was already pretty tired. By the time I got near home an hour-and-a-half later I decided to go to my neighborhood high spot at a school. The 6m opening was done by then, but that gave me the opportunity to contact local hams including Packrats, all on FT8.

After just a few minutes of operating, a security guard pulled up asking what I was doing. He understood ham radio and talked about CB. Still he said he wasn't sure if amateur radio was allowed at the school (pooping dogs on the kids' play fields are apparently OK, but parking with a radio is bad somehow). I eventually talked him down and he went on his way. I've used their parking lot to operate VHF many times mostly at night, and got challenged by actual police a couple times but only for a few minutes. This was the first appearance of a private guard I've seen, and that can mean "if it's not specifically allowed activity, it's disallowed" type of thinking. Should I seek general permission for operating there? The problem is if they say "no" I can no longer claim ignorance or plead "basically I'm just parking and using the radio, it's really no different from using my phone". Sigh. Tall antennas are scary looking.

After the security guard pulled off, I made about a dozen more contacts on 6m FT8. My friend who got me into ham radio Rob W2HYW was trying to get me, and after some back-and-forth text messaging we finally made contact on FT8. I saw Joe K1JT decoded a few times earlier and I tried to make contact, but wasn't successful. After my contact with Rob, Joe came back to me and I was thrilled to have logged a contact with K1JT for the first time. After a few more unanswered CQs on 6m, I tried to make 2m contacts on FT8 but I again had a USB connection failure so I threw in the towel a little after 6pm, too frustrated to deal with it again. At least W2HYW and K1JT were at the end of my log.

I later heard that there was another opening on 6m in the evening, but I didn't know about it at the time and was too tired anyway. I was glad I went out roving in this contest, even with only two bands and all the frustrations of using a laptop—including USB disconnections and only having a quarter of the screen real estate needed for modern contesting. Operating in the cramped car with an unreliable computer connection, I was reminded how much I miss my radio van. I deeply hope next year W3CCX will be back on the air, and that I'll again be able to provide contacts roving in an arc of grids around Camelback.

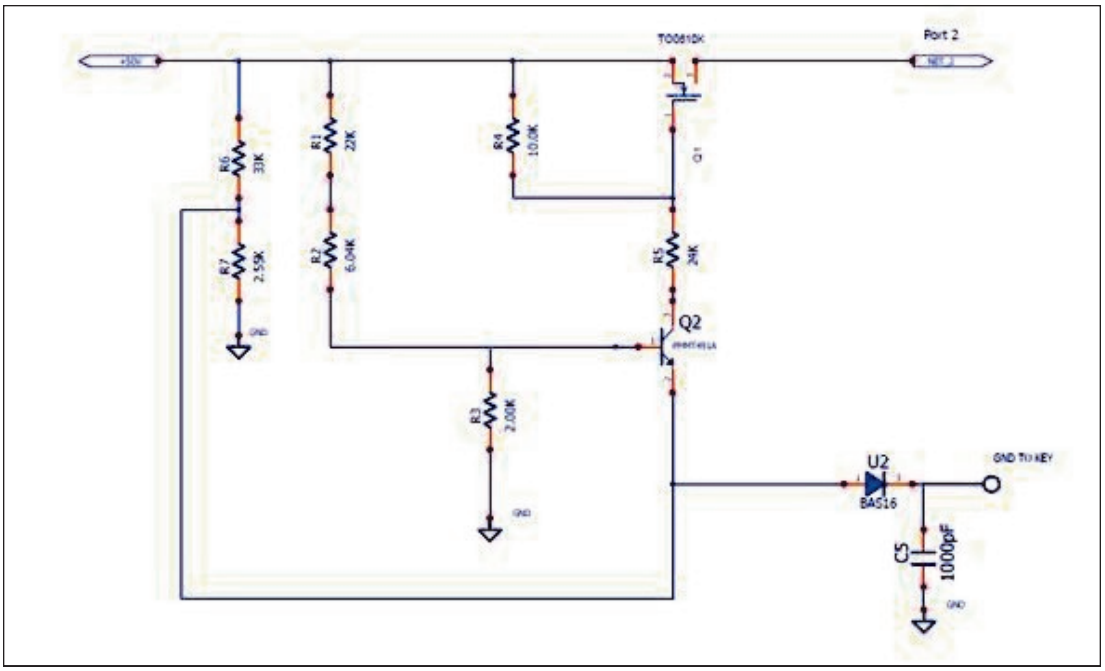
band	QSOs	grids
50	84	34
144	15	7
total	99	41
bonus		5
score	4554	

Solid State Switching for Larcan Amplifiers

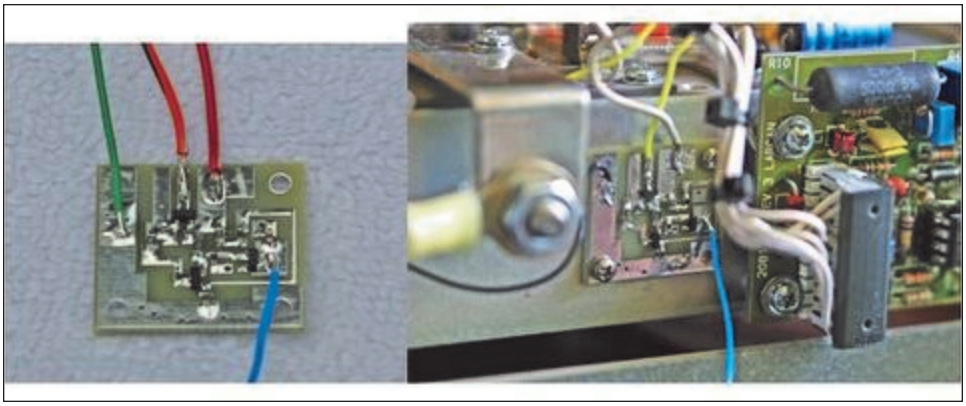
I have been finding many uses for Jim's, (W6PQL) high current FET switch circuit. I have used this circuit to switch DC power to our 2.3 GHz surplus amplifiers, and bias control on other surplus FET amps either switching the drain voltage or bias circuits. Not all the applications for this circuit require a large high current FET. After converting several Larcan amplifiers recently I have found yet another use for this circuit, this time deciding to make a small PC board to use a low power FET and to fit in the space available.

One of the issues of using a relay to switch bias on a Larcan is finding a suitable 24V coil relay. A DIP relay will work, but most DIP relays in our junk boxes are 5 or 12V. Using a 3 terminal regulator is difficult at 50V, the voltage drop from 50 to 12 or 5 volts is higher than the regulator's specification. But, why use a relay at all? We can use solid state switching. The FET switch designed by Jim works great. We only need to substitute a low power fet in a small package. Another advantage is not needing to use a 24V line as a control signal, the voltage on the TR line with a FET is only 2.2V. The FET is a TP0610K Vishay device.

Shown is a schematic diagram, the only difference to the original W6PQL circuit is substituting a low power SOT23 P channel FET for the TO-220 package. Resistor values are for 50V.



And here is a picture of a PC board with artwork to support both a TO-220 package or a SOT-23 package. Left picture is the board built and ready for bench testing and the right side showing the board mounted in a Larcan amplifier. The mounting holes are #2, the heat sink drills and taps easily.



This works well. The Larcan bias current is about 12 mA, and the voltage on the key line is only 2.2V using a 50V supply. The theory of operation is the same as the original design. The FET gate is held high with R4, and the transistor (Q2) is not conducting in receive. Grounding the PTT line, causes Q2 to conduct, lowering the gate voltage to the drop across R5 and the FET now conducts. The P channel FET chosen had a current rating of 150mA.

There are some PC boards available at a cost of $8.00 ea, which is the cost paid for the 1st lot. If there is interest, a kit can be made for a few dollars more. This circuit and boards can be used in many applications around the shack.

Design used with permission. **Gary WA2OMY**

ARRL June VHF Contest 2020 – Alex KR1ST

The Saturday of the contest marked one month of no snow on the ground. During that month I broke down all my antennas, feedlines, shack entry box, and all the coax lines inside the shack. I did this in an effort to eliminate all PL/SO connections, except for 6m. All rotor loop cables were replaced with custom cables to eliminate all barrel type connectors. The antenna stack was split in two and put on two new Yaesu G-DX1000DXA rotors. This allowed me to add the Wimo SHF2367 67 element 23cm antenna I purchased from a fellow ham in the fall of last year. I had intended to exchange the 3 element 6m antenna for some sort of 5 element antenna, but I ran out of time, steam and dry days. My wife Jennifer, KG4KFV, has been a great help installing the antennas working beside me on the roof. I also changed things around in the shack so that I could run everything off two power supplies instead of four. I realize I broke Bob's (W2SJ) rule many times over to not do anything to your shack for two weeks before the contest. I offer my sincere apologies to Bob!

The contest was a lot of fun! I more than doubled my last year's score and set a personal best. Of course 6m was in much better shape than last year. The biggest thrill for me was to work a few EU stations on SSB and to be able to get several good runs going on SSB. There was also time for some enjoyable conversations with new hams and one ham in particular whose last time it was on the air from the current QTH before he moves to the Trinity area near Tampa, FL (listen for WA2KBZ down there Snow Birds!). I managed to get 178 grids on 6m in the log.

To me FT4 is a joy to operate. It reminds me of working HF RTTY contest I used to enjoy so much. FT8 feels almost like a slow moving sloth that should be abandoned as soon as there is a good band opening. FT8 may be a great weak signal mode, but it loses all its advantages when hundreds of stations are running large amounts of power within a 2800Hz or so channel during a good band opening. I made twice as many FT4 QSO's than on FT8.

Now that more folks have discovered FT4, I sincerely hope that we'll spread out next time. There is plenty of space and no need to stay put on a single frequency. We got this big tuning knob that most of us still hopefully know how to use. :). It was also great to run the bands with several Packrats, but it was a bit unfortunate that due to the almost constant 6m opening I didn't get to work more club members. Of course my biggest accomplishment of the weekend was to get Michelle, KB3MTW, in the log on 6m! It was also nice to try 1296, a new band for me, with several stations. I'm so surprised that folks were able to hear my 10W peanut whistle. I hope to get the amp for this band built soon. Score: 130,143.

Many thanks to all for the QSO's and I hope to see everyone again soon in another contest. A special tip of the hat goes to my wife for supporting my crazy hobby and even bringing me dinner while I'm running stations on 6m.
73, **Alex KR1ST**

NN3Q/R Rover Report

From the RF deck of NN3Q/r: It seems the best intentions and plans can be always be sidetracked by a simple, but unknown electronic malady, and one that does not appear in all the hours of preparation.

Our Saturday rove took us to Packrats home away from home FN21hb at Mount Pocono State Park. It was great to work many Packrats from the site where they normally operate during the June contest.

The 10 band rover was tested the previous two weeks and was cleared for operation. Both RF and computer systems checked A-ok and contest QSO's started. During our four hour stay the parking lot filled and filled and pretty soon trucks, and cars were parking on the grass within feet of the rover van. Had the Packrats stations been on site there would have been a traffic jam atop the mountain. Lots of people!

Sunday our projected rove took us to FN20, Reading Mt. Penn, then on to Montgomeryville and Packrat territory, then back to FN10 (home grid). It was Saturday night that the gremlins started to show up. We were noticing one of the 6 meter FT8 stations could receive but did not have RF output, and then late in the day the network seemingly at random would disconnect the two laptops and log sharing was disrupted.

The above glitches were taking up valuable operating time and did have to be addressed, so over the next few hours on Sunday morning Russ and I began a two hour trek for a solution. The FT8 rf solution required protecting all the Rigblaster cables with ferrite snap on beads. Apparently RF was getting into the Rigblaster and disabled it.

The network was a little more difficult fix. Finally while responding to a text message, and at the same time the seeing that the network quit it became clear what was happening. This was not a RF incursion but a simple disconnect when the i-phone transmitted via voice or text. The solution was either a second phone or wired Ethernet switch. We chose the second phone with a hot spot which allows internet access for transferring our location via Packrat Finder.

The time to troubleshoot cut into our schedule so our FN20 operation was from Reading, Mount Penn, only. Apologies to Packrats who were looking for us from FN20 Montgomeryville, we just did not have the time.

Unfortunately FT8 and the propagation enhancements play against rovers. We noticed a steep decline in two meter, 220, and 432 contact numbers. Also affected are the microwaves where the higher points are made.

FN10 was our last grid for the day and we ended with 200 Q's, and a score slightly North of 25,000

We thank all those who worked with us to run the bands and especially work us through the microwaves.

Very 73 Allen **K3WGR** and Russ **NN3Q**

Just wanted to remind you that Mark Hinkel - WA3QVU and Paul Ceglia - N3TMX have been conducting ham radio swap meets Sunday nights on the Penn Wireless frequency 146.790 (-), pl 131.8 at 7 pm. A lot of the equipment is fairly new as several club members buy stuff then either tire of it or find something better. It is followed at 8 by the PWA tech net. 73 **Michelle KB3MTW**

AA2UK FM29 to EN80 on 1296 MHz

6/30/20
I worked N8LRG on 1296 using my favorite mode JT65C. Phil is only running 10 watts. It was our 3rd try. Phil is 400 miles away.
1232 -29 0.2 1443 #* AA2UK N8LRG EN80
1302 -22 0.3 1436 #* AA2UK N8LRG R-10
Bill AA2UK

K2EZ/R JUNE ROVE REPORT

Here is how my rove went.

I was running 8 bands like in January, but this time no snow or ice. I only activated 15 grids this time. Due to some delays, my potential end of contests destinations became too iffy to reach. My rove started Southeast of San Antonio TX and finished just outside Tulsa OK.

A surprising amount of this rove was only loosely planned. I did plan to meet up with a few of the Texas rovers hence my starting location. And I planned to work my way up to where the OK Rovers were active. Pretty much nothing in between went anywhere close to how I thought it might. And as mentioned before, I had to scrap my final run chasing multipliers and fresh Qs which was either going to be towards Memphis, TN or St. Louis, MO.

Unlike other parts of the country, 6m seemed to be inert in the West Gulf region Saturday. The only stations heard on 6m were ones that I, or someone else, QSYed to the band. I heard some FT8, but I was unable to run that at the time.

Sunday, I heard some out of area 6m activity for a short bit mid-day when I was in Oklahoma. I also heard the occasional distant voice that faded in and out. Fortunately, for the last few hours of the contest, 6m opened very strongly and this allowed me to pile on multipliers and extra Qs that made up somewhat for having to cancel the final run. More on that later.

As for technical issues these were rather minor except for one incident that I was able to resolve. This occurred very early in the contest. I was using my air conditioning sparingly due to some problems with the AC compressor. This was only a small discomfort for me, but I started to realize there was a problem when the tablet for my logging system became sluggish and was running slow. A restart didn't help. It was just occurring to me that maybe the temperature had something to do with the slow performance. At that point I remembered I had a temperature problem before with both the Flex Radio and the tablet I use for its console. No sooner do I think this, the tablet for the Flex Radio console shuts off as if it read my mind. I go looking in the back and the Flex Radio starts to indicate over temperature shutdown as well. This had the effect of taking all four of my microwave bands off the air. To get it all cooled down, I was forced to run the AC continuously. My already unhappy compressor was screaming like a jet engine. This is Texas and what I could get away with up north with AC off, or running intermittently, just wasn't enough here. Despite all the noise, the air conditioning did work. After about 20 minutes, the tablet and Flex Radio cooled enough that I got the micros back up. The sluggishness in my logging system also went away with the cooler temps.

The other technical issue was minor. For some reason my little USB GPS module wouldn't sync again so I couldn't get time lock for digital modes. I could do a reasonable manual setting if my iPhone clock would show seconds, but waiting for it to change to the next minute to manually sync is sloppy. I've done it but it takes multiple tries and it is never right on. That has been one irritation about this iPhone. I suppose I could get a third-party app to resolve it. Anyway, digital modes would have been nice to run on the otherwise dead 6m Saturday, especially while moving, but it was what it was. I was more focused on the micros.

For the start of the contest I met up with some of the TX rovers KA5D/R, KD5IKG/R and W5TN/R. These gentlemen were invaluable helping me with the local information about that part of Texas.

Tim KD5IKG had some new hardware for the microwave bands giving us both eight bands. Unfortunately

he had some teething pains and this gave us some headaches early in the contest when trying to work each other. There seemed to be an intermittent in the switching. So we ended up working thru those headaches which likely cost us opportunities to catch some other stations.

One of my favorite times during the contest was when there were four of us rovers headed towards a hilltop spot called the "Devil's Backbone" southwest of Austin. We were going to meet up there for dinner as well as some operating. We were proceeding at different times and some had different routes. I was very much the late one and somewhat lost. During this period, we ended up in some different grids in a piecemeal fashion so had opportunities to work each other as well as work a number of the fixed stations that were following us. It was a very active time for all of us.

Thanks to the rovers, I discovered that Texas (and later Oklahoma) does have some big hills.

Much of my time on that hilltop was socializing with the other rovers and some curiosity seekers. It was a bit hard for more than one of us to operate anyway and I was ready for a break. I was the late one still up on the hill after 9pm while the other rovers were headed home for the overnight. Once they left the hilltop, I started my operation there seriously. It was close to 10 PM when I decided to roll off the hill. My idea that I might continue up the gridline on the west side of the DFW metroplex went out the window as I had a morning appointment in Oklahoma too far to the east. So, after rolling off the hill, I needed a more direct route. That appeared to be a run up I35 thru Austin, then Waco, before branching on I35E towards the Dallas side of the metroplex. This didn't let me optimize the number of grids I activated, but my goal for the night was already a solid 5 hours away. It wasn't looking like I would get too much sleep.

I worked a number of fixed stations during the first hour or so of that travel, but fixed stations were calling it a night. That included Ron K5LLL which would have been easy to get 7 or 8 bands for the next couple grids.

K5TR however was working late into the night and seemed to be tracking me on APRS. Not long after I would cross a grid, I could pretty much count on hearing CQ from K5TR on SSB in what was otherwise dead time for all but the diehard ops mostly running meteor scatter. The only other station I heard really late was K5QE. These two stations insured I was able to activate the grids I was passing thru during those nighttime hours.

When I got into my desired overnight area, I discovered that some event had caused all the lodging to be booked. After killing a half hour with no luck, and seeing my available sleep time dwindle to less than 3 hours, it just became impractical to get a room. Even if I found a place, by the time I checked in, got my stuff in a room, got to bed, and then the time I needed in the morning, my sleep time would be too little to make it worthwhile. At this point I decided it was best to go back to the ole sleep in the car routine. That would give me more sleep even if not as comfortable. I found a distant corner of a Buc-ee's parking lot where the lighting wasn't so bright.

The bad part of this plan was that it was hot. Yes hot, this is Texas. Outside temps had dropped down to mid-70s which was better than normal, but the vehicle was just hot from running all day. Even though the AC had been on, as soon as I turned the engine off, the interior temp climbed. I didn't want to sit parked with car running to keep the AC running. Keeping windows closed and doors locked for security quickly became a non-option if I wanted an sleep.

I tried opening the windows and inch or two get some air flow while making it very difficult, if not impossible to reach in. This got a slight cross breeze, but it was still too hot. I opened the windows some more, but it was still was too hot. At this point I was still trying to justify that while the widows were open more, it still offered some degree of security. Yes, someone could reach in and unlock the door, but it would take some

time and if they were just trying to grab something it would be a hard reach. Eventually fatigue and the heat took its toll. I decided that the risk of getting murdered or having stuff stolen while I slept was worth it if I could get just some sleep. I rolled the windows all the way down. This improved the cross breeze significantly and I finally got the temp down to a tolerable level. With one arm hang hanging out a window for extra cooling I finally fell asleep. I woke after dawn, about 6am not having been murdered. As far as I could tell, nothing was taken either. There was already a good amount of activity on 2m. I went into Buc-ee's where I quickly washed up as well as I could. I also changed into some fresh clothes and brushed my teeth. Then I was off again continuing north.

As is typical, the early morning time was fairly busy with lots of fresh stations to work. Even though I was on the north side of Dallas now, I still heard K5TR calling CQ regularly and we were able to work on a few bands. I caught up with two of the OK rovers, N0LD/R and KB0YHT/R, about 10:30am. I ended up sticking with them thru lunch and up to the grid corner in the Tulsa area. They showed me a couple of their hilltop locations where we were able to work a number of the fixed stations. Time just seemed to vanish and it wasn't long before it was clear that I couldn't make my MO or TN targets without too much risk of falling short.

My last stop with them was a huge hilltop overlooking Tulsa. There was a bit less than 3 hours left in the contest. 6m had opened wide at this point. I never heard 6m open like this before. With so many stations coming in from so many areas, it actually made operation more difficult on SSB than less strong conditions. The Pacific northwest, Midwest, and East coast were all coming in strong. The crowding was so bad I had very limited luck on SSB so I went to CW which was better. I appreciated Randy N0LD giving digital modes a break to let me work some multipliers. The constant carrier was completely blanking out 6m when they transmitted. I eventually moved off the hilltop to a spot about a half mile down the road to avoid the mutual interference.

With about 90 minutes left in the contest, and the band still hot, I interrupted operation for some photos as the OK rovers were starting their run back towards home. This ended up being about 40 minutes of chatting as curious public came up to ask questions. Public relations is something most every rover has to deal with at one time or another. Be it answering the curiosity seeker's questions, or trying to calm the nerves of the suspicious.

When I finally got back to operating the band had cooled. The southeast was now coming in a little, but much of the northeast was no longer being heard. The up side to this is that SSB became more productive and I alternated between SSB and CW for the last 45 minutes working stations as I found them.

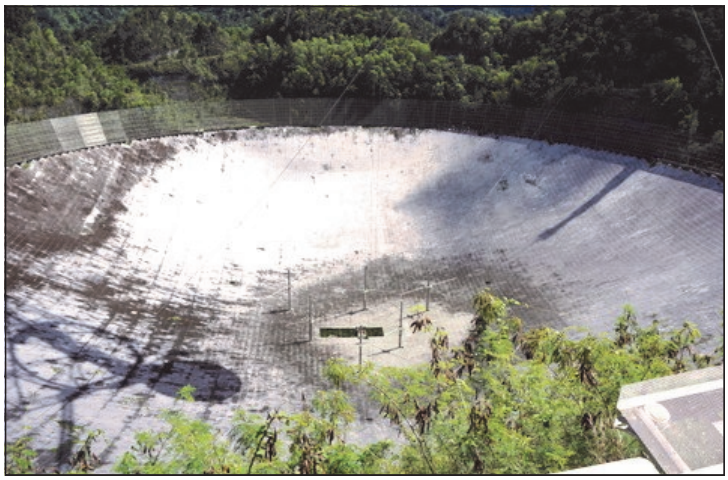
Final score as a Classic Rover: 215,908. If I wanted to put myself in the Limited Rover Category my score would be just under 87K. Not going to do that, it is just a reference point to compare with my prior limited roves where my best score was 70K. Unfortunately, since I was outside of the Packrat's territory, none of my score will count towards the club score. One of these days I will be back in the northeast for a contest.

73 **Andrea K2EZ**

Arecibo HF (and UP)

It's "fun" trying to sort through all my pictures from Arecibo, as they are stored by date, and who knows what I was doing on a particular day!

Anyway, here are some pictures of the HF transmitters, and the antennas in the bottom of the dish. For scale, look for the guys that are standing in the opening in the middle. (that's where they hoist stuff up to the platform). Also, on the last one, if you look carefully you can see the cables that make up the secondary reflector. Daun E. Yeagley II, **N8ASB**



Two excellent YouTube tours of the Arecibo Feed Structure (900 tons of equipment suspended by cable hundreds of feet above the dish) can be found at https://youtu.be/IqGnnpwEwug and https://www.youtube.com/watch?v=vicxDnn6LEY&t=306s

—Lenny W2BVH

The RSGB released a great video last week introducing various propagation modes on VHF and higher: https://youtu.be/5Yo4IFn6AAY 73,

--Alex KR1ST

Florida Field Day 2020

My intention was to fire up my pair of 2KW generators to make sure they were ready for hurricane season, and incidentally plug the radio in to operate under emergency power for ARRL Field Day. Mother nature had other ideas as the weather was close to 100° and way too hot to be messing with them. As plan B came into place, I put the 2m magmount antenna on the car and stuck the TS2000X on the passenger seat and headed up to the parking lot of the Park Ridge golf course, one of the highest points in the area. It's a county golf course that was built onto a trash mountain. One of the few golf courses that has any holes with elevated tees and greens. I estimate the elevation there is about 150' ASL. It makes it one of the highest points in the county. For those who haven't visited Florida, there are no significant elevations here except for the scattered Mt. Trashmores.
Our local Boca Raton ARA had a local intra-club competition for home-based stations. They had a plan to use 144.400 for phone QSOs and 144.100 for CW. I advised them to use the usual 144.200 for finding QSOs. As it turned out, I made 3 FM QSOs on 146.52. I could only raise 1 or 2 folks on the local repeater to QSY. The next morning, I had a plan to try 20m with a dipole I had waiting in a drawer. I stretched it out in front of my garage and boosted up the center with a piece of 8' long PVC, tying the ends to palm trees. I only tried 40W as the fuse for the 12V socket is only 15A and I didn't want to get close to its rating. After struggling to make 1 SSB QSO, I grabbed the key and made several CW QSOs. I understand that digital activity was high, but adding the computer and interface to the quickie set-up would have been a little more complicated. Having proven my ability to communicate using emergency power and antennas, I concluded the activity, declaring success. **73, Rick K1DS**

Here are some great tips on keeping PowerPole connectors stuck together.

https://www.kb6nu.com/wp-content/uploads/2020/06/securing-powerpole-connectors-20200625.txt?utm_source=newsletter&utm_medium=email&utm_campaign=kb6nus_june_2020_column_securing_powerpoles&utm_term=2020-07-05 **73! Dan KB6NU**

The Wayback Machine
In CHEESE BITS, 50 Years Ago

Nibbles from July 1970. Vol. XIII Nr. 7
de K3IUV Bert
(*author's comments in italics*)

"**Our Prez Sez"**. New Prez El, **K3JJZ** stepped in. His first contribution was brief, thanking Ernie, **W3KKN,** for his leadership in the past year. El pointed out that "There are many committee assignments to be made to get next year's programs moving. If I don't hear from you, it means you're willing to serve in any capacity." (*Sounds like a neat way to get volunteers, that could pick their own choice of contribution*).

ARRL Bulletin NR 273, 5/21/1970. The FCC commission studying proposed revisions to repeater rules has extended the deadline for comments to June 15, in response to a request by the ARRL BOD.

Picnic. A full-page insert gave the details for the coming Packrat picnic, Scheduled for 8/9/1970, Fort Washington State Park, as usual. "Free soda and games for all. Registration $2.00 per family." (*The page was suitable and intended for use as a "flyer," to be posted in ham gear stores and other places where it could catch the eye of area Hams*).

Calendar. July 15, first outdoor meeting, White Elephant Sale. (*A Packrat tradition for over 50 years*). July 19, Hidden Transmitter hunt. (*Another Packrat "fun" event that has fallen by the wayside*). August *19, second outdoor meeting. A "*Social Night," QTH of Bert, **K3IUV** (*ye author*). Members and xyl's invited. 9/16, Annual club auction *(good stuff, unlike the earlier White Elephant night*)! 12/1971, early notice of the 15th Anniversary Dinner. Location will be the Buck Hotel in Southampton, already booked.

Membership. New member: **WA3IDQ,** Walt. Applications still pending: **K3OPC**, John, **WA3AXV** , Ron, (now **W3RJW**) and **WA3YXF,** Joe**.**

2 Meter Activity. **W2EIF,** Joe, reported a new station in North Carolina, active on SSB at 145.05. Located just below Cape Hatteras *(site of the Packrat's 1296 expedition in Rodanthe*), he is an easy contact for our local SSB boys. Joe has a nightly schedule with **W8DGF** in Cleveland. Others are welcome to join in.

January Contest Results. The Packrats just received their 10th gavel, as winners of the January VHF Sweepstakes. Top score in the country was posted by our own Stan, **K3IPM.** (Still going strong, as a contester. Stan's score was higher than 19 other total club submissions!) Four of the top 5 stations were Packrats. SJRA and Rochester were reported to be starting to organize early to provide more competition next year. Our members were requested to begin their antenna work now, rather than in December!

From the Book Rack. **K3WEU**'s monthly column described two servicing books. The first was "Troubleshooters Handbook," by the editors of Electronic Technician / Dealer. 288 pages, 125 illustrations. $7.95 hardback, $2.95 paperback. Devoted to solving "tough-

dog problems" in almost every current brand of TV. The second was "Electronic Test and Measurement Handbook," by John Schultz. 224 pages, 100 illustrations. $7.95 hardback, $4.95 paperback. This book described how to make critical performance measurements using moderately priced test equipment. (*Sounds like what KB1JEY, Michael tries to teach us today*). Both books received favorable reviews, and were recommended by George. (***UPDATE**. I received the book described in last month's column. "The Great American Depression,1929 – 1939." I ordered and received a (used) hardback copy of this book on Amazon. Turns out to be fascinating reading about the depression and conditions in the US at that time. I am enjoying it so much that I ordered a copy from eBay for a friend. I recommend reading it for a look at conditions at that time in our history*)

When I became a Packrat. Frankie, **W3SAO**, was the club historian at this time. He would occasionally publish tidbits about the club history. This month he listed calls and dates of membership for a number of (then) members. Notable for still being here, members listed included Stan, **K3IPM** 4/19/1961 - 59 years ago), and Bert, K3IUV 10/21/1959 - 61 years ago. Sadly, the others on the list are all now SK.

New Products of Interest to Hams. An aperiodic article, by **W3NSI**, Lynn. Audio amplifier modules from Solitron. 15-watt output, $12.95. 2-watt output, $8.25. A receiver and transmitter set from a Japanese manufacturer, distributed by Henry Radio. Covering Ham frequencies from 160 meters through 2 meters. Transmitter output 160 watts, all transistor except for the final stage. Price not given.

Technical Topics. Updates of two articles of interest were published. Joe, **W2EIF**, provided additional details on matching devices, using half-wavelength extensions for matching harnesses used with widely separated beams. And **W2AXU**, Jack, published an excellent article on a "50 MHz to 144 MHz mixer amplifier." Designed to be used in conjunction with his 2-meter amp which was described in an earlier issue. Schematic, parts list and instructions were included.

Swap Shoppe. By W3ZRR. *(Always nostalgia. Now we use the club reflector.*) From Dave Greenberg, a Hallicrafters receiver, Model 32, incomplete. And a Hallicrafters Transmitter, Model DC100, incomplete. Both were "best offer." (*Sounds like an unfinished project to me*). From **K3ESL**, Ben, a 50' Rohn tower, hinged at the base (no price), and 400'of RG17, 1/2 price (half of what)? From **W3CL**, Harry, a Collins 75A2 receiver, with Central Electronics SSB slicer. $225. (When you had one of these, in the series, *75A1 through 75A4, you were "King of the Hill*")

Miscellany. *I noted that one of the directors at the time was Walt, K3BPP. Still active. Postage for this copy was still a single 6-cent Roosevelt stamp. 6 double sided, 8-½ x 11" sheets). As usual, many "folksy" comments about members, their families, and activities were included in this edition of Cheese*

…. Wayback cont'd

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

Thirty, de **K3IUV**
(**K3IUV@ARRL.net**)

World's Fastest (?) Solderless Breadboard Oscillator

This short "Hackaday" article with linked YouTube video shows a microwave oscillator built (sort of) on a solderless breadboard. It runs at just short of 25 GHz! It may be a world record (for what that's worth) for this type of construction. I credit the builder with audacity and cleverness. See what you think. https://hackaday.com/2020/07/01/breadboard-breaks-the-speed-barrier/ . **—W2BVH**

Events

For inclusion, please direct event notices to the editor.

CQ WW VHF Contest -Contest - July 18—19, 2020. See https://cqww-vhf.com/ for details.

222 MHz and Up Contest Contest - August 1-2, 2020. See http://www.arrl.org/222-mhz-and-up-distance-contest

10 GHz and Up Contest Round 1 - Contest - August 15-16, 2020. See http://www.arrl.org/10-ghz-up .

September VHF Contest - Contest - September 12-14, 2020. See http://www.arrl.org/september-vhf for details.

2.3 GHz and up and Up EME Contest - Contest - September 12 -13, 2020 Details to follow.

10 GHz and Up Contest Round 2 - Contest - September 19-20, 2020. See http://www.arrl.org/10-ghz-up .

Gloucester County ARC Hamfest - Hamfest - September 13, 2020 Mullica Hill NJ. Details to follow.

50 - 1296 MHz EME Contest - Contest - October 10-11, 2020**.** Details to follow

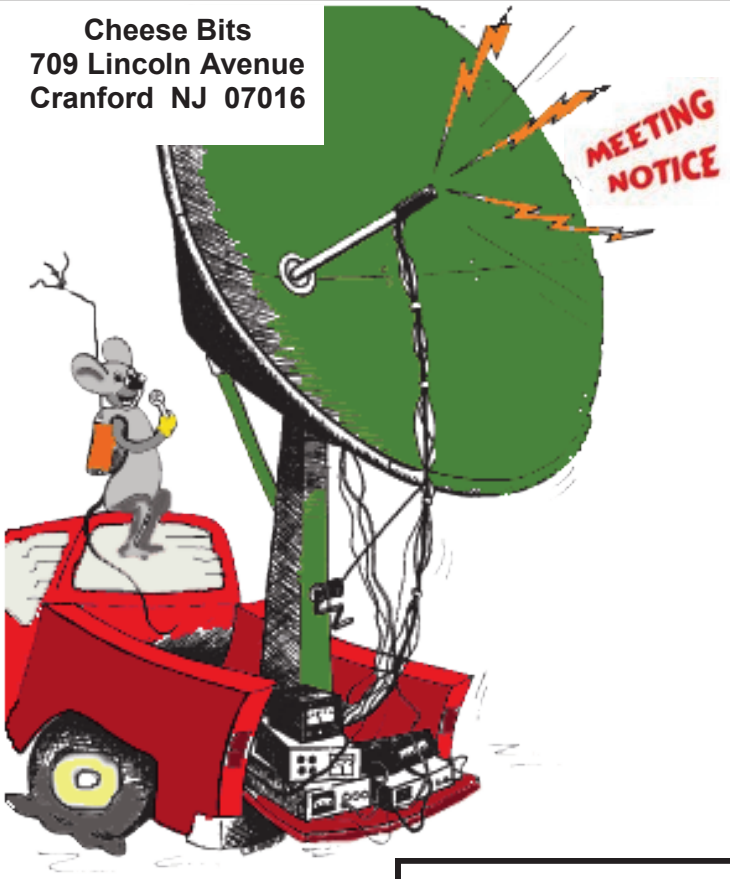
RF Hill ARC Hamfest - Hamfest - October 18, 2020. Sellersville PA. Details to follow.

YouTube 6 Meters Tutorial

See https://www.youtube.com/watch?v=2a7GV0KGzlo&fbclid=IwAR3XedBkd42q7_YxAgcNNpCgphtD_ssPG_9MgpQkb-gFzUMfYmzk6BI87Ts&app=desktop

This video has 19,500 views. Worth a look. Around 6 minutes long. Sent to Cheese Bits By Herb K2LNS

Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016



TO:

MT. AIRY VHF RADIO CLUB, INC.