



ARRL September VHF Contest 2022 Full Results

By Ralph "Gator" Bowen, N5RZ (wb5aar@gmail.com)

Conditions Were Certainly Not Optimal!

Propagation enhancement was pretty much non-existent in the 2022 September VHF Contest, especially in the middle part of the country. There was absolutely no enhancement and practically no E-Skip on 6 meters.

Activity Levels

Entries were down again this year - 672 in 2022, down from 745 in 2021. Four new "Analog Only" categories were added this year for Single Operator High Power, Single Operator Low Power, Single Operator 3 Band, and Single Operator Portable. The biggest drop in participation was in the SOHP category. Approximately 23% of the SOHP, SOLP, and SO3B entrants submitted as analog only. As expected, most of the portable operations were analog only due to the extra equipment and power consumption required for digital operation. Thanks to all for your participation!

Total Logs submitted by Year	
Year	Number of Logs
2015	516
2016	504
2017	473
2018	569
2019	691
2020	833
2021	745
2022	672

2022 ARRL September VHF Contest			
Logs Submitted by Category			
Category	2022	2021	2020
Single Operator, Low Power	198	272	300
Single Operator, Analog Only, Low Power	65	--	--
Single Operator, High Power	116	186	197
Single Operator, Analog Only, High Power	28	--	--
Single Operator, 3 Band	97	143	174
Single Operator, Analog Only, 3 Band	27	--	--
Single Operator, Portable	7	21	22

Category Abbreviations

- Single-Op High Power – SOHP
- Single-Op Low Power – SOLP
- Single-Op Analog High Power – SO-ALG-HP
- Single-Op Analog Low Power – SO-ALG-LP
- Single-Op Portable – SOP
- Single-Op Analog Portable – SOP-ALG
- Single-Op 3 Band – SO3B
- Single-Op Analog 3 Band – SO-ALG-3B
- Single-Op FM Only – SOFM
- Limited Multioperator – LM
- Unlimited Multioperator – UM
- Classic Rover – R
- Limited Rover – RL
- Unlimited Rover – RU

Band Nomenclature

In order to keep VHF+ contest tables and listings brief, the ARRL uses the following table of abbreviations and single-character designators to indicate band.

Band Name	Abbr	Des.	Band Name	Abbr	Des.
6meters	6M	A	10 GHz	10G	I
2meters	2M	B	24 GHz	24G	J
222Mhz	222	C	47 GHz	47G	K
432MHz	432	D	75 GHz	75G	L
902 MHz	902	9	119 GHz	119G	M
1.2GHz	1.2G	E	142 GHz	142G	N
2.3GHz	2.3G	F	241 GHz	241G	O
3.4GHz	3.4G	G	Light	Light	P
5.7 GHz	5.7G	H			

Single Operator, Analog Only, Portable	11	--	--
Single Operator, FM Only	20	25	26
Limited Multioperator	22	16	21
Unlimited Multioperator	15	12	12
Classic Rover	26	23	34
Limited Rover	32	32	35
Unlimited Rover	5	10	10
Checklog	3	5	2
Total	672	745	833

Figure 2- Logs submitted by category.

The total number of QSOs logged in the contest was 48,903 this year, well below the 55,975 QSOs that were made in in 2021. See the chart below.

Band	QSOs	QSOs	QSOs	QSOs
	2022	2021	2020	2019
50	19,698	22,557	31,587	20,426
144	17,116	17,338	22,230	15,914
222	3,369	4,681	4,245	4,404
432	5,790	6,752	7,483	6,255
902	836	1,333	971	1,234
1296	1,309	1,653	1,665	1,581
2304+	785	1,661	894	1,597
Total	48,903	55,975	69,075	51,411

Figure 3- Total QSOs by band.

Scores from most parts of the country were down significantly, with a few exceptions as noted in the write up.

QSOs by Band and Mode

Band	Legacy % CW,FM,PH	Digital	CW	FM	Phone	Digi	Total
		%					
50	24.59%	75.41%	313	163	4,368	14,854	19,698
144	46.22%	53.78%	415	1,073	6,423	9,205	17,116
222	87.27%	12.73%	252	434	2,254	429	3,369
432	79.91%	20.09%	409	532	3,686	1,163	5,790
902	99.52%	0.48%	205	100	527	4	836
1.2G	94.73%	5.27%	243	121	876	69	1,309
2.3G	99.35%	0.65%	98	1	208	2	309
3.4G	98.57%	1.43%	64	0	74	2	140
5.7G	99.08%	0.92%	49	1	58	1	109
10G	100.00%	0.00%	47	1	128	0	176
24G	100.00%	0.00%	2	4	19	0	25
47G	100.00%	0.00%	0	0	6	0	6
123G	100.00%	0.00%	2	6	6	0	14
Light	100.00%	0.00%	0	0	6	0	6
All	47.39%	52.61%	2,099	2,436	18,639	25,729	48,903

Figure 4- QSOs by band and mode.

For the first time, total digital QSOs outnumbered total analog QSOs, 52.6% to 47.4%. Some entrants are still logging QSOs as the wrong mode. Please make every effort to make sure your logging software marks the QSOs with the correct mode.

Probably due to lack of E-Skip, total QSOs were down from 2021 on 6M. QSOs on 2M were only slightly down, and QSOs on 222 MHz and higher were generally way down. Several entrants have expressed dismay that the increase in digital QSOs has made moving stations to other bands rather hard.

Random Observations

I would like to take this opportunity to thank those who make the logs and data available for analysis: John, K9JK, Trey, N5KO, and Paul, N1SFE.

The only DX stations to submit logs were PY5CC, who made 8 QSOs with USA stations on 6 meters FT8, and XE1CC who graciously sent in a check log.

Single Operator Category Results

The Single Operator Low Power categories are still the most popular, with 263 entries, 65 of which are in the new Analog Only category. Single Operator High Power had 144 total entries, 28 of which chose Analog Only. Single Operator 3 Band had 124 entries, 27 of which were Analog Only.

Top Ten, Single Operator, Low Power				
Call	Score	QSOs	Mults	Bands
WB1GQR (W1SJ)	99,710	541	130	ABCD9EFG
K2DRH	86,112	338	184	ABCD9E
N2WK	71,004	314	122	ABCD9EFGHIJ
KA2ENE	35,904	277	88	ABCD9E
K9MU	33,705	212	105	ABCD9E
WA2VNV	25,174	230	82	ABCD9E
KW2E	16,575	232	51	ABCD9E
K9KLD	14,696	153	88	ABD
NR2C	12,780	146	60	ABCD9EFHI
KB4BKV	12,261	183	61	ABCD

Mitch, W1SJ, piloted WB1GQR to the #1 spot in Single Operator Low Power. Bob, K2DRH, in Illinois was #2, and Wayne, N2WK, was #3. Rob, KW2E, took seventh place nationally from Idaho.

Top Ten, Single Operator, Analog Only, Low Power				
Call	Score	QSOs	Mults	Bands
AF1T	86,223	359	123	ABCD9EFGHIJKMP
WB2JAY	23,250	196	75	ABCD9EFG
VE3DS	16,992	137	72	ABCD9EG
KAØPQW	15,540	181	60	ABCD
AC1J	11,650	153	50	ABCDE
K6MI	4,602	65	39	ABCD9FHIJK
K3TUF	3,838	54	38	ABCD9EFHI
N2BEG	3,648	87	32	ABCD
K2GMY	3,625	88	29	ABCD9E
WB2VVV	3,564	63	36	ABCD9E

Dale, AF1T, again used his microwave advantage to easily take top spot in the Single Operator Low Power, Analog Only category. Matt, KAØPQW, in Minnesota placed 4th, and Left Coasters John, K6MI and Dick, K2GMY, placed 6th and 9th respectively.

Top Ten, Single Operator, 3 Band				
<i>Call</i>	<i>Score</i>	<i>QSOs</i>	<i>Mults</i>	<i>Bands</i>
N3YY	26,677	258	103	ABD
KO9A	21,182	217	89	ABD
KK4MA	15,219	158	89	ABD
K1HC	11,752	206	52	ABD
W3FAY	8,800	172	50	ABD
KO4ECD	7,300	139	50	ABD
K8RO	6,161	107	61	AB
WA8MCD	5,472	97	57	AB
KA2BPP	5,311	100	47	ABD
KK4BZ	4,270	116	35	ABD

Top Ten, Single Operator, High Power				
<i>Call</i>	<i>Score</i>	<i>QSOs</i>	<i>Mults</i>	<i>Bands</i>
K1TEO	365,200	820	275	ABCD9EFGHI
N2JMH	131,528	455	164	ABCD9EFGHI
K1KG	70,950	326	129	ABCD9EFGHI
N4QWZ	48,813	242	159	ABCD9E
K2TER	39,700	247	100	ABCD9EFGHI
N1AV	39,102	216	98	ABCD9EFI
VA2WA	22,705	223	95	ABD
K3SK	21,804	220	92	ABCDE
N3MK	21,675	210	85	ABC9E
K1HTV	18,648	243	74	ABCD

Steven, N3YY, was tops in the SO3B category. The 2021 winner, Jim, KO9A, placed second. This continues to be a popular category as many radios these days have 6M, 2M and 70cm.

In spite of conditions, the activity in New England enabled Jeff, K1TEO, to take the top spot in the Single Operator High Power category, bettering his 2021 score by 48K. James, N2JMH, took second, up from 4th in 2021 from FN12. Jay, N1AV, made a FB 6th place score from Arizona.

Top Ten, Single Operator, Analog Only, 3 Band				
<i>Call</i>	<i>Score</i>	<i>QSOs</i>	<i>Mults</i>	<i>Bands</i>
N1JD	2,112	54	32	ABD
N7QOZ	2,109	89	19	ABD
W1DYJ	1,275	41	25	ABD
K2AXX	1,081	48	23	AB
N1ZN	465	29	15	ABD
KCØNAH	418	22	19	AB
AK4U	341	25	11	ABD
N2FMS	279	33	9	ABD
WB7FJG	216	25	8	ABD
VA3OGG	168	17	8	ABD

Top Ten, Single Operator, High Power, Analog Only				
<i>Call</i>	<i>Score</i>	<i>QSO's</i>	<i>Mults</i>	<i>Bands</i>
WZ1V	59,777	360	113	ABCDE
WØUC	50,794	270	109	ABCD9EFHI
W3IP	45,425	275	115	ABCD9EFI
WØGHZ	43,320	228	95	ABCD9EFHI
K1TR	26,010	200	85	ABCDE
W2FU	20,868	161	74	ABCD9FI
N1JEZ	19,422	143	83	ABCD9EF
W2KV	17,612	206	74	ABD
NØHJZ	17,536	211	64	ABD
N6KN	7,627	186	29	ABCDE

In the Single Operator, Analog Only, 3 Band category, John, N1JD, in Eastern Massachusetts narrowly took first place by only 3 points over Bob, N7QOZ, in Western Washington. Larry, W1DYJ, rounds out the top 3.

Ron, WZ1V, took first place in the Single Operator, High Power, Analog Only category. Aided by several active rovers, Paul, WØUC, in Wisconsin was a close second. Almost 60% of his QSOs were with rovers. Mike, W3IP, placed 3rd, and also aided by rovers, Minnesotans Gary, WØGHZ, and Rich, NØHJZ, also with the aid of many rovers in the area, took 4th and 9th respectively. The lone Left Coaster was Rocco, N6KN, in 10th place.

There's more on the web!
 For complete line scores, full contest results articles, photos, downloadable certificates and more, visit the ARRL contest portal at
CONTESTS.ARRL.ORG

Top Ten, Single Operator, Portable				
Call	Score	QSOs	Mults	Bands
WX3P	576	38	16	A
WQ6D	484	32	11	AC
AB4DX	414	22	18	ABCD
W1IG	300	30	10	A
NØSUW	272	30	8	ABD
VA3EON	91	12	7	ABD
VE7VIE	30	6	5	A

There were only seven entries in the Single Operator Portable category this year. Jack, WX3P, made 38 digital QSOs from the woods in FN31, along with his 10-month-old grandson. He couldn't get 2 or 432 going, so everything was done on 6M.

Top Ten, Single Operator Portable, Analog Only				
Call	Score	QSOs	Mults	Bands
AA6XA	1,425	50	19	ABCDE
WB2AMU	1,416	47	24	ABCD
K7ATN	488	46	8	ABCDE
N8XA	200	20	10	AB
KM6SJO	48	9	4	BD
VE7LOE	45	5	5	ABCDE
KQ2RP	40	10	4	AB
VE3FU	40	5	5	BD
KO4UJS	12	4	2	BD
KC8KSK	2	2	1	BD

The new Single Operator, Analog Only category had a close race for the top spot, with Left Coaster Jeff, AA6XA, edging out Ken, WB2AMU, in Central Long Island by only 9 points. There were only eleven total entries in this category.



Keeping it simple, Ken, KM6SJO made 9 QSOs on 2M and 70 Cm FM with a 5W handheld from Round Valley Regional Preserve, south of Brentwood, Contra Costa County, Calif. Grid Square CM97CU, 1140' elevation. Good enough for 5th place nationwide in the Single Operator Portable, Analog Only category. [Kenneth Holmes II, KM6SJO, photo]

Top Ten, Single Operator, FM Only				
Call	Score	QSOs	Mults	Bands
W7IMC	2,230	163	10	ABCD
AA6QI	1,424	62	16	ABCD
N6UTC	1,404	77	13	ABCD
KG7KMV	750	49	10	BCD
VE3RWJ	462	59	6	BCD
KB1YNT	370	32	10	ABD
W5WGF	348	24	12	ABCD
AF6GM	273	28	7	ABD
VA2DG	272	22	8	ABCD
K7LAN	216	22	6	6

Scott, W7IMC, had a fine effort from Idaho in the SOFM category, with 163 QSOs on 4 bands. He led a field of 20 entries, which was down from 25 in 2021, setting a new Northwestern Division record. Other new Division record holders are George, W5WGF, in the Delta Division, and Bob, KB1YNT, in the New England Division.

Multioperator Categories

Limited Multioperator category entries were back up to 22 from only 16 in 2021. Unlimited Multioperator entries were up by 3 to 15 this year.

Top Ten, Limited Multioperator				
Call	Score	QSOs	Mults	Bands
AA4ZZ	142,492	606	196	ABCD
N2NT	119,955	590	165	ABCD
K5QE	69,344	294	197	ABDE
W2EA	65,274	469	129	ABCD
W2LV	56,745	442	117	ABCD
W4IY	43,456	387	112	ABD
VE3MIS	36,435	269	105	ABCD
W3SO	21,730	271	82	AB
K1WHS	18,200	188	65	ACD
WA3EKL	17,009	221	73	ABD

The AA4ZZ crew repeated as top finishers in the Limited Multioperator category, operating from EM96. N2NT and crew moved up to second from fourth in 2021. K5QE placed third again, commenting that “Conditions were truly awful. We had to slug it out on all the bands except 1296. That was our only bright spot.” VE3MIS, placing seventh, set a new Canadian Division record.

Top Ten, Unlimited Multioperator				
Call	Score	QSOs	Mults	Bands
W2SZ	390,176	853	274	ABCD9EFGHI
W8ZN	235,641	726	229	ABCD9EFGHIJK
N8GA	63,544	328	169	ABCDE
KD2LGX	57,000	326	125	ABCD9E
N4SVC	49,856	250	152	ABCD9E
W4NH	41,736	253	141	ABCDE
WE1P	36,900	341	100	ABCD
WD9EXD	33,117	201	133	ABCD9E
KV1J	30,358	284	86	ABCD9EF
N3NGE	28,800	251	96	ABCD9EFHI

The W2SZ powerhouse again placed #1 in the Unlimited Multioperator category. The Grid Pirate, Terry, W8ZN, hosted a seasoned group of ops from his new QTH in FM09 to place second. From his 3830 post: “First full multiop including the microwaves from my new QTH. Still have LOTS of work to do. Thanks to all the stations (especially WZ1V) for your patience on 222 while we sorted out our RX issues Saturday and Sunday. It rained much of both days and conditions seemed down. Passing

from FT8 to other bands is still an issue.” Third place N8GA and eighth place WD9EXD posted good scores from the Midwest, and N4SVC placed fifth from Florida.



Dean, K2JB/R, placed ninth in the Limited Rover category. His “Tower of Low Power” looks very small in comparison to the one in the background on top of Viking Mountain in EM86. [Dean Blair, K2JB, photo]

The Rovers

The entries in the Classic Rover category increased by 3 to 26 in 2022. Limited Rovers were the same at 32, and Unlimited Rovers dropped from 10 to only 5.

Top Ten, Classic Rover				
Call	Score	QSOs	Mults	Grids
K2QO/R	73,188	392	107	6
VE3OIL/R	72,688	338	118	7
WØAUS/R (WØZQ, op)	36,417	293	61	7
W3ICC/R	22,936	224	61	5
KA9VVQ/R	18,144	191	56	8
W9FZ/R	18,144	191	56	8
KF2MR/R	17,353	218	37	5
KCØP/R	12,150	147	45	4

KV2X/R	8,613	152	33	4
NØHZO/R	7,697	97	43	4

It was a close race in the Classic Rover category. Mark, K2QO/R, outscored the VE3OIL/R microwave machine by 500 points for top spot. With all the activity from Minnesota, five Classic Rovers from the Dakota Division made Top Ten: WØAUS, operated by Jon, WØZQ, in third place; the husband-and-wife team of Janice, KA9VVQ/R, and Bruce, W9FZ/R, at #5 and #6; Melvyn, KCØP/R, at #8; and Carol, NØHZO/R, at #10.

Top Ten, Limited Rover				
Call	Score	QSOs	Mults	Grids
NV4B/R	32,271	267	93	4
KG9OV/R	21,488	221	79	6
WB2SIH/R	8,370	113	54	2
N6GP/R	7,925	215	25	4
KØBAK/R	6,396	109	52	3
AF1R/R	6,372	129	36	6
KM4OZH/R	5,808	133	33	8
N5BNO/R	3,540	121	20	4
K2JB/R	3,210	87	30	2
K5SRT/R	2,370	70	30	5

In the Limited Rover category, Chris, NV4B/R, although off a bit from last year's score due to lack of propagation, again took the top spot. Anthony, KG9OV/R, moved up a place from last year to take second, nabbing a new Centrl Division record in the process. Tim, N6GP/R, placed fourth from the Southwestern Division, and Sidney, K5SRT/R, placed tenth from the West Gulf Division, one of the areas hardest hit by lousy conditions.

Top Ten, Unlimited Rover				
Call	Scores	QSO's	Mults	Grids
KG6CIH/R	58,256	323	88	6
N2SLN/R	23,166	215	78	6
WB2VVQ/R	4,750	86	38	3
K4CNY/R	704	30	22	4
KOØZ/R	682	32	11	2

In the Unlimited Rover Class, Chris, KG6CIH/R, activated six grids with 14 bands in tow in New England to place #1. Luther, N2SLN/R, placed second from the Atlantic Division.



The 'band' of brothers- left to right Ken, KL7P, Tim ALIVE, and Bill, KG4UPN, at the ALIVE Limited Multi in the Olympic National Forest in CN87. [Tim Karle, ALIVE, photo]

Affiliated Club Competition

Thirty-four clubs entered the Affiliated Club competition this year. Again, no club had the requisite number of entries for the Unlimited category.

Thirty clubs entered the Medium category. The Mt. Airy VHF Radio Club (Packrats) easily outdistanced the completion to hold on to the top spot. The Rochester (NY) VHF Group moved up to second place from fifth last year. The Potomac Valley Radio Club held onto the third-place spot.

There were three clubs competing in the Local category. With three entries, the Chippewa Valley VHF Contesters from Wisconsin easily placed first almost quadrupling their winning score from 2021.

Affiliated Club Competition

Club	Score	Entries
Medium		
Mt Airy VHF Radio Club	617,553	17
Rochester VHF Group	541,058	26
Potomac Valley Radio Club	414,746	39
North East Weak Signal Group	244,082	15
Northern Lights Radio Society	225,865	20
Society of Midwest Contesters	147,426	18
Carolina DX Association	144,769	3
Ontario VHF Association	89,116	12
Contest Club Ontario	82,144	9
South Jersey Radio Assn	68,984	3
Yankee Clipper Contest Club	56,769	11
Arizona VHF Society	53,788	7
Fourlanders Contest Team	51,694	6
Kentucky Contest Group	33,996	4
Pacific Northwest VHF Society	32,225	20
Northern California Contest Club	17,677	9
Tennessee Contest Group	15,248	4
Arizona Outlaws Contest Club	11,312	4
Southern California Contest Club	11,144	10
South East Contest Club	5,482	4
Frankford Radio Club	5,463	6
Florida Contest Group	4,642	4
Western Canada Weak Signal Assoc	2,380	3
DFW Contest Group	1,971	4
Texas DX Society	1,430	4
Wayne County Amateur Radio Club	1,064	3
Grand Mesa Contesters of Colorado	924	4
Niagara Frontier Radiosport	590	4
New Mexico VHF Society	457	3
Minnesota Wireless Assn	75	4
Local		
Chippewa Valley VHF Contesters	42,483	4
Bristol (TN) ARC	7,072	4
Providence Radio Assn	6,488	4
CTRI Contest Group	5,238	3

Summary

Thanks to all who participated in the 2022 running of the September VHF Contest. Even when conditions are bad there are still QSOs to be made. We are always very appreciative of every log received no matter what the size.

Onto the stories now -- the best part!

Also, be sure to check out the soapbox comments and photos at <https://contests.arrl.org/sepvhf/soaps/2022/>

I hope to see everyone in the 2023 running of the contest!

73, Gator, N5RZ

The next ARRL September VHF contest will be held on September 9-11, 2023. For full rules and contest details, visit

www.arrl.org/september-vhf

N6GP/R (#4 USA Limited Rover)

By Tim Goepfinger, N6GP (from 3830scores.com)

Earlier in the week I thought my roving plans were ruined by the remnants of Hurricane Kay. Thunderstorms were predicted from late Friday thru Sunday. Thankfully, the rain came early on Friday, and everything was OK Saturday morning. Mentally, I had to shift gears. I got a 30 minute late start at the beginning of the contest on Signal Hill. Had a good amount of local activity, but no 6-meter opening. Surprised to see activity on 2m FT8, and I was shocked to work Jay N1AV in Tucson! This is the only VHF contest I remember where the longest distance QSO was on 2m. Went to Montebello for DM04 and worked a lot of locals. Decided to leave DM13 and DM14 until Sunday.

I usually drive out of the area for my "Driving for Multipliers" strategy for September and January VHF. Unfortunately, due to fires earlier in the month, "the Grapevine" I-5 was either closed or severely restricted to re-build the road.

The Wrightwood area had thunderheads above it on Sunday, so that was out. I did DM13 at the Diamond Bar Center to work many locals Sunday morning, and then I went to Pantera Elementary for DM14 in the early afternoon. Seeing that I needed DM12 on a couple of bands, I went to Coastal Peak Park in Newport Beach to work them, and I got them. Storm clouds were brewing with a lot of lightning crashes on the radio, so I QRT'd a couple of hours before the contest end.

Had lots of technical glitches. I managed to wipe out the memory channels in my IC-7000 twice. Got a new laptop to bring along for digital modes on my TS-590SG and could not get it to transmit. Could be Windows 11 related.

QSOs by Band:

DM03 54
DM04 53
DM13 58
DM14 50

Thanks for all the QSOs!

K1TEO – #1 USA Single Op High Power

By Jeff Klein, K1TEO (from 3830scores.com)

Decent contest highlighted by some fun runs with rovers up through the microwaves - thanks guys you make the contest exciting. Band conditions were ok with some slight enhancement Saturday, though it was spotty. Sunday AM the band was enhanced down the coast based on some signal reports I had on 2M from the Carolinas, but I didn't work any of the DX that copied me (based on texts and PSKReporter flags). Probably my high noise on 144. By mid-day Sunday it was raining, and conditions were normal to slightly below the rest of the contest.

Rigs mainly worked though I had a few scary minutes when one of my rotors wouldn't read out Saturday evening. Detaching and reattaching the control line did the trick. Phew. Sunday evening my SWR on 432 went way up. Monday morning it was back to normal. That will be a "fun" issue to resolve.

One fun thing I tried at times was single-op 3 radios. When I was on 902 and up I could have FT8 on both 6 and 2 going at the same time as the microwaves. That was interesting.

Thanks for the Q's, to the ARRL and again to the Rovers for heading out!



KB2SA's 1.9m f/d=0.35 mesh dish (for 1296 MHz -ed.). 850w into RA3AQ (2008) feed with custom tuned choke. [Bill Siino, KB2SA, photo]

KB2SA – 1296 Single Band from DM13

By Bill Siino, KB2SA

Being in San Diego, CA, the EU operating window was under 1 hour total. Picked up VK2JDS in the early morning. WA6PY very graciously engaged with an SSB QSO right before contest close.

Soapbox!

Don't miss the compilation of comments - see

<https://contests.arrl.org/sepvhf/soaps/2022/>
for some great stories and photos.



KB2SA: 1200W Kuhne PA (for 1296-ed.) located near dish in a Pelican case. [Bill Siino, KB2SA, photo]

N3NGE – # 10 Unlimited Multi Operator from FN20 *By Rich Rosen K1DS, (from October 2022 PackRats "Cheese Bits" Newsletter)*

Since I became a Packrat 25 years ago, I have made many visits to Morgantown to N3NGE, the QTH of Len & Linda Martin. Len has helped me build my rover by welding a hinge onto a drive-over mast support, putting connectors on good LMR400 cables for the rover van and providing a first stop for contesting to work through 12 bands: 50MHz through 24GHz + Laser. This time it was a special visit as I got to multi-op with Len for the first 7 hours of the VHF contest.

Over the years, Len's multi-op station has grown with new radios, bigger amplifiers, new computers, new logging programs and of course, digital modes. Integration has enabled many functions to speed up logging, improve antenna pointing and scanning the analog and digital band segments for activity.

There are dozens of parameters for the computer programs that enable them to "talk" to the various radios, set the proper exchanges for contests and send contacts to the log. In the process, if a change is made and a new box checked or unchecked in the software settings dialogs, the program often needs to be rebooted. When you use CAT control for the radios, the radio may also need to be rebooted. Such was the hour prior to the start of the contest as Len deftly went through the programs, booting and rebooting to get the station computer's programs and radios working symphonically.

The first hour saw some SSB action on 6m and 2m, while the W3IIC/R and KØBAK/R rovers were in the area and could add a few QSO points for the bands 222 and up. By 3PM, most all of the analog contacts were worked, leaving everyone on FT8. Most all of the activity was within a 500 mile-radius and the distant contacts were in digital mode.

Things were slow and steady and as dinner hour approached, we took a walk to the woods to check out some very long HF antennas and a couple of 10' dishes that could be worked into an EME station. Linda made a delightful dinner for the three of us and we chatted until it was time for moonrise. We hoped to operate both 144 and 432 EME for the 30 minutes that we would have the rising moon in our main antenna lobe. The activity from Europe was very limited, as it was about 3AM there. We saw several decodes of other US stations that we had already worked terrestrially but did manage to have one 2m EME QSO with a station in Slovenia.

We wrapped the evening with a few more terrestrial QSOs, and I headed home on the PA Turnpike. As I was driving eastward, I noted an antenna studded rover van in the right-hand lane. Sure enough, it was Drex and Paul in the W3ICC rover. We chatted briefly by phone and shared some highlights of roving as we both headed for home.

N7CKJ/R – Limited Rover from DN17 and DN18
By Randy Jones, N7CKJ

No propagation to speak of but was able to shake down the new 60Ah lithium battery, charger and portable solar panels. The remote site was RFI quiet, but the cheap Chinese MPPT charger trashed 6 Meters, so I'm off to GigaParts for a better brand. Hopefully, I'll have better things to report, next June.



N7CKJ/R: Two Photos showing the operating position with no shade, and a 120W Solar Power Generator [Randy Jones, N7CKJ, photos]

KØBAK – #5 Limited Rover, from Atlantic Division FM19, FM29, FN20
By Peter Kobak, KØBAK

I operate a former TV news production van with a pneumatic mast that allows me to raise my 4 low band antennas up to 30 feet above the ground. In this contest I would be a Limited Rover with a 6m Moxon and three 10-foot Yagis on 2m through 70cm, with maximum power allowed for the Limited category. The van was only available on the Monday before the contest after being under repair for a couple of weeks, a familiar circumstance for the 20-year-old vehicle.

By the Friday before the contest, I was barely finished with the installation of my 6m amplifier and repositioned Moxon. I did not have time to test any of the 6m systems on-air to make a contact, so I started the contest with only a hope that it would all work. My plan for Saturday was the same pattern as other VHF contests this year: to activate the four grids around Gap Pennsylvania (FM19, FN10, FM29, FN20).

The rove started at the farthest point of my plan in FM19xx in a locally high church parking lot. The lot is high relative to the rolling hills west of Gap, but there are tall trees around the lot so it's not ideal...though I don't know of any ideal locations out there.

After trying a little too long to make SSB contacts, my first contact at 1810z was with FN31 powerhouse Jeff, K1TEO, on 2m, and we ran my four bands easily. I also ran all four on SSB with W3IP, K3TUF, and W3ICC/R. Getting the ICC rover was satisfying because one of my goals was to make 4-band contacts with him this contest after only getting ICC/R relatively few times in the past.

After logging what I could on SSB on 2m and 6m, I turned my attention to FT8. Contacts came regularly, and it seemed like when I was on the cusp of changing bands or deciding to pack up for the next grid, I would see another new multiplier appear for me to attempt to log.

I was quite happy that my work earlier this summer on adding loud fans to my 2m and 6m amplifiers allowed me to run FT8 at my category maximum 200 watts while barely getting the heat sinks warm, though it helped a lot to be operating in low 80F temperatures instead of mid 90s or worse.

Because of those steady contacts with multiplier opportunities, I stayed at this initial grid longer than I had planned; it's tough to leave when you think another multiplier will be coming in a minute or two. I did not notice any propagation enhancement on 6m or 2m; I would decode a distant grid on 2m FT8 sometimes, but it usually didn't last long enough to make a contact.

After two hours, I noted my main batteries' voltage would drop to just under 11v when the 2m amplifier was transmitting causing a total station draw of about 60 amps (everything in the station runs off those batteries except the 6m amplifier). The battery sag is almost certainly because those two 200Ah AGM batteries are about 5 years old so they're reaching the end of their useful life.

For the first time since a week-long POTA rove in mid-2019, I enabled the circuit that charges the station batteries

from the vehicle alternator, though with the short trips in this rove that doesn't help much.

I have a good but not perfect win percentage sweet-talking LEOs I encounter in my many contest roves and POTA operations, but I just didn't want to deal with it this time. In my defense, I had spent more time than planned at my first grid and was looking forward to operating for the first time from a good high location in FM29 at my next stop, so the "damage" to my rove was minimal besides the travel time wasted during prime contest starting hours.

The next stop in FM29ax was on the property of a small business. I had talked to the owner in person a couple of months prior to ask permission. I thought the hardest part was going to be explaining why I wanted to park there for my weird hobby, but as I was describing ham radio generically and playing up the emergency preparation angle, he piped up with "oh, ham radio" before I used that phrase; I then knew I was halfway home with my ask. We had a good conversation where he described radio operators on his property using the same kind of van I use with a pneumatic mast. I am not aware of another van like mine operating in that area besides W3ICC, so this is a mystery I hope to solve someday.

The location is small with gravel and grass, and when I got there a little after 2100z I realized it was more tilted than I remembered from my visit to talk to the owner. The tilt wasn't bad, but it was enough so that I was only comfortable pushing up four out of the seven segments of my mast. Fortunately, that wasn't a significant disadvantage because even at that lower height my antennas had a full circle of visibility with no trees or hills in line for many hundreds of meters.

After answering one SSB CQ on 2m, I phoned W3ICC/R to coordinate another run of four bands. 6m FT8 was next, and I got a few familiar callsigns along with a short string of contacts to the southwest in FM18 and FM08; again, I noticed no significant 6m enhancement. Going back to 2m, I saw an SSB signal and glommed onto a 3-band 3-station group of contacts with K1TEO and W2KV.

While making the 222 SSB contacts I saw a signal in the FT8 region, so I went back to make one of my few single contacts on that band. More FT8 on 2m followed including a strong one with superstation W8ZN in FM09, so when all the 2m FT8 stations were harvested I phoned W8ZN to see if we could try the other bands on sideband. I barely got a 432 contact, after which I tried going back to 6m, but my radio seemed to be transmitting at extremely low power. I tried rebooting the radio and SDR software,

which has worked to resolve this random problem in the past, but this time it didn't work.

Having stayed at FM29 for my planned 1.5 hours, but not knowing if I'd have an operable radio at my next stop, I decided to cancel my last stop in FN20 and drive home. As I look back at this year, abandoning planned rove stops is a recurring story with fatigue being a big factor in my decisions. Reluctantly I think I need to be more realistic in my rove plans. I just can't do the exhausting work of a rove at the pace or duration I used to do just a few years ago. If anyone wanted a rove van like mine, this would be a good time to make an offer. ☺

Significant off-and-on rain was forecast for Saturday evening through all of Sunday. This meant I couldn't recharge my tired station batteries overnight. It also meant I wasn't going to be roving on Sunday because it's dangerous for me to climb up a wet ladder to connect and disconnect the cables to my antennas and rotator. Although I made 98 contacts in just 3.5 operating hours on Saturday, I was bummed I would have activated only two grids and operated only a small total number of hours.

On Sunday, after my weekly early breakfast with a group of local hams, I was resigned to my two-digit QSO total and instead of contesting I intended to watch the Eagles opening football game during the rains. Checking the weather forecast, I noticed a two-hour period in the early evening where the rain chance dropped from 40-80% to "just" 15% before climbing again. I resolved to check the forecast again after the Eagles game.

The forecast held, and though there were on-and-off sprinkles, I felt I could dry the ladder rungs with a towel before climbing and have acceptable risk of a fall. Operating from my FN20 driveway would minimize disappointment if the radio continued to act up or rain came suddenly. I was extra careful going up the ladder but was happy that I could start operating the station if only for a short time. My first goal was to get at least 1 contact so I could claim to activate 3 grids instead of 2, followed by making a second contact to get me to 100 QSOs. I felt lucky to have made 15 contacts from my driveway which is in a hollow with hills about three-quarters around. I was able to get four bands with N2NT (3 on SSB) and made a few first contacts with my VHF club's members. Roughly in the middle of my hour-long session, rain poured for a while and I thought I had made a mistake deciding to operate, but the rain calmed down to a trickle allowing me to dry off and climb the ladder to disconnect and shut down the station.

I had almost exactly twice as many FT8 as USB, but the sideband total was enhanced by a few quick phone-coordinated runs through my bands. I saw no one transmit a band change request on FT8, including me. FT8 continues to be blessing for making more contacts farther than I could otherwise, and a curse for largely shutting out the opportunity for a rove like me to run the bands via RF only for the short time I'm operating at a particular grid.



KØBAK/R and his rove van operating at FM29ax [Peter Kobak, KØBAK, photo]

Regional Leaders

West Coast Region

(Pacific, Northwestern and Southwestern Divisions;
Alberta, British Columbia and NT Sections)

N7DSX/R	5,096	R
K7LSX/R	4,825	R
N6ZE/R	3,454	R
W7HXC/R	960	R
KD6EFQ/R	980	R
N6GP/R	7,925	RL
KA7RRA/R	2,116	RL
K6LMN/R	854	RL
N6JSO/R	261	RL
N6LB/R	243	RL
N1AV	39,102	SOHP
K6KLY	10,560	SOHP
KE7SW	8,036	SOHP
W7OJT	2,052	SOHP
W7MEM	1,856	SOHP
N6KN	7,627	SO-ALG-HP
K7ND	2,616	SO-ALG-HP
VA7MM	304	SO-ALG-HP
K6MI	4,602	SO-ALG-LP
K2GMY	3,625	SO-ALG-LP
N7RK	3,013	SO-ALG-LP
VA7SC	2,020	SO-ALG-LP
KC6ZWT	2,000	SO-ALG-LP
WQ6D	484	SOP
VE7VIE	30	SOP
N7IR	14,630	SOLP
NA6MG	9,198	SOLP
N6VI	9,072	SOLP
AA6XA	1,425	SOP-ALG
K7ATN	488	SOP-ALG
KM6SJO	48	SOP-ALG
VE7LOE	45	SOP-ALG
W6HHS (KM6SJO, op)	1	SOP-ALG
WA7PVE	720	SO3B
W8AEF	320	SO3B
KI6X	275	SO3B
WA8ZID	203	SO3B
K6JGV	152	SO3B
N7QOZ	2,033	SO-ALG-3B
WB7FJG	216	SO-ALG-3B
W6VO	32	SO-ALG-3B

K6OAK	6	SO-ALG-3B
VE7BGP	2	SO-ALG-3B

W7IMC	2,230	SOFM
AA6QI	1,424	SOFM
N6UTC	1,404	SOFM
KG7KMV	750	SOFM
AF6GM	273	SOFM
AL1VE	2,484	LM
WO1S	1,008	LM
K7CPU	310	LM

Midwest Region

(Dakota, Midwest, Rocky Mountain and West Gulf
Divisions; Manitoba and Saskatchewan Sections)

WØAUS/R	36,417	R
KA9VVQ/R	18,144	R
W9FZ/R	18,144	R
KCØP/R	12,150	R
NØHZO/R	7,697	R
K5SRT/R	2,370	RL
ABØYM/R	280	RL
AEØEE/R	184	RL
W3DHJ/R	160	RL
AA5PR/R	143	RL
KOØZ/R	682	RU
KØAWU	12,540	SOHP
WE7L	819	SOHP
K7ULS	323	SOHP
N5JS	216	SOHP
K5PI	176	SOHP
WTØDX	176	SOHP
ABØRX	2,262	SOLP
NØLL	2,200	SOLP
K5ND	1,333	SOLP
KM5RG	1,166	SOLP
N5EKO	1,120	SOLP
WØGHZ	43,320	SO-ALG-HP
NØHJZ	17,536	SO-ALG-HP
K5LLL	2,847	SO-ALG-HP
WA5LFD	187	SO-ALG-HP
WØRT	130	SO-ALG-HP
KAØPQW	15,540	SO-ALG-LP
KBØMRK	441	SO-ALG-LP
KAØCRO	441	SO-ALG-LP
KFØM	162	SO-ALG-LP
KBØKQI	144	SO-ALG-LP
NØSUW	272	SOP

KG5HFO	3,634	SO3B	VE3FU	40	SOP-ALG
W5TRL	2,479	SO3B	KO9A	21,182	SO3B
KØVG	513	SO3B	K8RO	6,161	SO3B
KEØIZE	495	SO3B	WA8MCD	5,472	SO3B
WØGN	176	SO3B	VE3BW	3,403	SO3B
			VE3PJ	1,860	SO3B
WBØULX	12	SO-ALG-3B			
KF5DDV	9	SO-ALG-3B	AK4U	341	SO-ALG-3B
KEØOR	6	SO-ALG-3B	VA3OGG	168	SO-ALG-3B
KAØOUV	6	SO-ALG-3B	VE3EG	96	SO-ALG-3B
			VE3KG	24	SO-ALG-3B
KG5UNK	130	SOFM	N9TTK	12	SO-ALG-3B
K5QE	69,344	LM	VE3RWJ	462	SOFM
NØLD	136	LM	VE3AYR	36	SOFM
KC5MVZ	270	UM	VE3MIS	36,435	LM
			N8GA	63,544	UM
			WD9EXD	33,117	UM
Central Region			Southeast Region		
(Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)			(Delta, Roanoke and Southeastern Divisions)		
VE3OIL/R	72,688	R	NV4B/R	32,271	RL
KG9OV/R	21,488	RL	KM4OZH/R	5,808	RL
K9JK/R	1,700	RL	K2JB/R	3,210	RL
KB9RUG/R	520	RL	WD5HJF/R	1,053	RL
VE3WY	16,830	SOHP	KE4WMF/R	882	RL
N4SV	11,096	SOHP			
VA3IKE	7,906	SOHP	K4CNY/R	704	RU
NØAKC	7,560	SOHP			
W9EWZ	4,576	SOHP	N4QWZ	48,813	SOHP
			K3SK	21,804	SOHP
K2DRH	86,112	SOLP	N3MK	21,675	SOHP
K9MU	33,705	SOLP	K1HTV	18,648	SOHP
K9KLD	14,696	SOLP	AJ6T	14,508	SOHP
VE3SMA	4,862	SOLP			
VA3TIC	4,042	SOLP	K4EA	4,557	SOLP
			KY4G	3,913	SOLP
WØUC	50,794	SO-ALG-HP	AA4DD	3,569	SOLP
K8ZR	1,344	SO-ALG-HP	W4TM	3,444	SOLP
K2YAZ	858	SO-ALG-HP	K4FJW	3,432	SOLP
W9DZ	286	SO-ALG-HP			
			W3IP	45,425	SO-ALG-HP
VE3DS	16,992	SO-ALG-LP	WB4WXE	2,556	SO-ALG-HP
KE8QEP	294	SO-ALG-LP	N1GC	2,090	SO-ALG-HP
WA8TWM	30	SO-ALG-LP	K4YRK	176	SO-ALG-HP
NN9K	28	SO-ALG-LP	N4CF	1	SO-ALG-HP
WØELT	1	SO-ALG-LP			
			W4RAA	2,268	SO-ALG-LP
VA3EON	91	SOP	W4YN	234	SO-ALG-LP
			NT4RT	140	SO-ALG-LP
N8XA	200	SOP-ALG	WA4WZQ	42	SO-ALG-LP

K4BAI	10	SO-ALG-LP	VA2WA	22,705	SOHP
AB4DX	414	SOP	WB1GQR (W1SJ, op)	99,710	SOLP
KO4UJS	12	SOP-ALG	N2WK	71,004	SOLP
KC8KSK	2	SOP-ALG	KA2ENE	35,904	SOLP
			WA2VNV	25,174	SOLP
			NR2C	12,780	SOLP
KK4MA	15,219	SO3B			
KO4ECD	7,300	SO3B	WZ1V	59,777	SO-ALG-HP
KK4BZ	4,270	SO3B	K1TR	26,010	SO-ALG-HP
KV4ZY	3,570	SO3B	W2FU	20,868	SO-ALG-HP
N8HK	1,755	SO3B	N1JEZ	19,422	SO-ALG-HP
			W2KV	17,612	SO-ALG-HP
N7QLK	90	SO-ALG-3B			
N5QYC	42	SO-ALG-3B	AF1T	86,223	SO-ALG-LP
KK4AND	9	SO-ALG-3B	WB2JAY	23,250	SO-ALG-LP
			AC1J	11,650	SO-ALG-LP
			K3TUF	3,838	SO-ALG-LP
W5WGF	348	SOFM	N2BEG	3,648	SO-ALG-LP
K4NRT	15	SOFM			
NN4RB	4	SOFM			
KO4UOF	1	SOFM	WX3P	576	SOP
			W1IG	300	SOP
AA4ZZ	142,492	LM			
W4IY	43,456	LM	WB2AMU	1,416	SOP-ALG
NE5BO	4,080	LM	KQ2RP	40	SOP-ALG
N4NRV	117	LM			
			N3YY	26,677	SO3B
W8ZN	235,641	UM	K1HC	11,752	SO3B
N4SVC	49,856	UM	W3FAY	8,800	SO3B
W4NH	41,736	UM	KA2BPP	5,311	SO3B
AG4V	14,195	UM	W2FDJ	2,210	SO3B
			N1JD	2,112	SO-ALG-3B
			W1DYJ	1,275	SO-ALG-3B
			K2AXX	1,081	SO-ALG-3B
			N1ZN	465	SO-ALG-3B
			KCØNAH	418	SO-ALG-3B
K2QO/R	73,188	R			
W3ICC/R	22,936	R			
KF2MR/R	17,353	R	KB1YNT	370	SOFM
KV2X/R	8,613	R	VA2DG	272	SOFM
WB2WGH/R	5,780	R			
			N2NT	119,955	LM
WB2SIH/R	8,370	RL	W2EA	65,274	LM
KØBAK/R	6,396	RL	W2LV	56,745	LM
AF1R/R	6,372	RL	W3SO	21,730	LM
N5BNO/R	3,540	RL	K1WHS	18,200	LM
N4ZN/R	588	RL			
			N2GHR	38,800	SOHP
KG6CIH/R	58,256	RU			
N2SLN/R	23,166	RU	W2SZ	390,176	UM
WB2VVQ/R	4,750	RU	KD2LGX	57,000	UM
			WE1P	36,900	UM
			KV1J	30,358	UM
K1TEO	365,200	SOHP	N3NGE	28,800	UM
N2JMH	131,528	SOHP			
K1KG	70,950	SOHP			
K2TER	39,700	SOHP			

Division Winners**Classic Rover**

Atlantic	K2QO/R	73,188
Dakota	WØAUS/R	36,417
Hudson	KD2TAI/R	2,640
Midwest	WAØCNS/R	1,824
Northwestern	W7HXC/R	960
Southwestern	N7DSX/R	5,096
Canada	VE3OIL/R	72,688

Limited Rover

Atlantic	KØBAK/R	6,396
Central	KG9OV/R	21,488
Dakota	AEØEE/R	184
Delta	NV4B/R	32,271
Hudson	WB2SIH/R	8,370
Midwest	KD8RTT/R	42
New England	AF1R/R	6,372
Northwestern	KA7RRA/R	2,116
Pacific	N6JSO/R	261
Roanoke	KM4OZH/R	5,808
Rocky Mountain	ABØYM/R	280
Southwestern	N6GP/R	7,925
West Gulf	K5SRT/R	2,370

Unlimited Rover

Atlantic	N2SLN/R	23,166
Delta	K4CNY/R	704
Midwest	KOØZ/R	682
New England	KG6CIH/R	58,256

Single Operator, High Power

Atlantic	N2JMH	131,528
Central	N4SV	11,096
Dakota	KØAWU	12,540
Delta	N4QWZ	48,813
Great Lakes	N4QS	450
Hudson	WA2FZW	12,480
Midwest	WBØM	21
New England	K1TEO	365,200
Northwestern	KE7SW	8,036
Pacific	K6KLY	10,560
Roanoke	K3SK	21,804
Rocky Mountain	WE7L	819
Southeastern	WA4GPM	13,446
Southwestern	N1AV	39,102
West Gulf	N5JS	216
Canada	VA2WA	22,705

Single Operator, Low Power

Atlantic	N2WK	71,004
Central	K2DRH	86,112
Dakota	WBØHHM	525
Delta	AA4DD	3,569

Great Lakes	K8WU	378
Hudson	WA2VNV	25,174
Midwest	ABØRX	2,262
New England	WB1GQR (W1SJ, op)	99,710
Northwestern	KW2E	16,575
Pacific	K6VVP	1,925
Roanoke	K4FJW	3,432
Rocky Mountain	KBØNAV	744
Southeastern	K4EA	4,557
Southwestern	N7IR	8,077
West Gulf	K5ND	1,333
Canada	VE3SMA	4,862

Single Operator, Analog Only, High Power

Atlantic	W2FU	20,868
Central	WØUC	50,794
Dakota	WØGHZ	43,320
Delta	K4YRK	176
Great Lakes	K8ZR	1,344
Hudson	W2KV	17,612
Midwest	WØRT	130
New England	WZ1V	59,777
Northwestern	K7ND	2,616
Roanoke	W3IP	45,425
Southeastern	WB4WXE	2,556
Southwestern	N6KN	7,627
West Gulf	K5LLL	2,847
Canada	VA7MM	304

Single Operator, Analog Only, Low Power

Atlantic	K3TUF	3,838
Central	NN9K	28
Dakota	KAØPQW	15,540
Great Lakes	KE8QEP	294
Hudson	WB2JAY	23,250
Midwest	KFØM	162
New England	AF1T	86,223
Northwestern	WA6OEM	790
Pacific	K6MI	4,602
Roanoke	W4YN	234
Rocky Mountain	KBØKQI	144
Southeastern	W4RAA	2,268
Southwestern	N7RK	3,013
Canada	VE3DS	16,992

Single Operator, Portable

Dakota	NØSUW	272
Hudson	WX3P	576
New England	W1IG	300
Southeastern	AB4DX	414
Southwestern	WQ6D	484
Canada	VA3EON	91

Single Operator, Portable, Analog Only

Atlantic	N8XA	200
Hudson	WB2AMU	1,416
Northwestern	K7ATN	488
Pacific	AA6XA	1,425
Roanoke	KO4UJS	12
Canada	VE7LOE	45

Single Operator, 3 Band

Atlantic	N3YY	26,677
Central	KO9A	21,182
Dakota	KØVG	513
Delta	K5OLV	187
Great Lakes	K8RO	6,161
Hudson	KA2BPP	5,311
Midwest	KEØIZE	495
New England	K1HC	11,752
Northwestern	WA7PVE	720
Pacific	K6JGV	152
Roanoke	KK4MA	15,219
Rocky Mountain	KC7QY	154
Southeastern	N8HK	1,755
Southwestern	W8AEF	320
West Gulf	KG5HFO	3,634
Canada	VE3BW	3,403

Single Operator, 3 Band, Analog Only

Atlantic	K2AXX	1,081
Central	N9TTK	12
Dakota	WBØULX	12
Delta	N5QYC	42
Great Lakes	AK4U	341
Hudson	KC2JRQ	216
Midwest	KAØOUV	6
New England	N1JD	2,112
Northwestern	N7QOZ	2,706
Pacific	K6OAK	6
Roanoke	N7QLK	90
Southeastern	KK4AND	9
Southwestern	W6VO	32
West Gulf	KF5DDV	9
Canada	VA3OGG	168

Single Operator, FM Only

Delta	W5WGF	348
New England	KB1YNT	370
Northwestern	W7IMC	2,230
Roanoke	NN4RB	4
Southeastern	KO4UOF	1
Southwestern	AA6QI	1,424
West Gulf	KG5UNK	130
Canada	VE3RWJ	462

Limited Multioperator

Atlantic	W2EA	
Delta	NE5BO	65,274
Hudson	N2NT	4,080
New England	K1WHS	119,955
Northwestern	AL1VE	18,200
Roanoke	AA4ZZ	2,484
Southwestern	WO1S	142,492
West Gulf	K5QE	1,008
		99,078

Unlimited Multioperator

Atlantic	KD2LGX	57,000
Central	WD9EXD	33,117
Delta	AG4V	14,195
Great Lakes	N8GA	63,544
Hudson	WE1P	36,900
New England	W2SZ	390,176
Roanoke	W8ZN	235,641
Southeastern	N4SVC	49,856
West Gulf	KC5MVZ	270

QSO and Mult Leaders

Classic Rover	
50 MHz QSOs	
K2QO/R	102
VE3OIL/R	82
W3ICC/R	51
WØAUS/R	37
KV2X/R	31
50 MHz Mults	
K2QO/R	20
VE3OIL/R	19
VE2BAP/R	11
W3ICC/R	11
KA9VVQ/R	6
KCØP/R	6
N7DSX/R	6
W9FZ/R	6
WØAUS/R	6
144 MHz QSOs	
K2QO/R	90
VE3OIL/R	90
WØAUS/R	61
KA9VVQ/R	57
W9FZ/R	57
144 MHz Mults	
K2QO/R	24
VE3OIL/R	22
VE2BAP/R	14
W3ICC/R	13
KA9VVQ/R	10
W9FZ/R	10
WØAUS/R	10
WØZF/R	10
222 MHz QSOs	
K2QO/R	52
WØAUS/R	48
VE3OIL/R	42
W3ICC/R	36
KA9VVQ/R	34

222 MHz Mults	
K2QO/R	15
VE3OIL/R	12
WØAUS/R	10
KA9VVQ/R	9
W3ICC/R	9
W9FZ/R	9
432 MHz QSOs	
K2QO/R	60
WØAUS/R	56
KA9VVQ/R	55
W9FZ/R	54
W3ICC/R	48
432 MHz Mults	
K2QO/R	15
KA9VVQ/R	12
VE3OIL/R	12
W3ICC/R	12
W9FZ/R	12
902 MHz QSOs	
WØAUS/R	34
KF2MR/R	29
K2QO/R	28
VE3OIL/R	23
KCØP/R	20
902 MHz Mults	
VE3OIL/R	9
K2QO/R	8
KA9VVQ/R	7
KCØP/R	7
NØHZO/R	7
W9FZ/R	7
WØAUS/R	7
1.2 GHz QSOs	
K2QO/R	32
KF2MR/R	29
WØAUS/R	27
VE3OIL/R	25

W3ICC/R	22
1.2 GHz Mults	
K2QO/R	10
VE3OIL/R	9
KCØP/R	6
NØHZO/R	6
W3ICC/R	6
2.3 GHz QSOs	
K2QO/R	18
KF2MR/R	15
VE3OIL/R	11
W3ICC/R	11
KD2TAI/R	8
2.3 GHz Mults	
VE3OIL/R	7
W3ICC/R	5
K2QO/R	4
KF2MR/R	3
WB2WGH/R	2
3.4 GHz QSOs	
KF2MR/R	11
K2QO/R	10
KD2TAI/R	8
VE3OIL/R	2
3.4 GHz Mults	
K2QO/R	5
KF2MR/R	3
KD2TAI/R	1
VE3OIL/R	1
5.7 GHz QSOs	
VE3OIL/R	7
WØAUS/R	7
KD2TAI/R	6
5.7 GHz Mults	
VE3OIL/R	5
KD2TAI/R	1
WØAUS/R	1

10 Ghz QSOs	
WØAUS/R	16
AF4JF/R	4
K7LSX/R	4
N7DSX/R	4
VE3OIL/R	4
WAØCNS/R	4
10 Ghz Mults	
WØAUS/R	5
KA9VVQ/R	3
W9FZ/R	3
AF4JF/R	2
WAØCNS/R	2
WB2WGH/R	2
24 Ghz QSOs	
VE3OIL/R	6
WAØCNS/R	2
AF4JF/R	1
24 Ghz Mults	
VE3OIL/R	6
AF4JF/R	1
WAØCNS/R	1
123 GHz QSOs	
VE3OIL/R	6
AF4JF/R	1
WAØCNS/R	1
123 GHz Mults	
VE3OIL/R	6
AF4JF/R	1
WAØCNS/R	1
Light QSOs	
VE3OIL/R	2
Light Mults	
VE3OIL/R	2

Limited Rover	
50 MHz QSOs	
NV4B/R	90
KG9OV/R	65
N6GP/R	48
AF1R/R	45
KØBAK/R	39
50 MHz Mults	
NV4B/R	29
KG9OV/R	20
K5SRT/R	13
KØBAK/R	13
K2JB/R	12
WB2SIH/R	12
144 MHz QSOs	
KG9OV/R	103
NV4B/R	95
N6GP/R	65
KØBAK/R	52
WB2SIH/R	51
144 MHz Mults	
KG9OV/R	33
NV4B/R	31
KØBAK/R	23
WB2SIH/R	17
WD5HJF/R	15
222 MHz QSOs	
N6GP/R	42
NV4B/R	40
AF1R/R	26
N5BNO/R	24
WB2SIH/R	23
222 MHz Mults	
NV4B/R	14
WB2SIH/R	12
KG9OV/R	9
AF1R/R	6
KØBAK/R	6

432 MHz QSOs	
N6GP/R	60
NV4B/R	42
KG9OV/R	32
N5BNO/R	32
AF1R/R	26
KM4OZH/R	26
432 MHz Mults	
NV4B/R	15
KG9OV/R	11
WB2SIH/R	11
AF1R/R	7
KØBAK/R	7
Unlimited Rover	
50 MHz QSOs	
KG6CIH/R	84
N2SLN/R	64
WB2VVQ/R	15
K4CNY/R	7
50 MHz Mults	
N2SLN/R	19
KG6CIH/R	15
WB2VVQ/R	7
K4CNY/R	5
144 MHz QSOs	
N2SLN/R	64
KG6CIH/R	58
WB2VVQ/R	34
K4CNY/R	20
KOØZ/R	8
144 MHz Mults	
N2SLN/R	20
KG6CIH/R	14
K4CNY/R	11
WB2VVQ/R	10
KOØZ/R	2

222 MHz QSOs	
N2SLN/R	45
KG6CIH/R	38
WB2VVQ/R	10
KOØZ/R	7
222 MHz Mults	
N2SLN/R	17
KG6CIH/R	10
WB2VVQ/R	4
KOØZ/R	2
432 MHz QSOs	
N2SLN/R	42
KG6CIH/R	41
WB2VVQ/R	23
KOØZ/R	8
K4CNY/R	3
432 MHz Mults	
N2SLN/R	16
KG6CIH/R	11
WB2VVQ/R	10
K4CNY/R	2
KOØZ/R	2
902 MHz QSOs	
KG6CIH/R	17
WB2VVQ/R	2
902 MHz Mults	
KG6CIH/R	5
WB2VVQ/R	2
1.2 GHz QSOs	
KG6CIH/R	25
KOØZ/R	8
WB2VVQ/R	2
1.2 GHz Mults	
KG6CIH/R	7
KOØZ/R	2
WB2VVQ/R	2

2.3 GHz QSOs	
KG6CIH/R	16
2.3 GHz Mults	
KG6CIH/R	5
3.4 GHz QSOs	
KG6CIH/R	15
3.4 GHz Mults	
KG6CIH/R	5
5.7 GHz QSOs	
KG6CIH/R	11
5.7 GHz Mults	
KG6CIH/R	3
10 GHz QSOs	
KG6CIH/R	11
10 GHz Mults	
KG6CIH/R	3
24 GHz QSOs	
KG6CIH/R	2
KOØZ/R	1
24 GHz Mults	
KG6CIH/R	1
KOØZ/R	1
47 GHz QSOs	
KG6CIH/R	2
47 GHz Mults	
KG6CIH/R	1
123 GHz QSOs	
KG6CIH/R	2
123 GHz Mults	
KG6CIH/R	1
Light QSOs	
KG6CIH/R	2
Light Mults	
KG6CIH/R	1

Single Op HP	
50 MHz QSOs	
K1TEO	239
N3FTI	146
K1HTX	125
N2JMH	124
VA2WA	116
50 MHz Mults	
N4QWZ	57
K1TEO	56
N2JMH	51
VA2WA	49
VE3WY	46
144 MHz QSOs	
K1TEO	243
W3XTT(KA1ZE)	213
N3MK	129
K1KG	116
N2JMH	113
144 MHz Mults	
W3XTT(KA1ZE)	78
K1TEO	58
N4QWZ	50
VE3WY	44
N3MK	41
222 MHz QSOs	
K1TEO	90
N2JMH	53
K1KG	40
N4QWZ	31
KØAWU	23
222 MHz Mults	
K1TEO	36
N4QWZ	25
N2JMH	19
K1KG	18
AJ6T	14

432 MHz QSOs	
K1TEO	118
N2JMH	59
K1KG	51
K6KLY	38
N4QWZ	33
432 MHz Mults	
K1TEO	39
N4QWZ	23
N2JMH	21
K1KG	19
VA3IKE	19
902 MHz QSOs	
K1TEO	34
N2JMH	34
K2TER	13
K1KG	11
KØAWU	10
902 MHz Mults	
K1TEO	23
N2JMH	9
K1KG	8
KØAWU	7
K2TER	4
N1AV	4
1.2 GHz QSOs	
K1TEO	48
N1AV	35
N2JMH	35
K1KG	18
K2TER	14
KB2SA	14
1.2 GHz Mults	
K1TEO	24
N1AV	24
KB2SA	14
K1KG	9
N2JMH	9

2.3 GHz QSOs	
K1TEO	25
N2JMH	16
K2TER	11
K1KG	9
N1AV	9
2.3 GHz Mults	
K1TEO	18
K1KG	8
N2JMH	7
K2TER	4
N1AV	4
3.4 GHz QSOs	
K1TEO	12
N2JMH	10
K1KG	7
K2TER	6
3.4 GHz Mults	
K1TEO	10
K1KG	6
K2TER	4
N2JMH	4
5.7 GHz QSOs	
K1TEO	6
K1KG	6
N2JMH	4
K2TER	2
5.7 GHz Mults	
K1TEO	6
K1KG	5
N2JMH	3
K2TER	2
10 GHz QSOs	
N1AV	10
N2JMH	7
K1TEO	5
K1KG	4

K2TER	4
KØAWU	4
10 GHz Mults	
K1TEO	5
K1KG	4
N1AV	4
K2TER	3
KØAWU	3
N2JMH	3
Single Op LP	
50 MHz QSOs	
WB1GQR(W1SJ)	184
K2DRH	120
KB4OLM	105
KA2ENE	92
KB4BKV	88
50 MHz Mults	
K2DRH	67
K9MU	38
K9KLD	35
KB4OLM	32
WB1GQR(W1SJ)	32
144 MHz QSOs	
WB1GQR(W1SJ)	187
K2DRH	103
K4EA	95
K2RET	90
KW2E	89
144 MHz Mults	
K4EA	49
K2DRH	48
K9KLD	40
N2MKT	31
WB1GQR(W1SJ)	31
222 MHz QSOs	
WB1GQR(W1SJ)	51
N2WK	41

Single Op LP	
KW2E	32
K2DRH	31
KA2ENE	30
222 MHz Mults	
K2DRH	20
WB1GQR(W1SJ)	17
N2WK	16
WA2VNV	14
KA2ENE	9
N1YCQ	9
N8RA	9
432 MHz QSOs	
WB1GQR(W1SJ)	73
KW2E	55
K2DRH	52
N2WK	44
K9MU	37
432 MHz Mults	
K2DRH	28
WB1GQR(W1SJ)	19
K9MU	17
WA2VNV	16
K9KLD	13
N2WK	13
902 MHz QSOs	
N2WK	21
KA2ENE	20
K9MU	19
K2DRH	15
WB1GQR(W1SJ)	12
902 MHz Mults	
WB1GQR(W1SJ)	10
K2DRH	9
K9MU	9
N2WK	8
KA2ENE	7

1.2 GHz QSOs	
N2WK	26
WB1GQR(W1SJ)	21
KA2ENE	19
K2DRH	17
N7IR	15
1.2 GHz Mults	
K2DRH	12
WB1GQR(W1SJ)	10
N2WK	9
K9MU	7
KA2ENE	7
2.3 GHz QSOs	
N2WK	12
WB1GQR(W1SJ)	8
NR2C	3
N2DEQ	1
VE3SMA	1
2.3 GHz Mults	
N2WK	7
WB1GQR(W1SJ)	7
NR2C	2
N2DEQ	1
VE3SMA	1
3.4 GHz QSOs	
N2WK	6
WB1GQR(W1SJ)	5
3.4 GHz Mults	
N2WK	6
WB1GQR(W1SJ)	4
5.7 GHz QSOs	
N2WK	6
NR2C	2
5.7 GHz Mults	
N2WK	5
NR2C	2

10 GHz QSOs	
N2WK	10
N2MKT	4
NR2C	4
VE3SMA	3
10 GHz Mults	
N2WK	5
N2MKT	3
NR2C	2
VE3SMA	1
24 GHz QSOs	
N2WK	1
24 GHz Mults	
N2WK	1
Single Op HP Analog Only	
50 MHz QSOs	
WZ1V	93
W3IP	76
NØHJZ	53
WØUC	53
K1TR	52
50 MHz Mults	
WZ1V	26
W3IP	24
WØUC	21
WB4WXE	19
K1TR	18
W2KV	18
144 MHz QSOs	
W2KV	126
WZ1V	120
NØHJZ	93
W3IP	90
WØUC	67

144 MHz Mults	
W2KV	40
W3IP	30
WZ1V	30
NØHJZ	28
WØUC	24
222 MHz QSOs	
WZ1V	54
WØUC	44
W3IP	39
K1TR	34
WØGHZ	32
222 MHz Mults	
W3IP	21
WZ1V	21
K1TR	18
WØUC	18
N1JEZ	17
432 MHz QSOs	
WZ1V	70
NØHJZ	65
WØUC	53
N6KN	50
W3IP	50
432 MHz Mults	
W3IP	24
WZ1V	23
NØHJZ	19
WØUC	19
K1TR	18
902 MHz QSOs	
WØUC	29
WØGHZ	27
W2FU	15
N1JEZ	7
W1GHZ	5

Single Op HP Analog Only	
902 MHz Mults	
WØUC	13
WØGHZ	12
W2FU	8
N1JEZ	6
W1GHZ	5
1.2 GHz QSOs	
WZ1V	23
WØUC	21
WØGHZ	19
K1TR	17
W3IP	12
1.2 GHz Mults	
WZ1V	13
WØUC	11
K1TR	9
W3IP	8
WØGHZ	8
2.3 GHz QSOs	
W2FU	10
WØGHZ	7
K7ND	3
W3IP	3
N1JEZ	1
WØUC	1
2.3 GHz Mults	
W2FU	7
WØGHZ	7
W3IP	3
K7ND	1
N1JEZ	1
WØUC	1
5.7 GHz QSOs	
WØGHZ	7
WØUC	1

5.7 GHz Mults	
WØGHZ	7
WØUC	1
10 GHz QSOs	
WØGHZ	9
W2FU	6
W3IP	2
WØUC	1
10 GHz Mults	
WØGHZ	8
W2FU	3
W3IP	2
WØUC	1
Single Op LP Analog Only	
50 MHz QSOs	
AF1T	58
WB2JAY	37
AC1J	32
KAØPQW	32
N7RK	21
50 MHz Mults	
AF1T	19
KAØPQW	10
W4RAA	10
WB2JAY	10
AC1J	9
VE3DS	9
W1TR	9
144 MHz QSOs	
AF1T	90
KAØPQW	67
WB2JAY	64
AC1J	52
WB2CUT	52

144 MHz Mults	
AF1T	23
WB2CUT	21
KAØPQW	19
WB2JAY	19
VE3DS	18
222 MHz QSOs	
AF1T	57
KAØPQW	35
WB2JAY	33
VE3DS	25
AC1J	24
222 MHz Mults	
AF1T	18
KAØPQW	14
VE3DS	14
WB2JAY	13
AC1J	9
432 MHz QSOs	
AF1T	65
KAØPQW	47
WB2JAY	39
AC1J	32
VE3DS	26
432 MHz Mults	
AF1T	19
KAØPQW	17
VE3DS	15
WB2JAY	14
AC1J	11
902 MHz QSOs	
AF1T	17
VE3DS	13
WB2JAY	6
W4RAA	5
WB2VVV	4

902 MHz Mults	
AF1T	9
VE3DS	7
WB2JAY	6
K3TUF	3
WB2VVV	3
1.2 GHz QSOs	
AF1T	23
N7RK	14
VE3DS	14
AC1J	13
WB2JAY	12
1.2 GHz Mults	
AF1T	9
VE3DS	8
WB2JAY	8
AC1J	7
K6MI	5
2.3 GHz QSOs	
AF1T	12
K3TUF	4
WB2JAY	4
KØSM	3
K6MI	1
KN6PRZ	1
2.3 GHz Mults	
AF1T	7
K3TUF	4
WB2JAY	4
KØSM	2
K6MI	1
KN6PRZ	1
3.4 GHz QSOs	
AF1T	10
KØSM	2
VE3DS	1
WB2JAY	1

Single Op LP Analog Only	
3.4 GHz Mults	
AF1T	5
KØSM	1
VE3DS	1
WB2JAY	1
5.7 GHz QSOs	
AF1T	9
K3TUF	2
KØSM	2
K6MI	1
KN6PRZ	1
5.7 GHz Mults	
AF1T	5
K3TUF	2
KØSM	2
K6MI	1
KN6PRZ	1
10 GHz QSOs	
AF1T	10
KØSM	6
K2UA	5
K3TUF	2
K6MI	1
KN6PRZ	1
10 GHz Mults	
AF1T	5
KØSM	3
K2UA	2
K3TUF	2
K6MI	1
KN6PRZ	1
24 GHz QSOs	
AF1T	2
K6MI	1
KN6PRZ	1
KØSM	1

24 GHz Mults	
AF1T	1
K6MI	1
KN6PRZ	1
KØSM	1
47 GHz QSOs	
AF1T	2
47 GHz Mults	
AF1T	1
123 GHz QSOs	
AF1T	2
K6MI	1
KN6PRZ	1
123 GHz Mults	
AF1T	1
K6MI	1
KN6PRZ	1
Light QSOs	
AF1T	2
Light Mults	
AF1T	1
SO Portable	
50 MHz QSOs	
WX3P	38
WI1G	30
NØSUW	11
WQ6D	11
VA3EON	10
50 MHz Mults	
WX3P	16
WI1G	10
VA3EON	5
VE7VIE	5
AB4DX	4
WQ6D	4

144 MHz QSOs	
NØSUW	13
AB4DX	10
WQ6D	10
VA3EON	1
144 MHz Mults	
AB4DX	8
NØSUW	3
WQ6D	2
VA3EON	1
222 MHz QSOs	
AB4DX	3
222 MHz Mults	
AB4DX	3
432 MHz QSOs	
WQ6D	9
NØSUW	6
AB4DX	4
VA3EON	1
432 MHz Mults	
AB4DX	3
WQ6D	3
NØSUW	2
VA3EON	1
1.2 GHz QSOs	
WQ6D	2
1.2 GHz Mults	
WQ6D	2

SO Portable, Analog Only	
50 MHz QSOs	
WB2AMU	13
K7ATN	12
AA6XA	11
N8XA	8
KQ2RP	5
50 MHz Mults	
WB2AMU	8
AA6XA	5
N8XA	4
K7ATN	2
KQ2RP	2
144 MHz QSOs	
K7ATN	20
WB2AMU	19
AA6XA	18
N8XA	12
KM6SJO	6
144 MHz Mults	
WB2AMU	9
N8XA	6
AA6XA	4
K7ATN	2
KM6SJO	2
KQ2RP	2
VE3FU	2
222 MHz QSOs	
WB2AMU	6
AA6XA	5
K7ATN	3
VE7LOE	1
222 MHz Mults	
AA6XA	3
WB2AMU	3
K7ATN	1
VE7LOE	1

SO Portable, Analog Only	
432 MHz QSOs	
K7ATN	10
AA6XA	9
WB2AMU	9
KM6SJO	3
VE3FU	3
432 MHz Mults	
AA6XA	4
WB2AMU	4
VE3FU	3
K7ATN	2
KM6SJO	2
1.2 GHz QSOs	
AA6XA	7
K7ATN	1
VE7LOE	1
1.2 GHz Mults	
AA6XA	3
K7ATN	1
VE7LOE	1
SO 3Band	
50 MHz QSOs	
N3YY	121
KO9A	113
W3FAY	96
KK4MA	84
K1HC	72
50 MHz Mults	
N3YY	50
KO9A	45
KK4MA	42
K8RO	30
VE3PJ	28

144 MHz QSOs	
N3YY	115
K1HC	103
KO9A	83
W3FAY	69
KO4ECD	57
144 MHz Mults	
N3YY	40
KO9A	34
WA8MCD	33
K8RO	31
KK4MA	31
432 MHz QSOs	
K1HC	31
N3YY	22
KK4MA	21
KO9A	21
KA2BPP	17
432 MHz Mults	
KK4MA	16
N3YY	13
KO9A	10
K1HC	9
KA2BPP	9
SO 3Band, Analog Only	
50 MHz QSOs	
N7QOZ	29
K2AXX	17
N1JD	16
W1DYJ	15
N1ZN	13
50 MHz Mults	
K2AXX	12
KCØNAH	9
N1JD	9
N1ZN	7
W1DYJ	7

144 MHz QSOs	
N7QOZ	38
K2AXX	31
N1JD	23
N2FMS	16
W1DYJ	16
144 MHz Mults	
N1JD	13
K2AXX	11
W1DYJ	11
KCØNAH	10
N7QOZ	7
432 MHz QSOs	
N7QOZ	22
N1JD	15
W1DYJ	10
AK4U	6
KC2JMQ	6
432 MHz Mults	
N1JD	10
W1DYJ	7
N7QOZ	6
AK4U	3
KC2JMQ	3
Single Op FM	
50 MHz QSOs	
W7IMC	14
W5WGF	8
AA6QI	6
N6UTC	6
AF6GM	5
50 MHz Mults	
AA6QI	4
W5WGF	4
KG7KMV	2
N6UTC	2
VA2DG	2
W7IMC	2

144 MHz QSOs	
W7IMC	86
VE3RWJ	41
N6UTC	37
KB1YNT	23
AA6QI	22
144 MHz Mults	
KB1YNT	7
W7IMC	5
N6UTC	4
W5WGF	4
AA6QI	3
AF6GM	3
VE3RWJ	3
222 MHz QSOs	
W7IMC	25
AA6QI	15
N6UTC	14
KG7KMV	9
VA2DG	6
222 MHz Mults	
AA6QI	5
N6UTC	4
K7LAN	2
KG7KMV	2
VA2DG	2
432 MHz QSOs	
W7IMC	38
N6UTC	20
AA6QI	19
KG7KMV	17
VE3RWJ	17
432 MHz Mults	
AA6QI	4
KG7KMV	4
AF6GM	3
N6UTC	3
W5WGF	3

Limited MultiOp	
50 MHz QSOs	
AA4ZZ	237
W2EA	237
W2LV	234
W4IY	222
N2NT	177
50 MHz Mults	
K5QE	84
AA4ZZ	73
W2EA	56
W2LV	52
W4IY	51
144 MHz QSOs	
N2NT	265
AA4ZZ	231
W2EA	181
W4IY	160
W2LV	153
144 MHz Mults	
K5QE	76
AA4ZZ	62
N2NT	59
W4IY	56
W3SO	44
222 MHz QSOs	
N2NT	64
K1WHS	47
AA4ZZ	44
VE3MIS	24
W2LV	24
222 MHz Mults	
N2NT	29
AA4ZZ	27
K1WHS	22
W2LV	15
VE3MIS	14
W2EA	14

432 MHz QSOs	
AA4ZZ	94
N2NT	84
VE3MIS	59
K1WHS	47
W2LV	31
432 MHz Mults	
AA4ZZ	34
N2NT	28
VE3MIS	25
K1WHS	19
W2EA	17
1.2 GHz QSOs	
K5QE	22
K7CPU	1
1.2 GHz Mults	
K5QE	21
K7CPU	1
Unlimited MultiOp	
50 MHz QSOs	
W8ZN	261
W2SZ	228
N8GA	157
WE1P	142
KE1LI	117
50 MHz Mults	
N8GA	74
W8ZN	70
N4SVC	64
W4NH	59
W2SZ	53
144 MHz QSOs	
W2SZ	264
W8ZN	247
WE1P	151
N3NGE	126
N8GA	121

144 MHz Mults	
N8GA	59
W8ZN	59
W2SZ	56
W4NH	48
N3NGE	44
222 MHz QSOs	
W2SZ	85
W8ZN	54
KD2LGX	33
N2PA	32
KV1J	22
222 MHz Mults	
W2SZ	33
W8ZN	29
N2PA	18
WD9EXD	18
WE1P	16
432 MHz QSOs	
W2SZ	133
W8ZN	103
KD2LGX	46
N2PA	44
N4SVC	37
432 MHz Mults	
W8ZN	40
W2SZ	39
N4SVC	25
N2PA	21
KD2LGX	19
N8GA	19
902 MHz QSOs	
W2SZ	30
KD2LGX	15
W8ZN	6
KV1J	5
N4SVC	4

902 MHz Mults	
W2SZ	19
KD2LGX	6
KV1J	4
N4SVC	4
W8ZN	4
1.2 GHz QSOs	
W2SZ	30
W8ZN	17
KD2LGX	16
N4SVC	11
KV1J	9
1.2 GHz Mults	
W2SZ	16
W8ZN	12
KD2LGX	8
N4SVC	8
KV1J	6
2.3 GHz QSOs	
W2SZ	29
W8ZN	11
N3NGE	6
KV1J	2
2.3 GHz Mults	
W2SZ	18
W8ZN	5
N3NGE	4
KV1J	2
3.4 GHz QSOs	
W2SZ	23
W8ZN	7
3.4 GHz Mults	
W2SZ	17
W8ZN	2

