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

CHEESE BITS

W3CCX
CLUB MEMORIAL CALL

ARRL Affiliated Club

Volume LXIV | February 2021 | Number 2

PREZ SEZ:

Just when I thought “March can come in like a lion”, February will likely beat it with our largest snow storm in a long time! Here's hoping your antennas were not damaged and the ice has melted so we can all enjoy some VHF+ DX fun again! Did you notice the 10 GHz enthusiasts working “snow scatter” from driveways and fixed stations over and between mountains on the snow weekend? Talk about taking advantage of a situation...Way to go guys, do it again and “Listen for the weak ones”!

Speaking of fun, how did you enjoy the January contest? The weather was great and the rovers were out, as the Pack Rats took to the airwaves in our annual quest to work as many contacts & grids on each band as possible. Conditions were certainly less than spectacular, but I did notice a short and fleeting 6M opening southwest that netted a few extra grids. Activity from the Northeast seemed to be down again similar to last year. That area is much more likely to have winter weather related problems. Microwave conditions were way down on Saturday, making a recovery on Sunday so we could have some fun on those bands.

I want to thank Contest Chairman Mike, N2DEQ for heading up the charge again this year and fine tuning our contest strategy he introduced last year. All the scores are included elsewhere in this issue and the results for this year are quite interesting: With only 60 logs submitted this year as compared to 70 last year, our score was increased by approximately 19% and that's without having the N3NGE Multi-op score this year due to COVID concerns. Yes, we can be proud that the Pack Rats did a good job!

Our contest Wrap Up meeting on WebEx was a very productive meeting as usual Thanks again to Mike for all the work before and after the meeting! Members shared their ideas freely one at a time with suggestions on how to increase member QSO's in contests on the 6 & 2 Meter SSB/CW modes, Microwave bands, and Rovers, while still including the digital modes that provide the opportunity for many QSO's. Expect to hear more on these ideas in the next few weeks.

I will be asking 3 members to step up at the BOD meeting on February 11th to be on this year's nominating committee. Please be ready to volunteer freely or be appointed by “arm twisting” or other methods!

Plans are moving ahead for our annual trek to the Camelback Mountain again in June. We are planning a full operation with stations on 50 MHz - 10GHz scaled back somewhat to conserve manpower needed to set up, but still be on 10 bands. We still have to evaluate the ever changing COVID situation and the Governor's rules for State Parks by the end of April as we did last year.

The QSL Card project for members and W3CCX QSL's is moving along thanks to Jim, KC3BVL and Bill, W0RSJ stepping up to volunteer for the committee. Samples and prices will be available

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PACKRAT 222 MHz REPEATER - W3CCX/R
222.98/224.58 MHz (PL 136.5) Hilltown, PA

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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

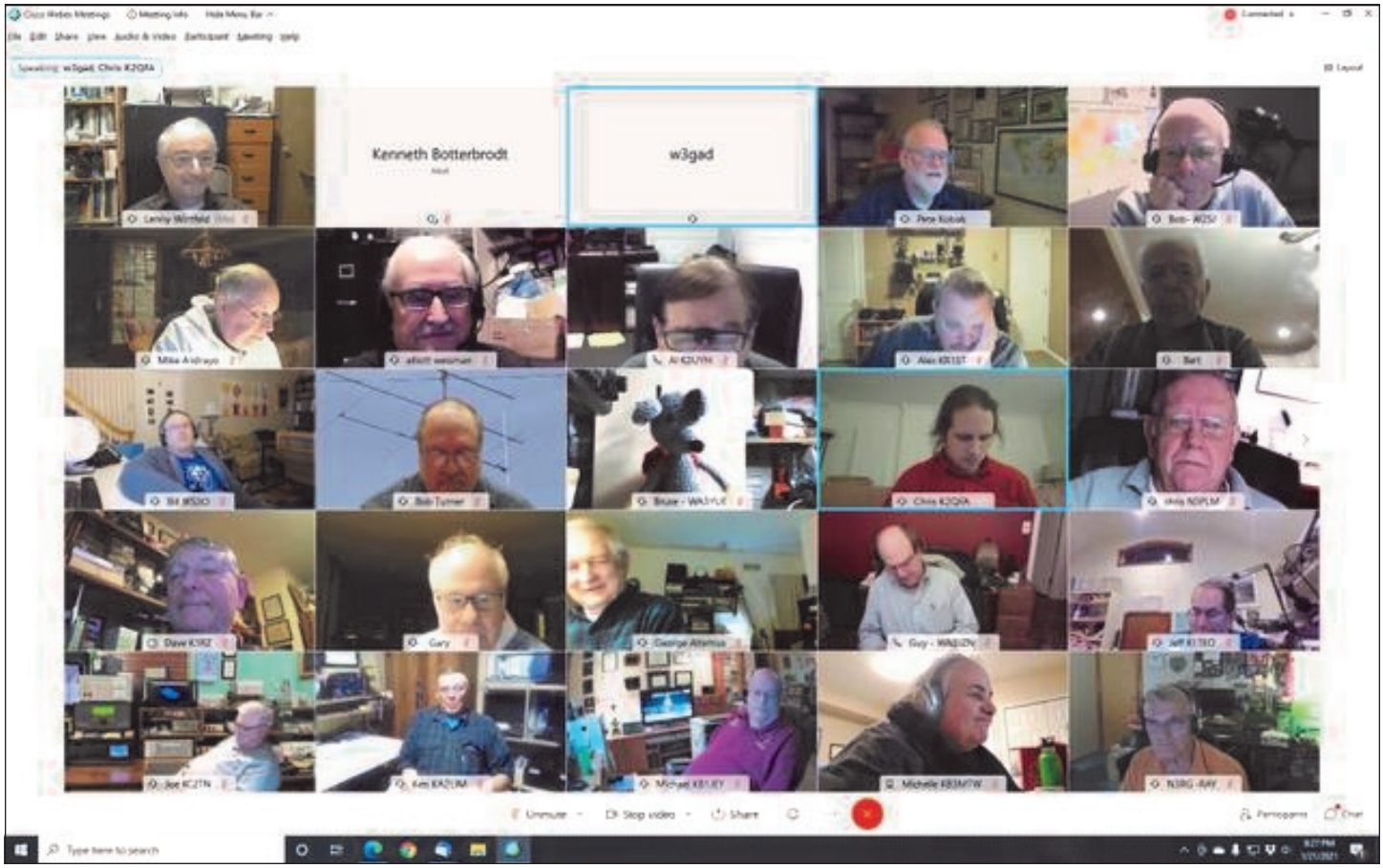
soon.
Don't forget to test your equipment for the beginning of the Spring Sprints in April by checking in to the Monday Night Nets and other nets being run by Jim, KC3BVL on Friday Nights.

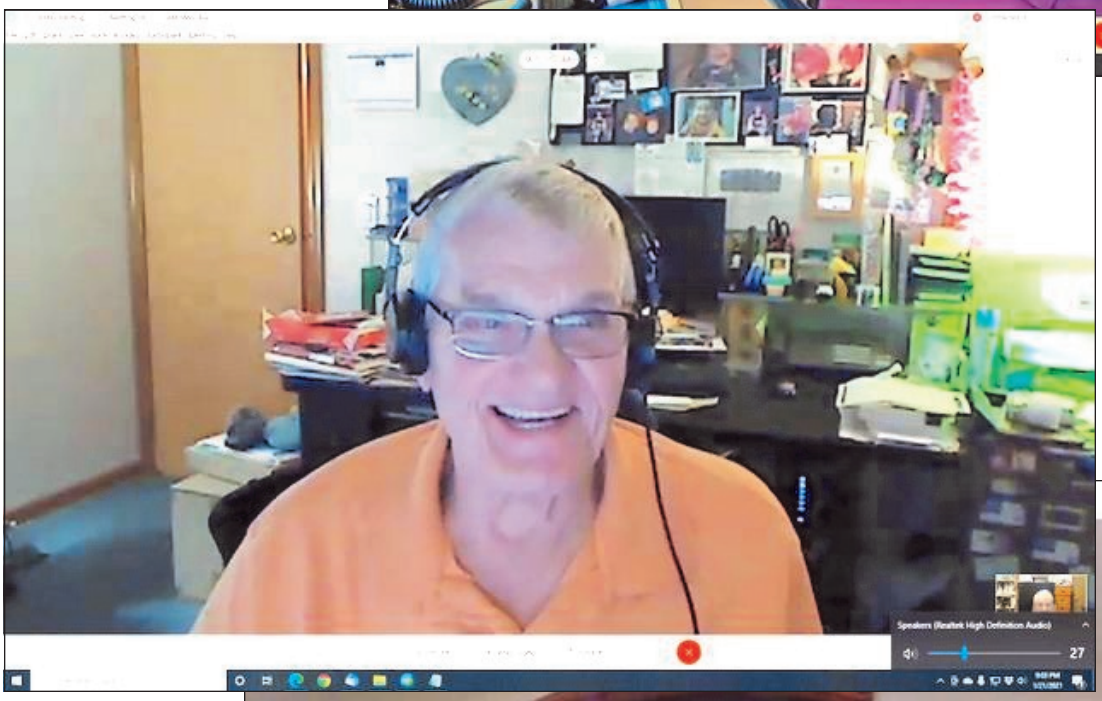
I would like to get a Microware Activity night/net going again, so members can work on keeping their microwave equipment working all year long instead of having to fix it 2 days before the contest! This would be on any band, 902/903 & Up. We have tried this before, but the nights, times, or days were either in conflict or just forgotten. I was thinking "Thursday Nights are Packrats Nights". How about the first and/or last Thursday nights of the month at 7:30 PM? Maybe meet on 144.260 to coordinate contacts. Please let me know your thoughts on this idea.

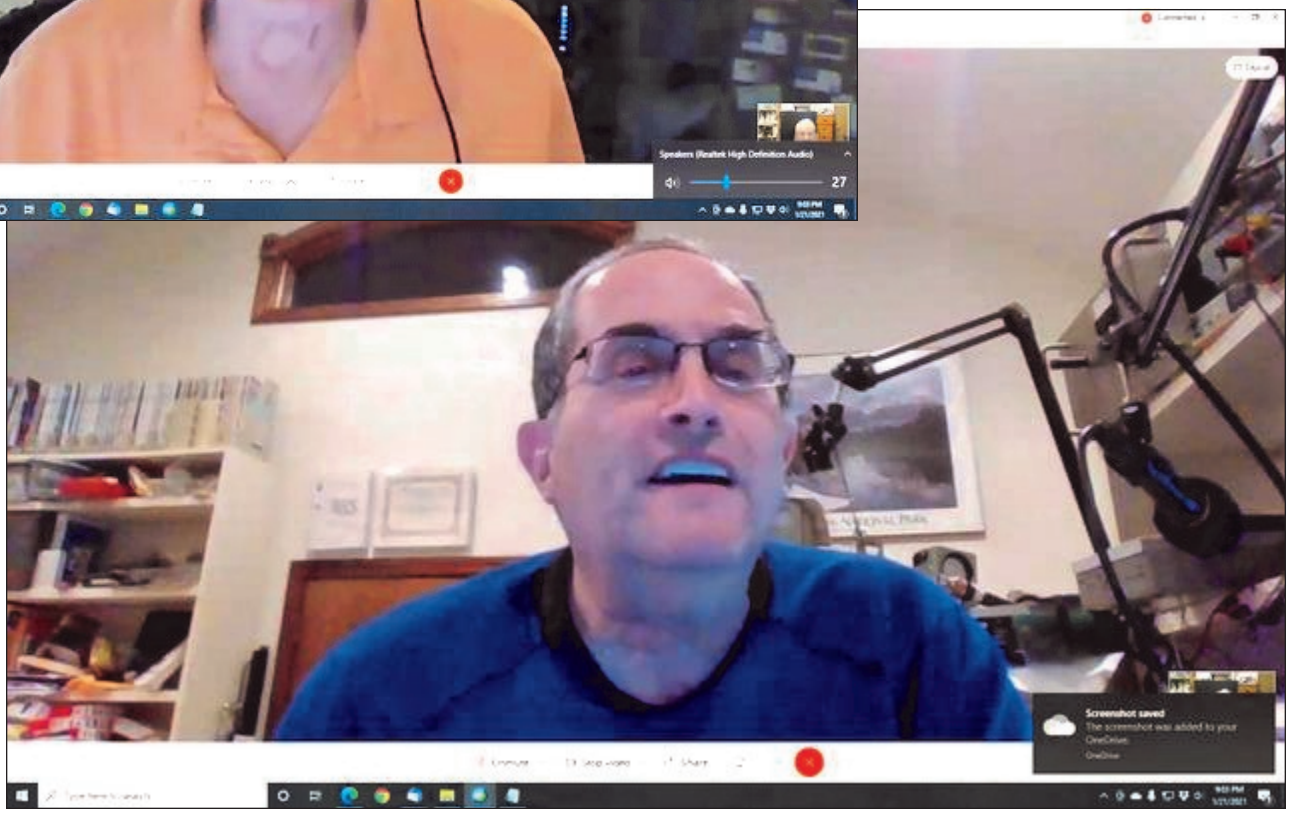
Meanwhile, finish a project on the bench, keep one ear "listening for the weak ones", and the other on the "Magic Band"!

Vy 73,
Bob W2SJ

JANUARY (WEBEX) MEETING PICTURES

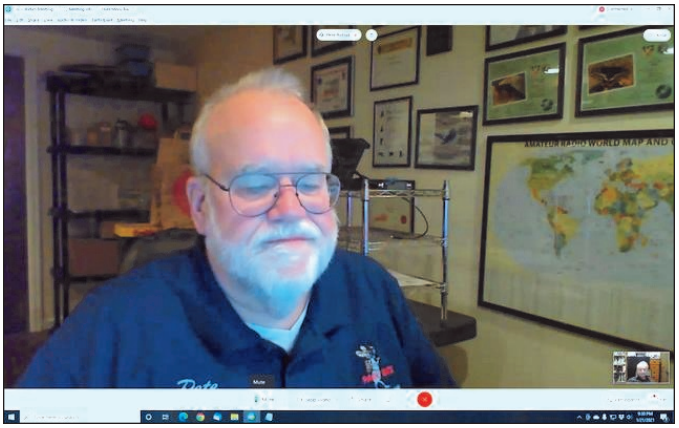


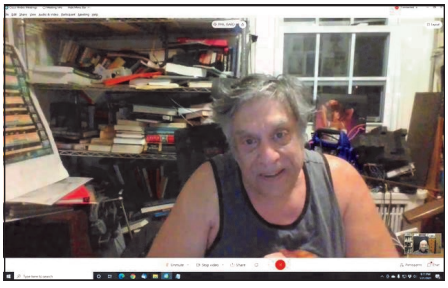





Bill WS3O Crying Towel Winner!


Ken KA2LIM Crying Towel 2nd Place!





Mt. Airy VHF Radio Club, Inc.
`The Packrats`
January 2021 VHF Sweepstakes Contest

Total Logs: 60 **Club Claimed Score:1,499,501**

Here's the results of the January Sweepstakes as compiled by **W3KM**. How did you do? Check it out below. Each frequency cell shows Q's and Grids for that frequency. What can you do to improve for next year? Start planning soon!

Nr	Call	QSO's	Total-Grids	Score	6M	2M	222	432	902/3	1.3 GHz	2.3 GHz	3.4 GHz	5.7 GHz	10 GHz	Laser
1	K1TEO	863	242	370744	320 80	244 50	79 33	113 32	25 10	43 13	15 8	12 8	6 4	6 4	
2	K2EZ/R	628	142	279882	78 17	104 19	102 16	111 17	62 14	62 14	56 14	53 13			
3	K1RZ	526	177	190806	124 42	170 46	66 23	76 26	25 9	30 11	18 8	6 4	3 3	8 5	
4	W3SZ	378	101	83628	123 30	107 24	32 8	39 8	17 5	23 6	10 5	10 5	9 5	8 5	
5	N3RG	347	110	78210	99 31	98 26	41 13	50 14	14 4	21 6	10 5	4 4	5 3	5 4	
6	WA3NUF	355	77	44506	127 27	135 27	22 5	34 5	9 3	14 5	9 3	5 2			
7	KC2TN	338	78	43758	122 26	107 24	32 9	40 8	14 4	13 3	10 4				
8	W2SJ	297	64	41920	105 21	52 10	35 7	38 7	19 4	27 6	12 3	7 4	1 1		1 1
9	N3NGE	268	70	34510	100 20	97 27	16 3	16 4	9 3	11 3	10 3		5 3	3 3	1 1
10	NN3Q/R	172	50	29800	15 3	33 7	24 5	28 5	15 5	18 5	13 4	6 2	8 3	9 3	3 3
11	WA2OMY	263	55	29205	103 20	68 16	19 2	23 4	12 2	19 5	12 3	4 1	3 2		
12	W0RSJ	220	66	26136	80 27	46 9	30 8	37 8	10 5	10 4	5 3	2 2			
13	W3ICC/R	308	38	25536	62 5	84 6	51 5	56 6		32 4	20 4				3 3
14	W3GAD	237	54	25218	55 12	72 15	28 7	40 8	15 4	18 5	8 2				1 1
15	W2KV	309	56	20888	84 17	161 29		64 10							
16	W2BVH	226	58	20648	70 16	86 17	19 6	27 6	8 5	13 5	3 3				
17	WA3QPX	225	82	19762	125 37	84 35		16 10							
18	W3KM	246	75	19275	174 59	61 13	11 3								
19	WA3DRC	219	74	19240	105 38	73 24	21 6	20 6							
20	KA3FQS	229	34	15912	60 11	52 6	35 4	39 4	15 3	19 3	6 2	3 1			
21	N2SCJ	262	40	14440	126 27	65 4	21 2	36 4		14 3					
22	WA2FGK	257	56	14392	257 56										
23	KR1ST	196	58	13398	84 22	87 23	8 4	12 5		5 4					
24	K3MD	189	63	13104	106 29	68 23	6 5	7 5		2 1					
25	WB2RVX	149	29	9744	29 4	31 4	24 4	30 4	13 3	15 4			4 3	2 2	1 1
26	K2TXB	142	63	8946		142 63									
27	KC3BVL	139	33	8910	36 12	38 6	18 4	26 5		15 4	6 2				
28	WA3YUE	128	38	8816	34 9	40 15	16 4	19 3	8 3	8 3	3 1				
29	N2DEQ	179	34	8126	79 14	58 12	14 3	19 2	5 2	4 1					
30	K3GNC	168	37	7807	43 10	82 17	15 4	28 6							
31	W3HMS	124	51	7650	74 26	32 15	7 4	7 3	2 1	2 2					
32	W9KXI	109	53	6625	32 16	63 25	4 4	9 7		1 1					
33	K3JJZ	185	25	6525	55 8	58 7	33 5	37 4	2 1						
34	WB3IGR	73	34	4454	13 7	32 11	9 4	8 4	4 3	5 4					2 1
35	N3PLM	132	31	4154	65 12	65 18		2 1							

Mt. Airy VHF Radio Club, Inc.
`The Packrats`
January 2021 VHF Sweepstakes Contest (cont'd)

Total Logs: 60 **Club Claimed Score: 1,499,501**

Nr	Call	QSO's	Total-Grids	Score	6M	2M	222	432	902/3	1.3 GHz	2.3 GHz	3.4 GHz	5.7 GHz	10 GHz	Laser
36	N3YMS	89	23	3450	13 2	33 7	15 5	19 5	3 2	6 2					
37	N2CG	89	38	3382	64 28	25 10									
38	KB3MTW	131	14	3262	35 3	34 2	23 2	23 2	7 2	7 2					2 1
39	KA3WXV	129	19	3249	42 6	45 7	15 2	27 4							
40	KB1JEY	127	12	2136	40 3	36 3	23 3	28 3							
41	N3ITT	75	27	2025	50 18	25 9									
42	KA2LIM	43	30	1950	8 6	15 9	9 7	10 7		1 1					
43	N3FTI	83	21	1743	83 21										
44	WA3NFV	116	10	1590	32 3	41 3	17 2	26 2							
45	KC3ACQ	72	22	1584		72 22									
46	K2WB	66	18	1440	26 6	26 8	5 2	9 2							
47	K3EGE/R	23	18	1350		7 4	5 3	5 3							6 4
48	K3VEQ	69	12	972	20 3	37 6	2 1	10 2							
49	K0BAK	72	13	936	72 13										
50	K3GM	55	14	784	43 11	11 2	1 1								
51	WS3O/R	45	11	594		36 6		9 2							
52	K3IUV	62	7	525	13 1	36 3	4 1	9 2							
53	NE3I	45	9	504	10 1	26 4	5 1	3 2		1 1					
54	WB2ONA	29	6	228	7 2	13 2		9 2							
55	K1DS/R	22	7	196	2 1	16 2		3 1		1 1					
56	WX3K	18	8	160	4 2	12 4		2 2							
57	WA3RLT	3	2	8		2 1		1 1							
58	K3SFX	-	-	-											
59	N1XKT/R	-	-	-											
60															
61															
62															
63															
64															
65															

NOTES:

K2EZ/R roved in AR/OK/TN/TX
K1DS/R roved in EL96/EL97
For the above, score and log count not added to the club totals.
K3SFX and N1XKT/R did not report log details to W3KM
THANKS, AS ALWAYS, TO W3KM for processing the log data for these grids!

Mt. Airy VHF Radio Club, Inc.
`The Pack Rats`
January 2019 VHF Sweepstakes Contest (cont'd)

Total Logs: 60 **Club Claimed Score: 1,499,501**

Multi-OPS

Nr	Call	QSO's	Total-Grids	Score	6M	2M	222	432	902/3	1.3 GHz	2.3 GHz	3.4 GHz	5.7 GHz	10 GHz	24G Hz	47 GHz	La-ser
1	N2NT	700	153	128979	308 70	249 44	62 20	81 19									
OPS	N2NT N2NC WW2Y																
2	WA3EHD	331	83	48970	134 41	80 15	32 6	46 7	12 3	11 3	8 3	6 3		1 1			1 1
OPS	WA3EHD KB3SIG																
3	N3EXA	258	49	12887	132 25	121 23	5 1										
OPS	N3EXA KS3Z																
4																	
5																	

Mt. Airy VHF Radio Club
January VHF SS
Previous Aggregate Claimed Scores

Year	Logs Submitted	Score
2021	60	1,499,501
2020	70	1,260661
2019	71	1,138,372
2018	60	1,911,495
2017	65	1,998,637
2016	70	2,238,450
2015	68	2,065,073
2014	68	2,277,747
2013	65	2,659,242
2012	77	2,491,702
2011	67	2,156,784

Previous Aggregate Claimed Scores (Continued)

Year	Logs Submitted	Score
2010	70	2,699,809
2009	58	1,891,225
2008	63	2,232,731
2007	63	2,055,259
2006	57	2,724,560
2005	53	1,459,052
2004	56	2,856,837
2003	61	3,127,678
2002	49	2,113,624

Mt Airy VHF Radio Club Current + Previous 6 Years Scores by Station

CALL	2021	2020	2019	2018	2017	2016	2015
K1TEO	370744						
K2EZ/R	279882	111199					
K1RZ	190806	85767	124540	316470	201684		
W3SZ	83628	11250	79856	27048	52206	111213	45784
N3RG	78210	35471	75440	115062	90200	108676	108070
WA3NUF	44506	59428	49632	5712	90902	116730	123156
KC2TN	43758	33330	17289	33428	13962	30186	35904
W2SJ	41920	33609	21156	50556	14945	51179	27816
N3NGE	34510	285196	220704	490154	441350	496386	507726
NN3Q/R	29800	15213		57525	66177	96448	71565
WA2OMY	29205	23892	16992		25929	19565	28620
W0RSJ	26136	28426		27218	29341	55480	35700
W3ICC/R	25536	24432	10920	20727	30549	28858	10428
W3GAD	25218	18964	10908	10461	19424	52	12258
W2KV	20888	20280	21505	5848	28420		
W2BVH	20648	19264	10647	23142	25592	10730	9792
WA3QPX	19762	15813	13650	37920	30415	31878	33128
W3KM	19275	4887	8388	15839	12012	20163	8613
WA3DRC	19240	46425	57868	55407	58880	59160	59218
KA3FQS	15912	14911	17696	14630	19795	18648	21868
N2SCJ	14440						
WA2FGK	14392	16704		4797	2550	42672	21016
KR1ST	13398	27612	5985				
K3MD	13104	8415	6204	16244	26979	20160	21513
WB2RVX	9744	40887	21935	49593		162064	230356
K2TXB	8946	11387	17020			3496	3674
KC3BVL	8910	6650	4600				
WA3YUE	8816	6665	6960	9144	14315	10444	
N2DEQ	8126	8340	4840	4200	5050	3420	3080
K3GNC	7807	8496	14079	7380	47804	48977	38254
W3HMS	7650	6480	3360	72	7740	6112	4669
W9KXI	6625	2079	5418				
K3JJZ	6525	6900	7944	8618	13299	14689	5112
WB3IGR	4454	4182	3432	4958	5056	1449	14681
N3PLM	4154						

Mt Airy VHF Radio Club Current + Previous 6 Years Scores by Station (cont'd)

Call	2021	2020	2019	2018	2017	2016	2015
N3YMS	3450			24180	30804	41607	24832
N2CG	3382	2162	96				
KB3MTW	3262	3705	5232	4636	6912	8000	6780
KA3WXV	3249	3380	3344	5300	6175	5208	5400
KB1JEY	2136	3390	5112	4420	3584	7748	7300
N3ITT	2025	72	4810				
KA2LIM	1950	10207	4095				
N3FTI	1743		10962	22500	42316		40950
WA3NFV	1590	1860			2340	3689	1507
KC3ACQ	1584			936			
K2WB	1440	5432	1190	1498		2755	3220
K3EGE/R	1350						
K3VEQ	972	1469	632	1558	1710	2550	2227
K0BAK	936						
K3GM	784	4064					
WS3O/R	594						
K3IUV	525	33	2394	1778			744
NE3I	504	765	768	384	1188	490	2247
WB2ONA	228	430	100			24	144
K1DS/R	196	1164		1764	76373	52368	87497
WX3K	160	7304		5439			
WA3RLT	8	225	1905	4725	4818	4968	3116
N2NT	128979	121693	118956	142742			
WA3EHD	48970	25872	19635	18848	41160	40866	41256
N3EXA	12887					6480	60

JANUARY CONTEST REPORTS

From Phil WF3W
Thank-you for thinking of me, in the contest. I mounted my V/UHF ant on my deck — 30ft up — to make feed runs as absolutely short as possible. Then the chimney on my upper roof failed. Insurance & adjustors still scratching their heads on this one BUT only as they try to slash who pays how much to whom. When the chimney failed, it CRASHED down, onto my deck, which also crashed down, and all my antennas proceeded to follow physics and gravity, ending-up on the ground. The only antenna I have left is my old dipole which is way above the house.
Fortunately, not one ant lost the smallest speck of aluminum. Even all the elements are still straight! And every antenna has its mast attached. Coax, however, is tightly buried UNDER brick & wood, chairs & tables, etc.
I was thinking of "leaning" masts against what is left of one side-railing of the deck but it's just not practical. Besides, the adjustors, et al., want to see the site in its original catastrophic confusion and they have been none to prompt moving their a**es.
I hope you can forgive me for cheating the club out of any points I could have contributed.

From Pete K0BAK
I look forward to the January contest as a good excuse to visit many Rats at their home stations, but this year that would be irresponsible. Several weeks before the contest, I had already decided to stay home rather than operate as an 11-band QRP rover as I have in past years. Moving some Packrat equipment boxes the previous weekend led to a significant back injury, so as it turned out I could not have driven a vehicle anyway on the contest weekend. Instead, I operated casually at home on 6m, forced into my only antenna—a 40m doublet. I operated 50w FT8 only, although I did check down-band a couple times for SSB or CW ops but didn't find any that weren't already in the log. Only got a few grids outside the Packrat area. I think this is the first time I entered as a 3-band fixed station. 72 6m QSOs, 13 unique grids, claimed score 936

From John K3MD
The contest was predominantly controlled by 6 and 2 meter FT8. I found the ON4KST chat page to be much less useful than in previous years. I did use the K1RZ/W3SZ database in order to call up a number of 'Rats in order to get multipliers. I had {0} equipment failure. Thanks to the club for having the nets in order to check equipment weekly. The score is way down in that getting mults sent up from 2M SSB/CW never happened. High absorption on 222/432/1296 Sat.

From George WB3IGR
73 QSO's, 131 points, 34 multipliers. Over all score 4,454. Not bad considering that 6 meter FT-8 didn't work (RF problems). *With a comment from W2SJ:* " Great score from way out in Lebanon County! I like your nice compact "stealth" type antenna system as pictured on QRZ.com. It sure has grown since the last time we had an "eyeball" qso at your QTH. Thanks for supporting the club's efforts in the January contest."

From Bill K1DY
I didn't have great hopes for this contest.. Bad weather, potentially really bad condx and a rotor stuck to the SW. But the snow and ice became rain so no real antenna icing problems just a lot of precip static on Sunday. The best thing that could happen for me with fixed antennas whose beamwidth got narrower as I went up in frequency would be for the band to open on 6 to the SW and it cooperated on Saturday evening netting me 20 new multipliers in FM and EM grids.. All this was on SSB, never even looked at FT8! Things died down a bit and I quit pretty early but looking at FT8 decodes the next morning it seemed like things kept going.. oh well.. Sunday I spent trying to work the "usual suspects" on 2-432. QSB was SEVERE and stations would go from S9 to below the noise in less than a minute! Made 43 Q's on SSB and CW and 27 on FT-8! Nice to hear familiar voices! Thanks to all who got on and looked North!

From Michelle KB3MTW
Guess my ears were clogged. This year only 100+ contacts. Past years I would have at least 200. I have noticed a lot less locals or guys with systems like Phil K3TUF on the air. With my compromised antenna system most of my grid squares are FN20 and FM29. After those contacts, the airwaves are

dead to me. Even tried K1TEO on FT-8, but couldn't get him. So my next step is antenna improvement while staying stealthy. The video of Andrea Slack's antennas on her jeep could be my ticket to better receive and tx. If anyone has excess small directional antennas for 6, 222. That would be great. I currently have a 2/440 yagi in my shed. If my helpers feel it is sufficient then at least I have that, but all the antennas or 2 at no higher than 6 feet would be better than my omni directionals.

From Bill K3EGE/R

Since Len N3NGE did not Multiop this year, I decided to go out with my 3 band (146.55, 223.5 and 446.0) FM HT and my laser as a rover . First I met up with Drex and Paul and worked W3ICC/R in grids FM29 and FN10 on Saturday Then stopped at Len's to give him contacts on all 4 bands. On Sunday morning I met up with Al K3WGR who was operating NN3Q/R at Mt Penn in FN20 for contacts on all 4 bands Then before leaving the mountain I worked Roger W3SZ on the 3 FM bands. Sunday afternoon I once again met up with Al in both FM29 and FM19 for contacts on all 4 bands in both grids for NN3Q/R. Driving around made me really appreciate all that the rovers do in these contests. Final score submitted was 1,350 points. Best of all I had lots of fun .

From Michael KB1JEY

By way of background, I had a shift at my favorite home improvement store from 7 AM to 3 PM on Sunday, which cut into my chair time. Another issue that I worked through is that about a month ago, I discovered a problem with my 432 MHz set -up, probably due to a fault of some sort with my Kenwood TS-830S. Working 6 days per week, I have yet to pull the TS-830S out of the rack to confirm the fault. However, years ago, I set up a "Plan B", which was to acquire a full station in a box, an ICOM IC-7100. I used it for both 2 meters and 70 cm for this contest. The IC-7100 only puts out 50 watts on 2 meters and 35 watts on 70 cm. 35 watts is a good size drop from my normal 100 watts via a Mirage amp. With a single transmit / receive line, I did not want to insert an attenuator. I could "ride" the RF power knob between bands but the big danger for a jury-rigged set-up during a contest is to forget to dial back the RF power knob and over-drive the Mirage. The reality is when I did the mental dB calculation, the loss of signal on 70 cm was manageable. I have been testing my 70 cm set-up on the Monday Night nets. Mike WB2RVX does not pick me up as well on the Monday night 70 cm net but he and most other hams were able to work me on 70 cm. Inserting a A-B antenna switch from George KA3WXV has made using the IC-7100 for two bands a bit more tolerable. Thank you George. One other useful comment: I am not a big fan of digital modes or CW (which definitely should not be taken as a suggestion as to what should work for you and your station). So I go on 6 meters and call CQ with my Elecraft K3S voice keyer. About 8:30 PM on Sunday, I heard from my buddy Alex KR1ST. Early in the contest, Alex had problems with ice and snow. Also, we know from the Monday Night 222 MHz net that the path from his QTH to mine is sometimes problematic. We were able to pull out QSOs on four bands. Those FN21 contacts raised my grid count from 8 to 12, with the corresponding jump in score. There are all sorts of lessons to draw from this but just one session with a ham in a different grid can make a big difference in your score. Thank you Alex. I can hardly wait for COVID-19 to pass so I can add some driveway QSOs with my laser communicator and with HackRF One (or my additional transverters). How did I know when it was time to quit? I heard the fan on my Astron rack-mounted come on for the first time. I can take a hint.

From Russ K2TXB

I made a decision that I would only turn in a single band entry this year, for 2 meters. I did make one contact on six, but removed it from my log. Two meters was going pretty well for me and I wanted to continue. My totals are 142 contacts in 63 grids = 8946 points. 11 contacts were on **EME**, all in separate grids. 2 new grids were on **meteor scatter**, and the rest on FT8.

From Doc W3GAD

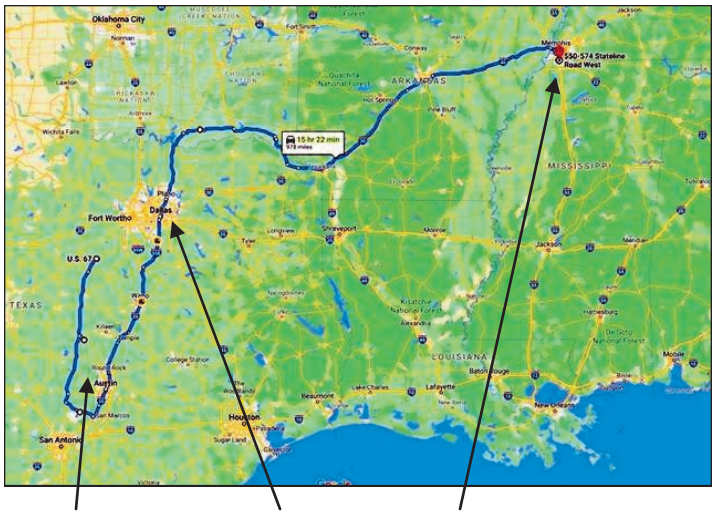
This was not my normal contest. While there was plenty of drama leading into the contest, everything, with the exception of the operator, functioned as planned. None of the systems failed so I had a significant improvement in chair time and a significant improvement in score. Not my best ever but a bigger score than in recent years without any band openings. 2 meter FT8

really helped.

From Al KB3IG
I have a lot of these on FT8: You make contact with a station and receive R [grid]. You send RR73 or RRR and get nothing back. If you sent RR73, WSJT thinks you made it and are through. (I used to say "If Joe says I made it, I made it".) If you send RRR, you eventually give up and move on after a few minutes. These are the ones I'm never sure of. Do you log it? If a station calls me and I send R [grid] and get nothing back, it's not a contact, but it's entirely possible he sent an RR73 I didn't get, logged it and moved on. I don't log any of these, but I can't help but worry that I'm causing someone else to be penalized. I made one QSO (for a new grid) on 6M FT4. I looked at .318 regularly, but mostly saw an empty waterfall while the FT8 waterfall was solid red. I also arranged one pass up using the free message, but I also saw confusion because you'd sometimes see "QSY up" with no idea who sent it or whom it was directed at. Just venting I guess. [This triggered a long and interesting interchange on the Packrat reflector. If someone would care to write it up as a single article for **Cheese Bits** it would benefit everyone — W2BVH Ed.].

From Steve N3FTI
My tower is being refitted at the present time so I only operated 6M. My only antenna was a 6M Moxon at 20'. Rig was Flex5000 driving a Alpha 8460 to a KW output. I operated for a few hours Sunday afternoon/evening. 6M never seemed to open up for any extended period of time from my QTH but still was able to work 21 grids. Looking forward to getting the antennas up in the spring.
Q's 82 Grids 21 Score 1,743

From Andrea K2EZ/R
Hard to believe this is my seventh January VHF contest, although only sixth January rove as I once operated at K5QE when my vehicle had an intermittent shorting problem making it impractical to rove. Score breakdown is as follows. Not the most Qs/mults I got, but with the enhanced value of the microwaves in January it was my best score ever. Score 279,882. Unfortunately being in TX, none of that will count towards the club score. On Saturday I started my rove at the grid corner southwest of Fort Worth TX where a group of 6 rovers were meeting. Three of the Texas rovers (KA5D/R, KD5IKG/R, W5TN/R, two Oklahoma rovers (N0LD/R, K5SRT/R), and myself. From there I traveled two grid corners to the south which put me southwest of Austin. During this time the TX rovers were running south on a different route to a different destination. I accidently crossed paths with KD5IKG/R when I took a wrong turn. This was fun times with lots of contact opportunities. From there I ran north thru Austin towards Dallas. I stopped about 40 minutes south of Dallas and slept a few hours in the car. Sunday at 7:30am I proceeded north thru Dallas to a grid corner in southern Oklahoma where I caught up to the OK rovers again. From there proceeded generally East down thru Texarkana and across Arkansas to my final destination the grid corner in Memphis TN where I met up with AG4V/R. While traveling across Arkansas I worked W5VY/R numerous times who was on a hilltop in western Arkansas to the north of my route. I mention the rovers, but there were a number of fixed stations along the way. K5QE was a target from 6 or so grids. W5ZN was good for four or so grids and N4JQQ in Memphis. Tried to get N4QWZ while in Arkansas but no luck although AG4V tells me he can be worked from where I was. All told I activated 18 grids and traveled the rough order of 1,000 miles this contest. Adding distance to my starting point and dead head home I showed 1,850 miles traveled. I only was operating eight bands as I didn't bring my 5.7G and 10G to TX. Those bands likely wouldn't have worked well with this very mobile rove.



From Joe KC2TN

My 2021 Jan VHF Contest prep started the day after the 2020 contest ended. I had a postmortem contest to-do list 4 pages long. With 2020 being a year like no other, I attempted to complete as many items as possible in hopes of improving my score for 2021. First on my list was to replace my 20 year old feed lines for 144, 222 & 432 with 7/8" hardline. Second was to replace my 432 antenna with a new K1 FO design. My major pandemic project was the building of my 4 band LNA switching box for 903, 1296, 2304 & 3456. The new box enabled me to reconfigure my station to a single sequencer. Thanks to Ray/ N3RG for his help and coaching in this effort. It worked great during the contest. I then added

some more power on 903 and 1296. Driven by a need to improve my overall data security and CPU horsepower, I rebuilt my station computer in August and relocated my noisy server to another room. This required me to reload and configure all ham related programs. I got most of them installed but had problems getting Packrat Finder working in time for the contest. I'm also still experiencing N1MM & WSJT-X integration issues while logging but managed to muddle through. Text notifications from W3ICC/R were most helpful by providing timely location and frequency info when arriving at a new location. BIG HELP! Fixed and installed my 7el 6M yagi that gave me a few extra dB's and height. I ran the contest without my 6m KW amp that failed just prior to the contest. In addition, one of my rotors was not working just days before the contest but came back to life on Friday and lasted throughout. Phew! Having all 7 bands working helped with running through the bands in an orderly manner, while several ops were following along. I usually would get lost because of a missing band or two. So, all in all, I completed about half my to-do list and added a few more items for 2022. And I already, solved one of the issues. So what did the all the efforts gain me? Went from 33,000 to 43,000 points. I had about a 50/50 split on 2M/6M with FT8.

From Dave K1RZ

The January 2021 ARRL VHF Contest was without ice or extreme cold here in central Maryland, a great improvement over January 2020. Conditions seemed average for January. Timing of microwave contacts was important of course. Daylight and "heat of the day" versus cold of the night made a big difference on some distant microwave contacts. As always we all appreciate the participation of the valiant Rovers who faced into the cold, wind, wet and slippery road surfaces and muddy back country trails. I was thankful to work with Rovers N6MEJ, NN3Q, N9ZL, W5JMC, KD3PD, W3ICC, KM4OZH and KM3G.Good Job! **Do it again in June.** It was a very fun contest with all the stations on and the many bands active, as always happens in a contest. Thanks everyone for getting on.

From Al K3WGR solo op of NN3Q/r

January 2021 was the first year in three that weather for the NN3Q/r rove was favorable for both days. The rover van covered about 250 miles over the two days and the four grids (FN10, FN20, FM19, AND FM29). It was great to get back to FN20jf Montgomeryville to start the contest. The 17 year old rover van was performing well, however there is a noticeable increase in alternator whine showing up in the audio distribution system.

I wanted to try a new strategy for this contest. After I saw what **W3SZ** did with the scheduling app it made me think to do something different than what was done in the past. However using a sked system for a rover is very demanding. The necessity to be in multiple spots that are miles and miles apart at exact times may be very difficult to achieve. Imagine being late to a grid and how that would completely devastate that grid's **schedule.** So I decided to integrate this contest rove with our operating strategy of the 222 & Up and 10 GHz contests. So I emulated the fall contests and made a list of people, calls, locations, and text numbers - no phone calls.

I found out this method worked fairly well: I made a lot of 10 band contacts, as I called, setup

and worked various stations - it was a good start and I learned as I went. Problem is most of the time you do not have a lot of time to CQ or S&P looking for new grids. I especially did not want to work FT8 - and while I lost grids, I retained my sanity! I scored just over 29K points, and looking at the log, I worked lots of 10 band Q's and lots of Q's with stations who did not have 10 bands.
My best 10 bander was with K1TEO at FN20jf. Very thrilling to work all the way up on 10 bands. I like to think it went right over NYC! Also exciting was grabbing an FM18 grid — a K4 who was working K1RZ, to run the bands! Timing is everything! I had a great contact with George WB3IGR who has a six band station in Myerstown. I put him in my list and called him and worked him from two grids. Deep fades were observed on a number of bands and some fluttering on 10 GHz but signal strengths were strong enough to complete contacts. I believe I was on the air for about 10 hours total. Running a 10 band rover, driving and operating is very tiring. I was very tired! Thanks to All I worked!!

From Ray N3RG
This year was one of those contests that I went into exhausted and without a plan! It seemed like everything I touched went up in smoke before the contest so I vowed to run with whatever worked and give it my best shot!! Miraculously after Joe Fisher's prayers before the contest, everything came to life and I was on ten bands! Saturday morning I printed the new contest clock and marked it up with Rover times and locations. Then I printed the condensed spreadsheet prepared by Mike, N3DEQ and hi-lighted the stations I thought I could work and at 2:00pm started calling CQ on six meters. After a little while I checked out the rovers and worked two of them from their first location then back to calling CQ. When things slowed down I attempted to run FT8 but after all the setting up and testing with N1MM and WSJTx, the darn thing still crashed... **several times**!!
So, I spent most of Saturday calling and answering CQs on six and two, chasing rovers and running bands with whoever was willing. In the late evening I went to meteor scatter and worked several grids with a paper log. Early Sunday morning back to Meteor Scatter and a paper log then mid-day when things really slowed down I went to FT8 and a paper log. I spent the rest of the contest working everyone I could on any mode I could and really enjoyed myself. Not my best effort but I had fun! As always I did a critique on Monday morning and have a new to-do list before the next contest. My score is in the Cheese Bits Grid.

From Lenny W2BVH
In several previous contests I got reports from John, WA2FZW (who's around 6 miles from my QTH) that my FT8 signal had spurs at integral multiples of 60 HZ across his receiver's whole 3 KHz I.F. passband. This put me off of FT8 until the problem could be confirmed and remedied. I checked out my K2 I.F. rig and it had these spurs at around –30dBC. In addition I used an audio spectrum analyzer app and found my computer's internal sound card output also had multiple in-band 60Hz spurs too. This was enough to cause the mischief that he was complaining about. It took quite awhile to figure out the causes and fix them. After the fixes, the rig had barely visible spurs above the transmitters noise level (around –50dBC). And the computer's spurs were almost unreadable. Two days before the contest the K2 was still wide open on the bench. I buttoned it up re-connected it to everything needed to use it on 4 VHF/UHF bands, connected a newly purchased external sound card to the setup and hoped for the best. Well, long story short, everything worked great during the contest. I even had an FT8 QSO with WA2FZW and no complaints from him! I found conditions were pretty flat for most of the contest, with a brief and weak Es opening on 6M Sunday afternoon. Around 1/3 of my Q's were FT8 the rest were a mix of phone and CW. I'm a bit disappointed that I had only 3 Q's on 2.3 GHz, but it was my own fault. I wasn't aggressive enough in pursuing 2.3 GHz QSO's. Probably because I was a little jittery over whether my station was operating "clean". But the bottom line is I had an enjoyable and fruitful contest. Around 1500 points better than last January (when we had that great 6M Es opening). SO no complaints from me. And I hope to operate future contests with a little more confidence in my station. PS— With a little luck I hope to be on 2M AM some time later this winter.

"THE" CONTEST

By Bert K3IUV

With the exception of 2020 when I was hospitalized, and one other year when we were traveling, I've been in every Jan Contest for the last 53 years. This year (2021), my health is somewhat better, so I decided to try and participate. Using the basement shack presented too many difficulties. What to do? I had a stairlift installed to get me up and down from our second-floor loft, where I had an extra desk. I got one of my grandsons to move some gear upstairs (TS-2000, Power Supply, Bird watt-meters, laptop with Dave's logger, key, and an assortment of RF connectors. The plan was to get on 6 and 2. Next, antennas. They would be indoors, in the loft. (this is because of HOA restrictions — and it would be too cold to "sneak" them onto my deck for the weekend as I did for 12 years). A previous appeal for the loan of a Saturn-6 Halo led to one being contributed from AA2UK. For 2 meters , I had a nice 3-wheel halo purchased about 10 years ago at a Packrat conference (but never used).

I assembled all the gear on the extra desk, and asked El (K3JJZ) for an on-air check. Wow, he hears me! I also heard beacons on both bands, but weakly. So, I was all set. Photo shows the operating desk. The other photo shows the stacked indoor halos. At the contest start, El and I had prearranged first contacts on both bands. Worked great. Two entries in the log. I continued working, and snagged a number of contacts, mostly on 2. Going so well that I figured why not add an FM rig for 220. A search for my box of walkies yielded nothing! Then I worked Doc, **W3GAD**. When he asked for a 432 contact, I replied "No antenna." His answer? Use a wet noodle – you're so close I could hear you with that. I promised him I would try to set up, and call him later.

I went to the "supply room." (Basement storage area.) With a little digging, I found a nice wood boom 10-element 432 yagi (residual from W3VIR estate). 'I knew where I had stored a Ringo Ranger for 220, so I also gathered it up. Back up to the loft with my treasures, using the stairlift. OK, I could lean the Ranger in the corner near a window, but what to do with a yagi indoors? Let's try just laying it on the bed, pointed toward the window (SW, right angles to Doc). So, I connected 220 and 432. Didn't dare look at SWR on 432, because then I'd be afraid to use it! Looked for Doc on 2. Ah, there he is. Set up sked in 5 minutes for both new bands. Woops, loud and clear on 432, stronger than on 2-meters. Go to 220, same story. So now I had 4 bands working, all indoors.!

I continued working the rig intermittently. Big problem was "where are all the contacts?" In years long gone by, one could sit for hours tuning and working stations on two and six. Now, all that was heard

K3IUV cont'd

most of the time was "noise." Where was the activity? We all now know the answer. On the digital frequencies. Leaving little food for the dinosaurs to gather. That's another topic, which I won't dwell on here. I did manage to snare a contact in FM19 on 2-meters (about 95 miles using CW, my current "digital" mode). So, I ended up with 3 grids on that band.

Conclusion. Did I enjoy working the test? Yes, it was good to get on, hear and work a number of old friends, and contribute a small amount to the club score. But was it worth the effort, and will I do it again? I think not. It just wasn't worth the effort of spending hours hearing nothing, while the normal contacts hung out on the digital freqs. Alas poor Yorick, I knew him well. 73, Bert, K3IUV

KA2LIM CONTEST REPORT

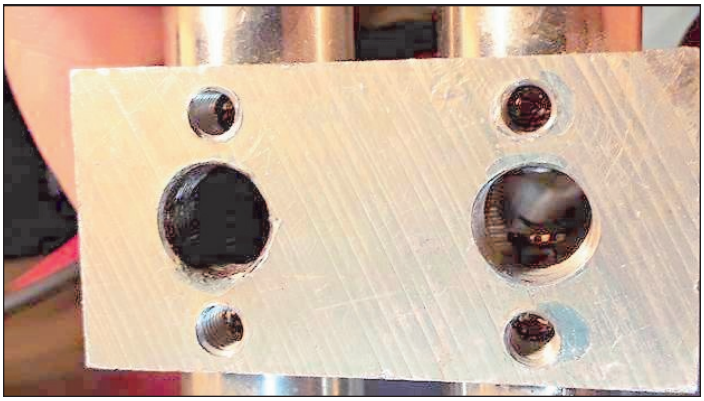
The contest started normally for me on Saturday afternoon and progressed slowly. I will blame the weather here but also lower activity all around.

My tale of woe started on Sunday afternoon. After working Ray-N3RG in 4 minutes on the bottom four bands, I took a break for about 45 minutes. Came back and decided to check the moon for any activity as I had recently installed a 2x12 2M antenna system for 2M. I decoded a VE3 station so I clicked on him, looked at the watt meter and it showed no power out. WHAT is going on here the meters on the amplifier show that all is working as it should. A further check of bypassing the antenna relay showed power output directly from the amplifier, BUT, not solid thru the temporary watt meter to a dummy load.

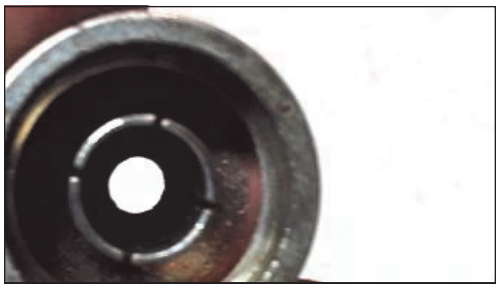
Now it was time to shut down the amplifier and move it to the bench for further examination and repair.

First I removed the antenna relay and found no continuity on the output side. As I started to take it apart I found a catastrophic failure, black dust fell out of the relay. One side of the relay was gone. Here is a photo of some of the inside parts.

Here is what the inside of the relay housing looks like. On the right, you can see a glint of the contacts. On the left, there is nothing there - GONE



Further examination showed that this relay failure went backward to toward the amplifier deck and burned out the complete center of the double male N connector. See below.



KA2LIM cont'd...

From here the damage continued on to female N connecter on the back amplifier deck burning away half of the pin. This was removed and replaced, a new double male N connector and new antenna relay installed and the Lunar Link amplifier was repaired and back in place and working. Here is what RF did to the center pin of a male N connector.

There was never any flash or bang, no smell of anything burning and no magic smoke.

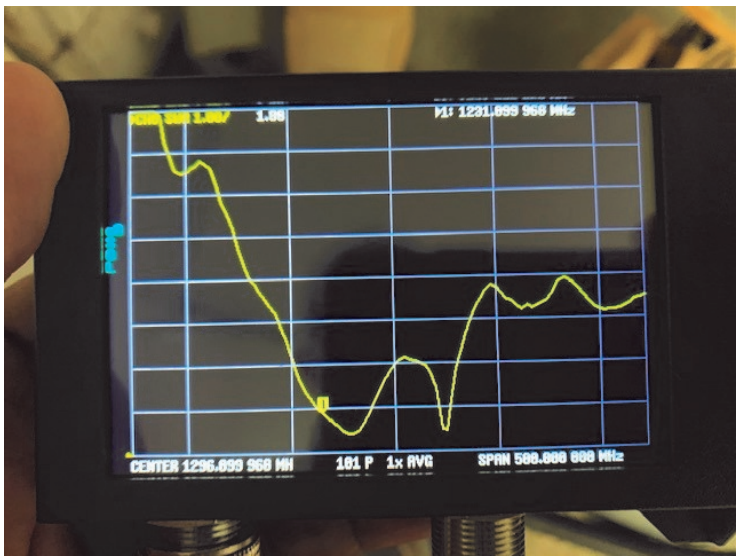
During the repair time I did work AF1T in FN42 on 2M with 40 watts, W0RSJ in FN20 with 40 watts. Tried to work W3GAD in FN20, I could hear Doc, but he could not hear me.

Total repair time was just shy of 5 hours which obviously hurt my contacts but all is back working properly.

Mini-Points for Mini-Rove in SFL

By Rick K1DS

I couldn't pass up the opportunity to explore roving here in southern Florida with the 2021 ARRL VHF Contest as I was not traveling north due to COVID-19 to be in "Packrat Central."



In December I started to build another set of the WA5VJB "Cheap Yagis." I had a 6m omni antenna, so I added a 4-element Yagi for 144, an 8-element for 432 and a 9-element Yagi for 1296. Thanks to George, KA3WXV, I learned how to operate my new SAA2N VNA and I brought the three new beams into resonance by trimming the end of the driven element. I had also purchased two inexpensive folding tripod light stands that extend to 7' tall—one for the beams and the other for the 6m omni.

I loaded my SUV on Friday afternoon with the antennas and tripods, some older 12A 12VDC batteries to help hold the tripod base down, coax cables, the rig and its power cable, mike and key, computer, paper and pens, a folding chair and table and my tool bag.

On Saturday morning I put some snacks and drinks in a cooler and at 12:30PM, I set out for my first stop at Park Ridge Golf course. The parking lot of the course is big enough and high enough to allow me to be back in a corner and spread out a bit and have a reasonable altitude of about 120', something that is a rarity in flat southern Florida. I had a little over an hour to set everything up and I proceeded to get the antennas a coax cables situated first, then the rig. I thought that I had all the small items I needed in a shoebox, but when I went searching for the cable that I plug into the cigarette lighter socket with the Power Pole connector at the other end, it was nowhere to be found. I called the XYL and she searched the house, but couldn't find it either. Just as I was unhooking all the coax cables and placing a note on the antennas

that I would leave set up while I drove back home to aid in the search, Jani called again to say that she had located the cable, "hidden" under the Kenwood TS2000x manual on my folding operating table and that she'd drive it over to me.

Everything was ready to go, as soon as I could power up! Just as the clock struck 2PM, she delivered the cable and I was on the air. But where was everyone else?
I had sent out a few emails to the Boca Raton ARA reflector, reminding folks about the VHF contest and that I would be checking 146.55 FM simplex at 2PM, 3PM and 4PM, as most of the members have that capability. I did manage to log 3 FM QSOs using my TS2000x and a 5/8 mag-mount whip. Things were slow, but I did find a few locals in my grid of EL96 on 50 MHz SSB, 144 MHz SSB, 432 MHz SSB and 1 more station on 1296 SSB.

In the first hour I had 13 QSOs in 1 grid on 4 bands. I added another 6 contacts in the second hour. With things fairly slow, I decided to head to grid #2 in EL97, a spot at the Port St. Lucie fairgrounds that was recommended to me by Steve, N2CEI.

I packed everything up quickly and left the rig on 146.52 FM in case I heard more stations on the way. As I got about 30 miles north, I checked the "Ham Square" app on my smartphone and it indicated I was in EL97va. There were a pair of hams chatting on the calling frequency and I decided to pull off the turnpike at the next exit that brought me into Palm City.

I found a nice spot in a parking lot of a strip mall and worked both of those stations and then another two more joined the group in my log. Fortunately, they provided me with another multiplier from EL97, and I had a second grid for my rove, but none of them had any other VHF bands. As things were so quiet and the sun slowly setting, I turned back south and made it home in time for dinner. Raw Score: 28 Q pts x 7 Mults = 196.

I had dipped my toe into roving in SFL—enough to realize that it is slow and frustrating with low power and small antennas at a minimal elevation and limited VHF operator density. It did fulfill my expectations, and as always, I am grateful for the mission of mercy that Jani did, bringing me the missing power cable.

73, Rick K1DS

My First Rover Adventure

Bill - WS3O

For the January 2021 contest, I decided to try my first rover attempt. Since I recently started doing SOTA activations, I thought that some of these locations would be awesome for rover locations. Winter weather doesn't bother me, and felt I could do this. I selected hills located in FN10, FN11, FN21. Contest contacts in FN11 are very rare for me, so I was determined to put another station on the air from there. I planned to just do 6 and 2m for this, as I figured there was a possibility of hiking in the last 1/4 mile or so. I was joined by W2RES.

Saturday came, and we started the day in FN20gx. We load up the car, and drove 114 miles to the first site, in FN11hb, Riansares Mountain, elevation 2323ft. This was a hilltop in Central PA, not too far from Lockhaven. I know this site is pretty far west of most of the club members, but I selected this site as I have a friend in State College who was going to join us.

We got off of I-80, and followed the local roads for a few miles to the turn-off for the access road. As I turned off the main road, I immediately found a sign warning "No Winter Maintenance". The road is snow and ice covered. Ok, no problem. It doesn't look too deep for the car, and I will take it easy. We started up the hill.

We drove through an old Civilian Conservation Corps (CCC) camp from the early 1940's. I wound my way about 3/4 of a mile up the one-lane road, and found a pickup truck sideways across the road. It had slid partially off the road, and it wasn't going anywhere anytime soon. There was no way to get around it, and there was no room to turn around. So, I had to carefully back all the way down the hill.

As this was my first rover attempt, I didn't really plan as thoroughly as I should have, and had no backup plan for FN11. We started heading back towards FN20 on I-80, but tried to find any high spot that might have worked. We got off at three different locations, which looked promising on the map. The first one was in another state forest, again with no snow removal on the road. We decided to skip it. Continuing on the way back, we tried two other possible locations. At each site, I could not find what I deemed a safe and legal location to setup.

Since the antennas are not mounted to my vehicle, I have to park, get the tripod out of the car, and setup the antennas. I can't just pull off on the shoulder and make a few quick Q's. So I spent six hours, drove 250 miles, for no contacts at all. The lesson is to have a couple of backup locations planned out.

I got to see a lot of back roads that I would not have seen otherwise, which was nice. It is a good thing I love road trips.

FN11 was a complete loss.

We went back to FN20 and operated for a few hours in the evening. It was from here that most of my contacts were made.

FN10xu was the first stop for the next day. At least this site was only an hour from the house. This was Bears Head Mountain, elevation 2087ft. It is near Delano, PA, just off of I-81. It is popular with SOTA operators, and quite a few hikers too.

I got to the location, and found my path blocked here also. There was a gate across the access road. Sigh. The gate was not actually locked, but still... Not a problem, I was prepared to walk up anyway.

There were lots of ATV and Motorcycle tracks going around the gate in the fresh snow, so people are here often. I start in, and immediately found a "no trespassing" sign. Oh crud. It doesn't matter if the other SOTA folks and ATV riders are willing to trespass, I will not. For the future, I need to inquire about the actual status of this location.

Trying to make the best of the situation, I set up my 2M yagi right where we parked. I strapped the mast to the post of the gate that was in my way. Make it useful for something. This was definitely not the elevation I wanted, and now I was down in a forest.

I spent a little over an hour here, and only made six contacts. Mr. and Mrs. KR1ST were loud and clear, so were N2NT and KA3WXV, and reported no difficulty hearing me. But I didn't hear many others, only two other operators answered my CQ. It turns out that I had gotten myself a little disoriented. I knew where north was, as I did bring a compass. However, what I had wrong was where I was in relation to notable areas, so the antenna wasn't pointed quite where I wanted it. I learned that I need to make better notes about that.

FN10 wasn't a total loss, but it wasn't much better than FN11.

FN21ef was my last stop. I had been to this site before, so at least I knew what the layout was. And, I managed to finally get to my intended operating location this time. (*YAY!*) This was at Big Pine Hill in the Poconos, elevation 2267ft, with no trees obstructing the view. I wrote about this in a previous article.

The temperature was about 28deg, and the wind was brisk. Snow and ice covered the ground and the platform. My kind of weather, and I was feeling optimistic. I put my radio backpack on, grabbed the antenna, mast and chair, and set off to hike up the hill.

There is a high viewing platform, which is perfect for mounting an antenna, with a wonderful clear shot to the horizon in all directions. This site should have produced decent contacts, but it did not.

I spent an hour and a half on-site calling CQ. I got a total of ten contacts from here. Two of the contacts were up in FN22, three in FN20, and five were nearby in FN21. KR1ST reported my signal as 50 or 60 over S9. But then, he could open the window and shout at me from there.

WS3O cont'd...

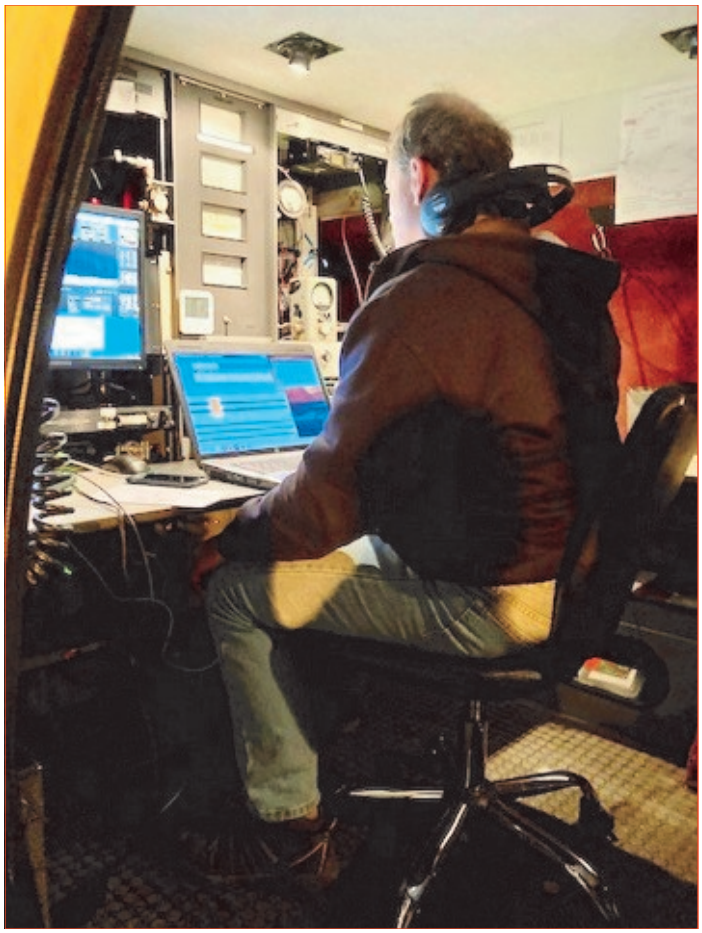
So my signal was getting out. ***But where was it going???***

I heard a few Packrats on the air, but as I waited for them to finish their QSO, they moved to other bands and never came back. By this time, my train of thought was pretty much derailed, and I forgot to reach out to folks using text messages or phone calls. I did have a great cell signal there. So I packed up and went home.

36 contacts in 6 grids on 2m, 9 contacts in 2 grids on 70cm, 3 grids operated, 594 points.

In spite of the level of success I had hoped for, it was a very enjoyable road trip. I am thinking to try again in June, but with better contingency planning.

-Bill, WS3O



W2PED in the W3ICC Rover during the January 2021 Contest (K3EGE Pic)

As one of the co-hosts of "Ham Talk" on YouTube I did a segment this month on tropospheric propagation.

In my segment I include some video from my end working Dave K1RZ from a couple locations; a short bit with K3WHC who came on when I was wrapping up with Dave and a bit with Dave W2KV at the end. It does give one a bit of an idea of the fun one can have when you can take your primary VHF station with you to different locations.

Most of this is nothing new to the weak signal operator, the target audience is towards generating interest in weak signal operation for those who haven't experienced the distances we can get. It also shows the fundamentals of Tropo Propagation. Hope it achieves that.

This episode's video is at: https://www.youtube.com/watch?v=0qo7UiqXwZo

My segment starts about 35 minutes in and is 20 minutes long. 73, Andrea K2EZ

"Roving involves the essence and chaos that ensues when one combines ham radio with a scavenger hunt and a college road rally" —K2EZ Quoted on the Packrat Reflector by K1RZ

The Last Non-Digital QSO

by John W. Thompson MD K3MD

This is fiction with a dose of satire. Any resemblance to persons living or deceased is coincidental.

“CQ, CQ, CQ contest, this is K3 Mike Delta” (repeat 20 times)
“K3MD, this is Kilo X-ray Zero Alpha Charlie Charlie”
“KX0ACC, 59 Pennsylvania”
“59 Minnesota:
“Where is everybody?”
“They're all on FT8 and PSK31, the digital contest is this weekend.”
“But this is the main domestic SSB contest of the year”
KX0ACC, “Digital has overtaken any CW or voice contest, voice is so old and RF space-wasting, the FCC is considering banning it's use by any amateur.”
K3MD, “Really?”
“Yes, where have you been the past 10 years?.... Even non-digital analog voice is passé, the FCC is considering phasing it out entirely, error-corrected digital voice is so much more narrow-band and energy efficient.”
K3MD, “But SSB is highly efficient, it eliminates the carrier and unwanted sideband, it was the most major invention in radio in the past 80 years.”
“It is totally obsolete, like the regenerative receiver or the dated superheterodyne receiver or transmitter.”
K3MD, “How sad.”
“Yes, nowadays no one speaks to one another anymore, they just input their keyboards... no need for human to human interaction, just keyboard to keyboard.”
K3MD, “But what about social norms, body language, inflection of voice, polite conversation, rapid-fire contesting, and the like?”
“Totally obsolete, if keyboard-to-keyboard communication is not allowed, then there can be no competent contest bots running regular or super-stations.”
K3MD, “You mean at the beginning of the contest, you just turn your rig on and let it do all the work?”
“Yes, you dummy, haven't you read the newest publication on auto-contesting?”
K3MD, “No, auto-contesting?”
“Yes, now all you do is turn your rig on, and the computer does all the rest. This leaves more time for computer gaming and imaginary contacts via the internet.”
K3MD, “Imaginary contacts?”
“Yes, all you do is tune your internet radio to the imaginary band, and a ham-bot will have a nice imaginary contact with you, telling you its name, location, and imaginary radio and antenna system.”
K3MD, “You can't be serious.”
“Well, you have to get with the times..... amateur radio communication using skywave is really getting to be a thing of the past. There is a special JT175 class where you can operate 1 watt or less only, and the computer with the best digital analysis software always wins, as most signals are 40 dB or more below the noise floor.”
K3MD, “But what about my KW and 6 element 20 meter beam?”
“Sooo passé, it is an energy-waster, we only include the modes that are the most efficient at this time, with auto-error correction, of course.”
K3MD, “You mean my AL-1500 is no longer needed?”
“No, the maximum power limitation is now 500 watts, and that is thought to be excessive at this time due to the high population density of the world, and there is danger of excessive body heating by that much RF.”
K3MD, “But what about my homebrewed antenna farm?”
“Not allowed any more, everything must be approved through government inspection, RF exposure limits are stringent. RF exposure is allowed primarily for MRI only. Broadcast TV and radio are also limited to 500 watts, since the internet is so much more efficient.”
K3MD, “Ahhh, for the good old days!”

Reflections: NEW MODES WILL RUIN AMATEUR RADIO EVERY TIME

By Jim WA3EHD

I was first licensed in 1965. The few of you who remember back that far might remember what it was like to operate in a VHF contest back then. But first, I must explain about our equipment. An average station consisted of a transmitter, receiver, and an antenna. An antenna changeover relay was a luxury. My friend used a knife switch and if he didn't throw it fast enough, he would get an RF burn. I mounted a relay in a small cookie tin (RF tight) with SO-239 connectors on it and a dropping resistor for the coil (as my transmitter put out 117 volts for the relay). Frequencies were determined by transmitting crystals. I could only afford a few of them, as they cost about $4.50 each. You can check the inflation rate yourself. I had one for 50.2, one for 50.4, and one for 50.55. There were good reasons for these choices. The first was the Packrat net frequency, the second was the AREC net frequency, and the third was used by the Mobile Sixers. Therefore, you knew that you could work a number of stations in the VHF contest. As time went on, a few more crystals found their way into the shack. The frequencies in use were just enough to spread out and still be able to work others with the same crystals. Then, a terrible thing happened. The VFO became affordable to some hams. Now, guys were calling CQ on every frequency imaginable except on the ones I could operate. They could even go into the CW only section of the band. They were surely not going to tune more than 100 Kc. higher to find me. We all knew that this would **destroy amateur radio as we knew it**. Luckily, another ham in the area gave me a 7-9 Mc. Arc-5 that he had begun to modify as a VFO. A club member (W3LHF) helped me to finish the modification and now, I could chase down the elusive calls in a contest.

All was well again until single sideband transceivers came out. They only used a tenth of the spectrum space as my AM signal and they could fit everyone between 50.1 and 50.2 MHz. If they did come up into the AM band, how could you understand that unintelligible squawking unless you were fast enough to move your VFO frequency onto theirs and hope they would answer you. Again, another technical development that would **destroy amateur radio as we knew it**. If this wasn't bad enough, some guys started using FM. You could tune slightly off of them to copy them but they probably couldn't hear you. Something else to take operators away from serious contesting. What was the world coming to?

It was about that time when my interest in amateur radio was encroached upon buy college girls. I leave it to you to determine which won out. After finishing college, getting a job, and starting a family, I looked back into radio and could not believe how it changed. Transistors could now produce power (even though we knew that they were small and could only be used for receiving) of about 25 watts. Also, we could use power supplies with outputs of 12-14 volts instead of 12 volts ac, 300 volts dc, and 600 volts dc to operate a radio. There were also these things called repeaters. They could take a low-power signal and retransmit it as though I was operating with 200 watts and a 100 foot antenna. Things were wonderful. However, contest QSO's could only be counted if they were direct between stations without repeater assistance. What a bummer. How could we have allowed this to happen? More than half of the operators were sitting around chatting on repeaters with an operating mode that could never go as far as SSB or CW. Being a diehard contester, I did operate in the January contest and worked five sections (this was before grid squares). Also, operators were using bands as high as 1296 MHz. How could the average ham ever be able to get to those frequencies? Every time I thought I was catching up, I found myself farther behind. I couldn't get that many antennas in the air with multiple towers. I didn't have the space in my shack for that many radios. Didn't they know that they were **destroying amateur radio with all these changes?**

In true ham fashion, radios and antennas became available at hamfests for reasonable prices. Club members who worked for RF transistor companies swept up parts and designed club projects to make use of them. Not only that, but no-tune transverters became available as kits and club members were willing to help others build them to "add a band." Oh, no. That meant that fewer stations would be on the lower bands where most of us congregated. Didn't they know that they were **ruining amateur radio?** Happily, some clubs fought back. They designated operating times on specific bands so that members could work each other easily. Since we now needed to accumulate grid squares, this could give operators the time to go grid-hunting and still not ignore those of us who did not have the monster station. Even still, it seemed that we would never be able to catch up with the loss of people in the hobby. That code was still difficult for many and our numbers diminished. Then, to our horror, the FCC decided that hams no longer needed to know Morse code. How could they do this? They were trying to give away our band to the CB operators. **They were destroying amateur radio**. Eventually, as the number of amateur radio operators increased, we lured operators away from those nasty repeaters and kept explaining how much more fun logging a weak one was in a contest and a few more came our way.

Then someone thought it might be a good idea to work out a system to send information very fast. That meant that very short enhancements of the ionosphere caused by meteorites burning up in the atmosphere could reflect enough information to be called a QSO. However, a receiving station could only decode these transmissions by using a computer. Was this really amateur radio? If this wasn't bad enough, software was created so that signals could be bounced off of the moon by sending the information slowly and going over and over the signal to extract the intelligibility needed to complete the QSO. Well, this couldn't hurt too much as long as those operators kept to themselves and participated in their own contests. Besides, this is only computers talking to computers. As long as we were careful, **this might not hurt us too much.**

Then, a terrible thing happened. Another new mode was created. Now a computer could send a signal for 15 seconds and another computer could recover the data from it even though the signals were too weak to hear using any other existing mode of operation. Hams who did not have 1000 watts and an antenna at 100 feet could now make contacts that could only be dreamed of in the past. Needless to say, so many operators jumped onto the band wagon that other modes and frequencies are being neglected. I think I have shown that this is not the first time this has happened. This use of digital modes in contesting is new and we haven't yet discovered how to use it to our best advantage. Should we use it to catch those grids that help us to increase our scores? On the other hand, should we use it as our only mode of operation for QSO's in our own grid square? These are questions we need to ask ourselves and each other. Also, what are the contest clubs doing to educate and guide their members to use the new technology for the greatest good? Every time there was a new development, we embraced it to the point of excluding everything else. In time, however, we incorporated it into our operation and found that it could be useful alongside of the other methods that were in use.

I don't intend to give up using my microphone, or my keyer, or my computer. I do intend to discover how to use these tools to make our hobby better. If I give up on radio, then I have become the thing that will destroy amateur radio as we know it. I hope I see all of you on the bands even more than before. I hope that we use these new technologies to pull more operators from chatting on repeaters to making contest QSO's, regardless of the mode. More operators means more contacts and, therefore, more fun. Remember, that even Darth Vader was pulled back from the dark side in the end.

Adventures in "Gig-Speed" Land

By Michael Davis KB1JEY

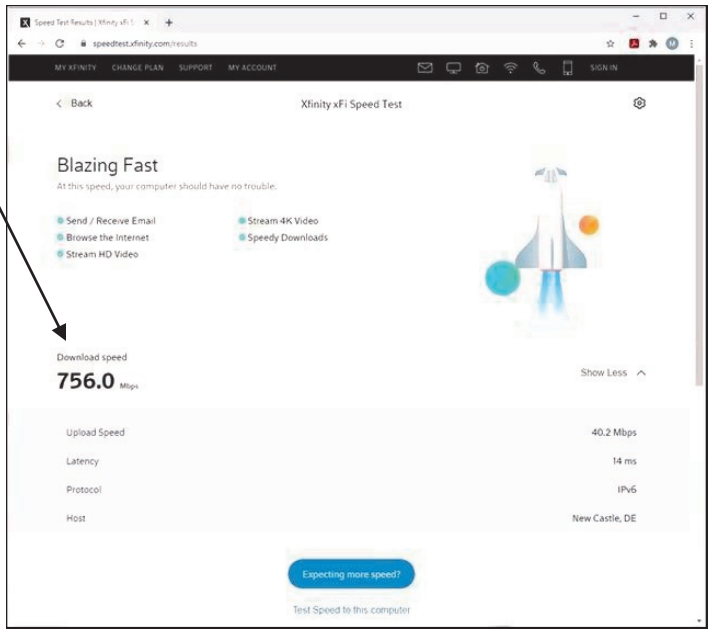
This article is a follow-up to the one I contributed to Cheese Bits in December 2020 on snaking Ethernet cables within home walls. After that article was written, I and many Comcast customers suffered through a nasty rain storm on Christmas Eve, during which I lost my internet service. After the storm and after several fruitless calls to Comcast, I was still not able to restore my internet connection to my Xfinity (cable) modem / router. I suffered through no Wifi on Christmas Day, which reminded me of how essential Wifi and wired internet service has become in our lives. The next day, I visited the local Xfinity retail store and quickly swapped out my modem / router for a replacement. As it turned out, Xfinity upgraded my modem / router to a new model, the CGM4331COM (xFi 3rd Generation, designated as XB7), capable of operating at speeds in excess of 1 Gbps.

xFi Gateway 3rd Generation

Afterwards, I received a piece of bulk mail from Comcast, offering to upgrade my internet service from a "plan speed" of at least 250 Mbps to either 600 Mbps for an additional $25/month, or to 1 Gbps for an additional $30/month. Since my modem / router support both my work-from-home as well as my personal computing activities, I decided to upgrade to 1 Gbps service.

A couple of days after submitting the upgrade order, I did not detect any change. So I called Comcast and learned that they were waiting on a order to send me a replacement modem / router. I asked "Why?" I already had a "Gig-speed" modem /router installed. After an apology, the Comcast representative pushed the appropriate "firmware" instructions to my modem / router. That night, I detected the change. Comcast tells me that the plan speed of my internet services is guaranteed to be up to 1200 Mbps.

So what is it like to operate at "Gig-speed"? I would not know. I ran the xFi Speed Test on a variety of Ethernet and Wifi connected devices. I have a personal desktop computer connected to the internet via Ethernet. The download speed checked out at 755-772 Mbps during several iterations of the test.



On the other hand, I have an old "pokey" laptop that dates back to 2009 (but was upgraded to a solid-state drive), connected to the internet via Wifi that checked out at 51-54 Mbps. Comcast tells us that depending on the vintage of the computing device, tablets should connect at a speed between 75-300 Mbps, which is what I have seen since my internet service upgrade. Laptops and desktop computers connected via Wifi should see download speeds between 150-500 Mbps.

So given the delta between the device connection speeds that I see at my QTH versus a "plan speed" of 1200 Mbps, should I ask for a refund? There is a part of the analysis that I have not shared yet. Over the years, I have acquired a variety of internet-

connected devices:

3 personal laptops
1 personal desktop (Ethernet)
1 personal Chromebook
1 work laptop (Ethernet)
3 tablets
4 Amazon Echo/Dots
2 Amazon "Smart Plus"
3 Roku TV adapters
1 backup connection for my home security system
1 Wifi-connected thermostat
2 Wifi-connected monitors to my solar panels
1 Wifi-connected "Internet Radio"
1 DMR gateway connected via Ethernet
1 GeoChron clock/map
1 Wifi-connected computer printer
1 Ring doorbell

In addition to the 27 internet-connected devices listed, there are 4 Xfinity X-1 TV adapters that are connected to Xfinity via 75 ohm coaxial cable but can stream internet content. The key take-away from this review is that while any particular device is not connected at the maximum plan speed, subscribing to a faster Xfinity internet plan helps to insure that there is sufficient bandwidth for all of my internet devices to operate at the download speeds at which they are capable.

I **have** noticed that all of my internet devices with a GUI (Graphic User Interface) display such as tablets, computers, and my cell phone are performing noticeably faster. It takes me back to a few decades ago when I was living in Connecticut and I upgraded our internet connection from dial-up to DSL (Digital Subscriber Line). The late lovely Mrs. Davis, who was skeptical about all of my technology decisions and purchases, saw the increase in speed and told me it was a good decision. The change to "Gig-speed" internet at my QTH is not quite as dramatic as the upgrade to DSL but is material. So far, it seems worthwhile for me. Your situation may be significantly different.

A long, detailed and fascinating chronicle of the early days in the development of Ham EME communication can be found at:

http://www.ok2kkw.com/eme1960/eme1960eng.htm

and

http://www.ok2kkw.com/eme1960/eme1965eng.htm

About 1/3 through the second URL and extending close to the end is a description of the role played by Packrat Al, K2UYH, beginning with his participation during his High School years.

Long, but well worth a read. —W2BVH

Lenny,

I saw your note about how you didn't realize that astronauts make random QSO's from the ISS. In 2010 I contacted Col. Wheelock aboard the ISS from my car:

https://kr1st.com/na1ss.htm

There are audio clips near the bottom of the page of my short Q and also of the last part of the pass.

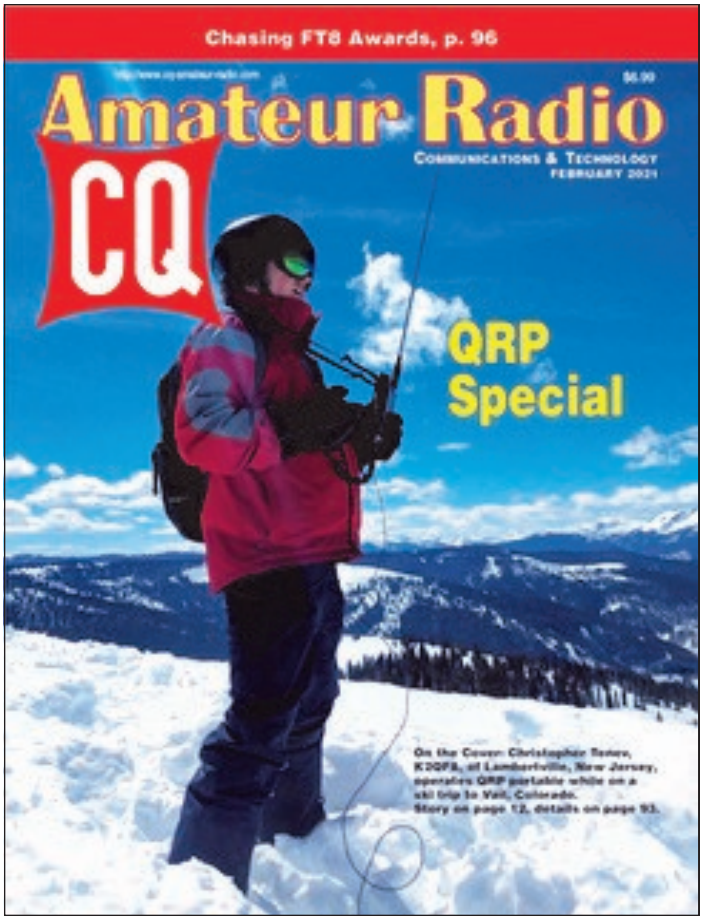
I still drive the same car. :-)

73, --Alex KR1ST

Here is a video of a teardown of a Starlink phased array antenna and transceiver including its architecture & RF In-depth analysis.

https://youtu.be/h6MfM8EFkGg

This device is what goes on your house if you subscribe to Starlink high speed satellite internet. The antenna, around the size of a Dishnetwork dish contains thousands of individual antenna elements and amplifiers. It reputedly costs Starlink in the neighborhood of $2500 for each unit. The analysis is rather technical, but worth viewing. That this can even be done for "just" $2500 is amazing. —W2BVH



Packrat Chris K2QFA made the cover of this months' CQ Magazine with his article "Adventures With My FT-818. See CQ for the full article. Congrats Chris!!

Here is a follow-up article on the Arecibo Radio Telescope failure in "Science Magazine".

https://www.sciencemag.org/news/2021/01/how-famed-arecibo-telescope-fell-and-how-it-might-rise-again

A good history of the instrument and reasonable speculation on what might happen in the wake of the failure. —W2BVH

Sent to Cheese Bits by Warren WB2ONA

Raspberry Pi Pico

The Raspberry Pi "Pico" has been launched and is available now for $4. It's kind of a VERY big brother to the Arduino microprocessor . Much more capable and less expensive. It uses a custom processor based on the ARM Cortex. A complete set of documentation of the processor and programming environment is also available. Programming can be done in C++ or Micro-Python. It can be cross compiled or (in the case of Python) self hosted. Great for Ham projects. See https://www.raspberrypi.org/documentation/pico/getting-started/ to learn more —W2BVH

The Wayback Machine
In CHEESE BITS, 50 Years Ago

Nibbles from January 1971. Vol. XIV Nr. 2
de K3IUV Bert
(*author's comments in italics*)

"**Our Prez Sez"**. Prez El, **K3JJZ** (*also editor at the time, and our current auctioneer*) thanked all for their participation and performance in the contest. He listed a number of categories with (call letters) that showed the effort. An example: "Those who went up on the roof in snow to put up new antennas! **K3EPB, W3CJU**, etc." Conclusion? A great job done by all. He also thanked the contest chairmen, Walt, **K3BPP** (*remember, Walt*?) and Don, **W3CJU** for doing an exceptional job of contest preparation.

Tidbits. Engagement announcement for Mr. Randall Joe Bynum, on Nov 26, 1970. (*Turns out that is our Randy, then **WB2SZK**, now **NR6CA***.)

Technical Article. An interesting article by Paul, **WA3HIT** discussed the history and current status of UHF TV stations in the Philadelphia area. He described station start-ups and failures, the raison d'etre for UHF to come into being, and the family impacts of needing a "converter" to watch some of the new stations and programming. (*Very interesting reading if you want to review a bit of TV history. Read about it on our website*.)

From the Book Rack. Paul, **K3WEU**'s monthly column was absent this month due to conflict with contest preparation. Paul reports "Check in 4 times and get a free book!"

New Products of Interest to Hams. This aperiodic column was written by Lynn, **W3NSI.** He described: 1) A 432 MHz" Power Amplifier from Alpha Electronics. 8-10 watts input provides 100 watts output. No price given; 2) Crystal Lattice Filters from Spectrum International. These filters were fabricated in W Germany, and each set included an upper and lower sideband filter for use in constructing your own rig. $21.95 per set; 3) A two-meter preamp from E.T. Clegg. "Guaranteed to improve receiver sensitivity!" Price $47.50.

Calendar. Next meeting, February 17. The agenda will be the annual "Homebrew night." Bring your latest creation. Surplus conversions, Gimmicks, Test Equipment, etc. Prizes to be awarded. Coffee will be served, and guests are invited. March 17, Topic will be Single Sideband. How it is created, how it is detected. May 8, 15th Anniversary dinner at the Buck Hotel.

WCAU Repeater. Contributed by club member Ed Kushner, **W3HKZ**, Chief Engineer at TV station WCAU. A new repeater is in operation on 432. The receiver, transmitter and antenna are located 850 ft above sea level, on the WCAU tower in Roxborough. 18 watts output from Motorola equipment (*probably an old taxicab rig*) into a Mark Products 10-db antenna. Input frequency 443.8 MHz. All hams are welcome to use it. "We ask only that users announce the time at the end of the QSO." The call is that of the WCAU club station, **WA3KUR**. *(Note to the repeater committee. Have we thought about trying to get some of our*

repeaters on the local TV towers?)

Membership. New members this month included: **WA3DNC**, George McCouch and **WA2UUV/3,** Bill Fulling. Look for them both in the January contest.

2 Meter Activity Report. **W2EIF,** Joe, reported no recent openings, but some valuable contacts during the contest. These included **W3OMY** in Pittsburgh, **W8DGF** in Cleveland, **VE3ASO** in Toronto, and **WA1JTK** in New Hampshire. He reported that he and Ernie, **W3KKN** were keeping 144.110 very active on SSB.

January Contest. 74 members participated. 79 logs were submitted. Contest scores (contacts, section, total score) were listed for all members. I note that I was # 4 in the list, with 23,193 points. Bested only by Stan, **K3IPM** (top dog as usual) with 51,734 points, Dave, **W3ZD** with 32,100, and Joe, **W2EIF** with 25,110. El, **K3JJZ** wasn't far behind with 15,939 points, just besting the co-chairman, Walt, **K3BPP,** who had 15,594.

Humor? Not sure if it was humor or a contribution for the crying towel! Lloyd, WA2KOI gave a lengthy description of his struggles to get a tower installed at his new house. Monthly descriptions reported the status. Starting with June, when he ordered a 96' fold-over, crank-up tower. By October, with no delivery in sight from the delinquent vendor, he ordered a 72' high tower from another manufacturer. In November, he came home to find the tower (655 lbs.') laying in his driveway! Then a daily or weekly description tells how he got the tower erected in time for the Jan contest, with help from neighbors and club members. 6-cubic yards of concrete anchored the tower. (*If you want to know how it worked, read the full article*.)

Swap Shoppe. By W3ZRR. *(Always nostalgia. Now we use the club reflector.*): For sale by El, **K3JJZ**, a 21" TV (no UHF), $20. He also "wanted" a used Snare Drum; By Jack, W2GQK, an HQ-170 receiver with clock - $175, a Viking Ranger with PTT, antenna relay and TVI filter - $75, and a 2-meter transmitter with VFO, modulator, power supply and Dow Key relay - $35; and "wanted" by Bert, **K3IUV** (me), Old Lionel trains or accessories, and QSTs prior to 1921. "Have lots of tubes to swap." (*I got all the QSTs - ended up with a complete collection from issue #1. I just recently gave them all to Gary, WA2OMY. I also have all the transmitting tubes sitting in the basement waiting for him to pick them up*!); Lastly, from Bill Murphy, **K3ZSG** (now known as **W0RSJ**!), an APX-6 with a 29" dish and power supply *(a surplus unit that was our easy way to get on 1296*) – price negotiable

Miscellany. *Postage for this copy was a single 12-cent Roosevelt stamp. (A thicker edition, 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***

Events

For inclusion, please direct event notices to the editor.

2M Spring Sprint -Contest– Monday April 5, 2021, See https://sites.google.com/site/springvhfupsprints/home/2021-information for details.

222 MHz Spring Sprint -Contest– Tuesday April 13, 2021, See https://sites.google.com/site/springvhfupsprints/home/2021-information for details.

432 MHz Spring Sprint -Contest– Wednesday April 21, 2021, See https://sites.google.com/site/springvhfupsprints/home/2021-information for details.

Microwave Spring Sprint -Contest– Saturday May 1, 2021, See https://sites.google.com/site/springvhfupsprints/home/2021-information for details.

6M Spring Sprint -Contest– Saturday May 8, 2021, See https://sites.google.com/site/springvhfupsprints/home/2021-information for details.

June VHF Contest - Contest - June 12-14, 2021. . See http://www.arrl.org/june-vhf for rules and details.

Murgas ARC Hamfest & Computerfest - Hamfest - July 4, 2021. Plains PA. http://hamfest.murgasarc.org

CQ WW VHF Contest - Contest - July 17- 18, 2021. Details to follow.

222 and Up Contest - Contest - August 7– 8, 2021. Details to follow.

10 GHz and Up Contest (Round 1) - Contest - August 14 – 15, 2021. Details to follow.

September VHF Contest - Contest - September 11-13, 2021. Details to follow.

10 GHz and Up Contest (Round 2) - Contest - September 18-19, 2021. Details to follow.

EME - 2.3 GHz & Up – Wknd 1 - Contest - September Date TBD

EME - 50—1296 MHz – Wknd 2 - Contest - October Date TBD

EME - 50—1296 MHz – Wknd 3 - Contest - November Date TBD

Wayback cont'd...

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**)

"Hollow State" QRP

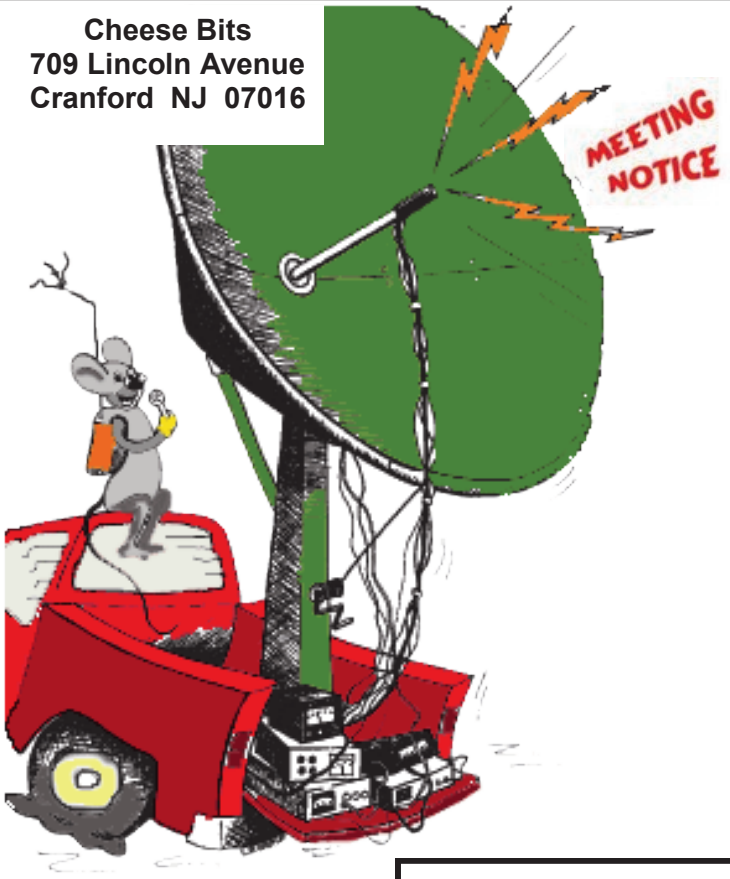
If you're at all interested in vacuum tubes or qrp, here's an interesting article. It describes a rock bound single vacuum tube power oscillator transmitter that you can homebrew. https://qsl.net/ve7sl/neotx.html

—W2BVH

ENIAC

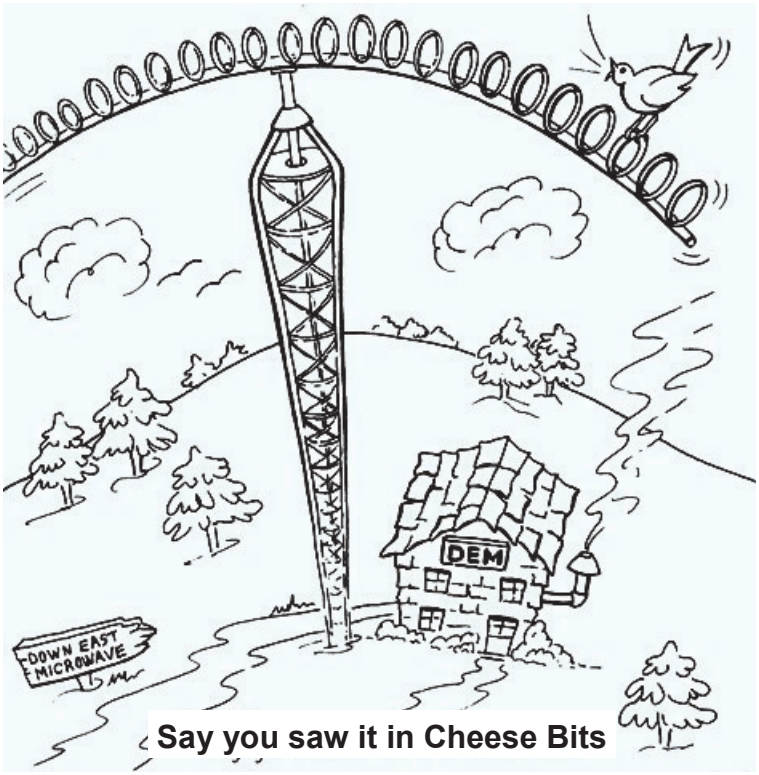
This year marks the 75th Anniversary of the world's first all-electronic, programmable computer, the ENIAC. For more information about this landmark device and the celebration of its anniversary see https://eniacday.org

Cheese Bits
709 Lincoln Avenue
Cranford NJ 07016



TO:

MT. AIRY VHF RADIO CLUB, INC.



Say you saw it in Cheese Bits