



ARRL September VHF Contest 2019 Full Results

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

Great Activity + Poor Conditions = Loads of Fun

We had another year of so-so conditions in the 2019 September VHF Contest. The result? A 21% increase in entries!! 691 Logs this year vs 569 in 2018. This is by far the most entries seen in many years. Is it because I am now the results editor for this event? (Ha - I can only wish!). The heavy local and regional activity, as well as Rovers, kept the QSO's coming - without any significant propagation on 6 meters.

It was amazing to see how many stations were operating on many bands, really enhancing scores with the extra points and multipliers. Tons of activity can be generated in certain areas with just a few Rovers, and with several stations who have multi-band capability. For example, check out that activity reported from Arizona (elsewhere in this writeup)!

On the digital front, it seems that many of the recent FT8 issues have been somewhat mitigated with the improvements in the software. Still, probably one of the biggest complaints from a number of ops is the lack of ability to move stations to other bands when working them on FT8.

Activity Levels

The 691 logs submitted were the most since in many years - I checked back as far as 2005 and saw nothing close. It is great to see the tremendous activity. Thanks to all for your participation!

Southeastern USA participation was challenged by the passing of Hurricane Dorian the week before, and many stations either had taken their antennas down or experienced storm damage. Hope all are okay and QRV as soon as possible.

Total Logs Submitted by Year

Year	Number of Logs
2014	545
2015	516
2016	504
2017	473
2018	569
2019	691

The Single-Op Low Power, Single-Op High Power and 3-Band categories were the main contributors to the increase. The Classic Rover and Unlimited Rover Categories enjoyed good increases, while Limited Rover had a notable decrease. It appears the Rover stations are making the effort to activate more bands. The Single Op FM category was significantly down, and the Multi Ops were about the same.

Count by Category

SOLP	261
SOHP	152
SO3B	122
SOFM	15
SOP	24
LM	22
UM	17
Classic Rover	33
Limited Rover	32
Unlimited Rover	13
Total:	691

Category Abbreviations

Single-Op HP/LP - SOHP/SOLP
Single-Op Portable - SOP
Single-Op 3 Bands Only - SO3B
Single-Op FM Only - SOFM
Multi-Op Limited/Unlimited - LM/UM
Rovers Classic/Limited/Unlimited - R/RL/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.
6 meters	6M	A	10 GHz	10G	I
2 meters	2M	B	24 GHz	24G	J
222 MHz	222	C	47 GHz	47G	K
432 MHz	432	D	75 GHz	75G	L
902 MHz	902	9	119 GHz	119G	M
1.2 GHz	1.2G	E	142 GHz	142G	N
2.3 GHz	2.3G	F	241 GHz	241G	O
3.4 GHz	3.4G	G	Light	Light	P
5.7 GHz	5.7G	H			

More activity generated a significant increase in total QSO's – 51,411 vs. 41,500 in 2018. See chart below.

QSO's on 50 and 144 MHz were up significantly even with no significant enhancement thanks to the increase in local activity. The bands 222 and 432 MHz were down a bit. However, 902 MHz and the microwave bands increased dramatically.

Total QSOs by Band		
Band (MHz)	# of QSOs 2019	# of QSOs 2018
50	20,426	13,649
144	15,914	13,893
222	4404	4582
432	6255	6653
902	1234	805
1296	1581	1047
2304+	1597	871
Totals	51,411	41,500

Random Observations

Scores in the Midwest regions were down this year. With some of the major Rovers not on the road, the decrease was understandable. There was a big push by the Arizona Outlaws Contest Club to get folks on, and with several Rovers and lots of local activity, the scores were impressive from that area.

As previously noted, 6-meter and 2-meter E-skip was scarce, and most of the long haul QSO's on those bands occurred via Meteor Scatter modes in the wee hours. Easily 90% or more of the QSO's made on those bands were local and regional.

Single Operator Category Results

The Single-Op Low Power category continues to be the most popular category with a sizeable increase to 261 entrants, up from 187 in 2018. Single-Op High Power entries were 152, up from 132, and Single-Op 3-Band entries were up to 122 from 82 last year.

Top Ten, Single Operator, Low Power

Call	Scores	QSO's	Mults	Bands
AF1T	82,000	370	125	ABCD9EFGHIJP
WB1GQR (W1SJ op)	73,988	504	106	ABCD9EFG
N2WK	49,248	327	96	ABCD9EFG
VE3DS	47,676	237	116	ABCD9EFGH
W6TV	38,055	231	59	ABCD8EFGHI
K9MU	37,620	236	110	ABCD9E
WA3EOQ	23,130	159	90	ABCD9E
N8RA	21,904	252	74	ABCD
N2OA	21,775	245	65	ABCD9E
N8LRG	19,380	179	95	ABD

Low Power:

Dale, AF1T, in FN43 and WB1GQR (Mitch, W1SJ, op) in FN33 repeated in the First and Second Place positions in the Single-Op Low Power category. While Mitch closed the gap this year, Dale again used the microwave bands to get the multipliers and high point QSO's needed to secure the win, albeit without the use of FT8.

Third and Fourth places went to two ops from FN03, N2WK and VE3DS, with less than 2K points separation. W6TV (Pat, W6YEP op) placed Fifth from the left coast, setting a new Pacific Division Record. Operating from his great Bear Mountain QTH in DM06 allowed him to "ride along" with the circling Rovers in the area on all bands up to 10 GHz. In route to his Tenth Place finish, using only 50, 144 and 432 MHz, Phil, N8LRG, blanketed most of his nearby grids for impressive multipliers on 144 and 432 MHz, while only making six Rover QSO's.



Pat, W6YEP, at the fine location of W6TV on Bear Mountain in DM06. Pat placed Fifth in the country Single Op Low Power Category. (Photo Courtesy: Pat, W6YEP, from QRZ.com)

Top Ten, Single Operator, High Power

Call	Scores	QSO's	Mults	Bands
K1TEO	282,000	702	240	ABCD9EFGH
K1RZ	154,328	477	191	ABCD9EFGHI
N2YB	97,712	456	124	ABCD9EFGHI
WZ1V	73,320	406	130	ABCDE
VA3ELE	67,456	259	128	ABCD9EGHIJ
W3IP	65,520	370	130	ABCD9EI
K1KG	47,508	248	107	ABCD9EFGHI
N1AV	46,662	277	101	ABCD9EF
K1TR	43,316	337	91	ABCDE
WØUC	37,968	224	112	ABCD9E

High Power:

Jeff, K1TEO returned to the top of the heap in the Single-Op High Power category. He mentioned about 10% of his 2-meter QSO's and 20% of his 6-meter Q's were on FT8. A check of his log showed 167 Rover contacts. Last year's winner, K1RZ took Second Place. N2YB took Third, and WZ1V moved up from Ninth Place last year to Fourth this year. Take note of that big score from N1AV in AZ, garnering him Eighth Place. See his story later in this write up.

Several perennial Rover stations in the Midwest and Southeast could not participate this year, so the scores in those regions were down a bit. Still there were some excellent scores from WØUC (Tenth Place - WI), WØGHZ (MN), N4QWZ (TN), KE8FD (AL) and WA7XX (AZ).

Top Ten, Single Operator, 3 Band

Call	Scores	QSO's	Mults	Bands
ACØRA	43684	267	134	ABD
KO9A	19,749	202	87	ABD
N7IR	10,584	159	54	ABD
VE3WY	5,550	106	50	ABD
KA2BPP	4,879	108	41	ABD
K3TEF	4,070	100	37	ABD
NA2NY	3,220	91	35	ABD
VE3SST	2,944	85	32	ABD
N7QOZ	2,860	103	22	ABD
N7RK	2,575	80	25	ABD

The Single-Op 3-Band Category continues to be a popular category, probably due to its simplicity equipment-wise. Many HF + VHF transceivers are on the market that include 50, 144 and 432 MHz at the appropriate power limits for this category.

Wyatt, ACØRA, decided to park his Rover machine in one spot this year and used some bigger antennas to set a new Overall SO3B record. Jim, KO9A placed Second and bested his Central Division record this year with his modest setup. Gary, N7IR in AZ placed Third, setting a new Southwestern Division record. Twenty-nine FT8 and thirteen MSK144 contacts on 6 meters gave him 28 long haul grids, and the local Rovers kept him busy on all three bands.

Congratulations to the other new Division record holders: KØVG (Dakota), KA2BPP (Hudson), VE3WY (Canada).

Bottom line -- grab your HF + 6/2/432 transceiver, put up some modest antennas and have some fun!



N2YTF operating Portable from Hook Mountain (SOTA W2/GC-055) in FN31ac, dodging some rain that wasn't in the forecast. He was able to fly the SOTA flag! (Photo Courtesy: Tom, N2YTF)

Top Ten, Single Operator Portable

<i>Call</i>	<i>Scores</i>	<i>QSO's</i>	<i>Mults</i>	<i>Bands</i>
W4RXX	6,055	127	35	ABCD9
WBØLJC	2,240	55	20	ABDFI
AA4Q	1,900	47	25	ABCD9E
K7ATN	1,666	64	17	ABCD9EF
NV4B	1,560	43	30	ABCD
KØNR	1,155	40	21	ABCE
WB2AMU	1,034	41	22	ABCD
WA9STI	792	32	18	ABCD9
WK9U	750	30	25	A
N2YTF	644	34	14	BC9EF

Participation in the Single Operator Portable category was up by three (up to 24 entries this year).

W4RXX operated from EM65mm to place first this year, establishing a new division record. WBØLJC placed Second and Bill, AA4Q, placed Third from a peak north of Phoenix, AZ. Bill had a hand-held Yagi for 2/432, which presented a challenge holding that and the microphone while hand logging. A number of entrants participate in this category in conjunction with the Summits on the Air (SOTA) program.

In Sixth Place, KØNR also set a new record for the Rocky Mountain Division.

Top Ten, Single Operator, FM Only

<i>Call</i>	<i>Scores</i>	<i>QSO's</i>	<i>Mults</i>	<i>Bands</i>
KM6PHB	2,436	87	21	ABCD
WB9WOZ	2,196	92	18	ABCD
W7AIT	598	33	13	ABD
K7JSG	368	40	8	ABD
N9VM (N1VM, op)	198	17	9	ABCD
VA2DG	132	23	4	ABD
WAØKXO	85	12	5	BD
N7AKC	60	7	5	BCD
KA2CGB	42	10	3	BD
N1SFE	32	5	4	BCD

There were 15 FM entries in 2019, down from 23 in 2018. That being said, three division records were set. Number one, KM6PHB., now owns the new Pacific Division record operating from East Bay. And Second Place Bruce, WB9WOZ, in IL now holds the Central Division record

(his best distance was 114 miles, and lamented the lack of FM activity. He says "Maybe everyone was operating FT8").

WAØKXO, operating from Colorado now owns the Rocky Mountain division record.

Multioperator Category

Continuing the trend from the past few years, many of the established multi-operator groups were active again this year. Limited Category entries were the same at 22, and Unlimited Category entries increased by two to 17.

Top Ten, Limited Multioperator

<i>Call</i>	<i>Scores</i>	<i>QSO's</i>	<i>Mults</i>	<i>Bands</i>
N2NT	126,720	633	160	ABCD
AA4ZZ	113,176	551	172	ABCD
W2LV	64,736	471	119	ABCD
K5QE	60,606	288	182	ABCD
W3SO	53,193	400	119	ABD
W4IY	46,400	354	116	ABCD
W9VW	23,142	197	114	ABD
W9RVG	22,698	165	117	ABCD
N4HB	21,590	232	85	ABCD
W1QK	9,150	177	50	ABCD

Scores were generally higher than last year. N2NT repeated in #1 position followed closely by AA4ZZ, moving up to Second Place this year. W2LV moved up to 3rd from 6th, K5QE placed Fourth, up from Fifth place last year.

Lack of enhancement was offset with plenty of local and regional activity in the various locations of the Multi-Ops to improve scores from 2018.

W3SO placed Fifth, albeit without 222 MHz. Bob, W3IDT relates their weekend efforts (from 3830 scores.com): "We had two visitors to W3SO this weekend: One very welcome, the other, well, not so much. Joe, W3BC, the ARRL WPA Section Manager, stopped by to operate and to update his local constituents on ARRL affairs. Thanks, Joe. The other visitor, named Murphy, was not very welcome; he insisted on coming and staying though.

"1. We already had some problems going in: The 222-MHz band was not going to be available (it's usually one of our major point generators).

2. Very early Sunday morning, one of our distant ops, WA3TTS, on his way to arrive at about 7:00am, had his muffler and tail pipe break off his car.

3. After the first contact on 144 MHz Sunday am, the amp stops working: No high voltage. Check 220v breaker: ok; Check power supply fuses: All seem ok. Find the correct power supply manual (we have several versions of LunarLink amps and power supplies).

Tom, W3SF, does careful circuit tracing and with ear to power supply listens to various timing relays engaging / disengaging. Finds a likely suspect relay. Traces circuit. Wow: There is a fuse inside this particular power supply. Off to the work bench, in an auxiliary building.

Eventually the power supply comes back for the real test: Is there a problem in the RF deck? Turn everything on, and all seems fine.

4. Gremlins got into the 6m PC. Early Sunday it starting skipping FT8 decode cycles. That is, for example, transmit CQ at 00; no decode at 15; maybe a decode at 45, maybe not. Time synchronization is fine. CPU load steady at 20%, then jumps to 70% for minute or two, then back to 20%. Still not sure, but it appears to be some Microsoft search or indexing operation; doesn't happen on the other PCs. Sorry for all the FT8 potential contacts messed up.

No real sustained E skip or Tropo. A few brief Es on FT8 to CO, TX, and FL on 6m."

Top Ten, Unlimited Multioperator

Call	Score	QSO's	Mults	Bands
W2SZ	293,923	914	211	ABCD9EFH
W2EA	108,882	561	138	ABCD9EFGHP
N8GA	57,512	322	158	ABCD9E
KD2LGX	47,630	305	110	ABCD9EF
WE1P	35,100	318	90	ABCD9F
W4NH	17,850	180	85	ABCDE
AG4V	14,094	122	87	ABCD9EF
W1XM	8,500	131	50	ABCD9EF
W3RFC	7,693	131	49	ABCD9E
K3AE	3,306	86	29	ABCDE

W2SZ and W2EA were again at the top of the heap in the unlimited multi-operator category. Coming in at number three was the N8GA group from EN80 in Ohio with a superlative effort. They utilized digital modes as much as possible to enhance their score. The KD2LGX crew placed Fourth. WE1P moved up a place to take 5th.

A lightning strike and poor conditions made the going tough for the W4NH Fourlanders group, who still was able to place sixth (--per operator K4SQC, from the VHF-Contesting reflector): "Well, we may have set a record for the lowest score ever for us! Here in EM84 there was basically no propagation. Saturday night there were very few rocks so limited meteor scatter activity. And the lightning strike that took out the 222 LunarLink and the AZ/EL rotator control box on the 2m EME station just added to the fun. In spite of all of the angst surrounding the digital modes and VHF contesting I can truly say that for this contest, absent the digital modes there would have been no contest at all."



Here is the annual picture of the W2EA (#2 Unlimited MultiOp) crew (Photo courtesy PackRats "Cheese Bits" Newsletter, October 2019)

The Rovers

This year, the total number of Rovers was about the same, though the number participants in each category varied a bit from 2018: Classic Rovers were up to 33 from 21; Limited Rovers dropped to 32 from 51; while the Unlimited Rover entrants increased to 13 from 10. It appears the Rovers are taking more bands with them.

Top Ten, Classic Rover

Call	Scores	QSO's	Mults	Grids
N6NB/R	162,480	450	120	10
KF2MR/R	119,595	466	119	4
N7GP/R	78,474	718	58	7
NI6G/R	69,624	316	72	6
WB6HYD/R	69,552	315	72	6
VE3OIL/R	67,100	322	110	8
K2TER/R	51,504	385	74	4
NØLNO/R	36,864	224	96	11
KA9VVQ/R	29,256	264	69	7
W9FZ/R	28,566	258	69	7

In the Classic Rover category, Wayne, N6NB/R had an interesting story on his Roving experience from 10 grids which garnered him the #1 spot this year. Read his account in the Soapbox section on the ARRL website, <http://www.arrl.org/contests/soapbox>.

Last year's winner, Jarred, KF2MR/R, placed Second operating from four grids. In his own words (from 3830scores.com): "Best September contest ever! Activity builds on activity here in the WNY and Southern Ontario area. Stations continue to add more power, gain, modes and bands to the mix. Very fortunate. Now I will tear down the entire system, do some much needed maintenance and modifications and see if I can get it back together by January."

Tom, N7GP/R activated seven grids in Arizona to place third. The Arizona Outlaws Contest Club really promoted activity and encouraged several Rovers, bolstering his score.

Just under 2K points separated the next three stations: NI6G/R and WB6HYD/R, who both Roved with N6NB/R in California, and VE3OIL/R in Ontario.

Excellent efforts were also turned in from Midwest Rovers NØLNO/R, KA9VVQ/R and W9FZ/R.

Top Ten, Limited Rover

Call	Scores	QSO's	Mults	Grids
NF2RS/R	52,576	374	106	9
VE3SMA/R	41,984	373	82	7
KJ2G/R	16,121	243	47	4
KI5FIQ/R	13,380	299	30	6
N6GP/R	7,568	138	44	4
WB5IDY/R	6,000	200	20	4
W1RGA/R	5,896	115	37	7
N7OW/R	4,602	120	26	6
KA5D/R	3,472	88	31	6
AF1R/R	3,000	73	30	6

From many places in the country, 32 stations put many grids on the air in the Limited Rover category. Putting on only 4 bands is a rather easy endeavor.

The NF2RS/R crew (K2QO and K2ZR) put on nine grids to place first this year in the Limited Rover category. After many years they finally met the owner of the hill top they had been using in FN22!

VE3SMA/R (VE3RZ & VE3SMA ops.) placed Second on their way to a new Canadian Division record. KJ2G/R moved up to Third Place this year, and KI5FIQ/R in East Texas placed Fourth.

N6GP/R put on four grids in Southern California to place Fifth.

Top Ten, Unlimited Rover

Call	Scores	QSO's	Mults	Grids
K6MI/R	83,760	371	80	6
N2SLN/R	33,830	292	85	7
KA2LIM/R	30,690	237	90	2
NØLD/R	27,600	229	80	13
KCØSKM/R	18,614	119	83	8
AE5P/R	16,647	360	31	6
K1SIG/R	16,000	185	50	6
KT5TE/R	14,670	325	30	6
N6RH/R	14,580	326	30	6
KRØVER/R	11,592	138	46	6

In the Unlimited Rover Class, K6MI/R went to six grids in Central California, circling with the N6NB/R bunch on Saturday and giving out DM06 on Sunday to all he could. He easily got First Place for his efforts. N2SLN/R, activating seven grids, moved up from Fourth Place last year to Second this year.

As mentioned in last year's write up, Ken, KA2LIM retired from hosting Multiops and made his first Rover operation in a September contest this year. Activating two grids with 8 bands, he placed Third.

Last year's Unlimited Rover winner, Randy, NØLD, took a crew (W0HGJ and N5ZY) from Minnesota to Oklahoma on a 13 grid, six band excursion to take 4th place. Read his story in the Contest Soapbox on the ARRL Website at <http://www.arrl.org/contests/soapbox>.

KCØSKM/R placed Fifth operating from eight grids in the Midwest.

In-depth Stories and Features

Be sure to read the detailed discussions and blow-by-blow reports of the contest provided by several of the top stations; Single Op, Multiop, and Rovers. They give a detailed look at what the contest was like in their area and in their categories.

Affiliated Club Competition

Thirty clubs entered the Affiliated Club competition, up from 28 in 2018. Only the Rochester (NY) VHF Group, who is celebrating their 70th anniversary as a club, had the requisite number of entries for the Unlimited category, and as a result had the highest score.

Twenty five clubs had team efforts in the Medium category. The Mt. Airy VHF Radio Club (Pack Rats) again took the top position with the North East Weak Signal Group repeating in Second Place. I'd like to thank the Pack Rats for allowing me to utilize their great newsletter for good info about the contest. Check them out at <https://www.packratvhf.com/>. The Arizona Outlaws Contest Club, with a well-orchestrated effort from 22 members placed Third. Please read N1AV's story below of how this was all put together. Southern California Contest Club placed Fourth, and Potomac Valley Radio Club placed Fifth.

There were again four clubs competing in the Local category. The Chippewa Valley (WI) VHF Contesters placed First. The CTRI Contest Group from New England

placed Second. The Bergen (NJ) ARA and Bristol (TN) ARC rounded out the other two places.

Affiliated Club Competition Results

CLUB	Score	Logs
Unlimited		
Rochester VHF Group	769,662	53
Medium		
Mt Airy VHF Radio Club	517,243	21
North East Weak Signal Group	278,235	17
Southern California Contest Club	200,328	11
Arizona Outlaws Contest Club	198,894	22
Potomac Valley Radio Club	180,676	28
Northern Lights Radio Society	168,976	18
Carolina DX Association	114,067	4
Yankee Clipper Contest Club	102,534	8
Pacific Northwest VHF Society	91,033	29
Society of Midwest Contesters	73,787	12
Contest Club Ontario	42,293	5
Badger Contesters	19,607	7
Grand Mesa Contesters of Colorado	15,130	6
Roadrunners Microwave Group	14,268	4
Frankford Radio Club	12,467	10
Michigan VHF-UHF Society	11,678	4
Northern California Contest Club	11,640	7
New Mexico VHF Society	6,259	8
Florida Weak Signal Society	6,112	4
Alabama Contest Group	5,096	3
South Jersey Radio Assn	2,677	6
Wayne County Amateur Radio Club	1,550	5
South East Contest Club	731	3
Minnesota Wireless Assn	699	3
Florida Contest Group	145	3
Local		
Chippewa Valley VHF Contesters	44,778	3
CTRI Contest Group	11,447	3
Bergen ARA	6,339	4
Bristol (TN) ARC	5,059	4

Soapbox!

Don't miss the compilation of comments - see <http://www.arrl.org/contests/soapbox> for some great stories and photos.

Summary

It is really encouraging to see another huge increase in entries. While times are changing and the proliferation of digital modes require new strategies, it is great to see increased interest. Many local groups are really promoting activity – after all, when there is no enhanced propagation, if there are lots of locals on, there are still plenty of folks to keep things rolling. And organizing groups of Rovers to get out increases activity exponentially. Equipment is readily available, and antennas are small.

I love letting the participants tell their own stories – so please read ahead for a number of cool stories from some of the entrants – some really great stuff!

A huge thanks to all you folks who make these contests possible. Without you, the contest wouldn't exist. CU in the 2020 running and don't forget to send in your stories and photographs! Be sure to check out the soapbox at <http://www.arrl.org/contests/soapbox>. 73, Gator, N5RZ

Rochester VHF Group celebrates 70th anniversary with “Celebrate! Activate!” initiative. *By Ev Tupis, W2EV*



The 2019 September VHF Contest marked both the end of the 2019 VHF contesting season as well as the culmination of the Rochester VHF Group's 70th Anniversary, "Celebrate! Activate!" initiative.

The Rochester VHF Group spent the full year encouraging and collaborating with regional clubs, teaching them how to have fun in VHF contests and simply asking them to activate; nothing more, just get on the air and experience the fun of non-repeater, simplex communication; just push the "50" button on that HF+50 rig.

The "win" was simple- get more people on the air and have fun. If a regional club could prove that 10 new people activated in a contest, the Rochester VHF Group would

sponsor a sheet pizza at that club's next meeting. And "activate", they did! Pizzas were delivered and the fun flowed after the contest, too.

The swelling of activity resulted in an unintended "consequence": the awarding of an ARRL Club Gavel in the January VHF Contest (Medium Category), the June VHF Contest (Unlimited Category) and now ... a club gavel in the September VHF Contest (Unlimited Category)!

Not a bad accomplishment for the "longest continuously active VHF club in the known universe" as they say.

Their plan for 2020 is to use this positive momentum to further expand the activity in their region. We have all heard the saying, "We need to be the change that we wish to see." May each of us find ways to infuse new energy into both seasoned and greenhorn licensees, "activating them" to the benefit of all.

WBØLJC (#2 Single Operator Portable) *By Gary Danelius, WBØLJC*

My main goal is to give out contacts to the fixed stations and the area Rovers. No internet, just listen, CQ a little and tune around a lot. I operated during daylight hours for the most part.

I operated portable from the top level of a local parking ramp that is south of the Minneapolis airport and just to the east of the Mall of America. This gives me a site free of trees but does have tall buildings in some directions. It gets pretty noisy when the planes take off over the top of the ramp. I use the Minneapolis downtown buildings to bounce microwave signals to otherwise blocked local stations. The ramp gives me open views to the south where most of the Rovers operate.

My equipment is a FT 817 on 6, 2 and 432. The antennas are squalo loops on 6 and 2 and an eight element quagi on 432. On 2304 I have a 17 dBi looper and about 1W output. My best band is 10 GHz where I have a 2' dish and 8 watts. Both 2304 and 10 G rigs are home brew. 10 G is one of my favorite bands as you will see by looking at the 10 GHz Cumulative contest results over the years.

N1AV – #8 Single Op HP – Summary and the AZ Rover Swarm

By Jay Baack, N1AV

Here in DM43 conditions on the bands were average with no real 6m openings to capitalize on other than the very random 2-3 min waves of activity, that you either caught and worked 5- 6 stations or missed completely. On the other hand the microwave movement here in Arizona

continues to drive scores higher. The propagation is amazing on the higher bands. Hearing stations that are stronger on 902 & 1296 over any of the lower four bands continues to impress me. I guess having so many 5-8000' reflectors around to bounce signals helps. The start of the contest was busy with a lot of new initials making noise. This was short lived as we had a large thunderstorm roll in from the east causing me to lose power several times and shut down for a brief period. At some point around this storm I became a member of the "blue flash club" as I blew a FET in my Larcen 4 pallet deck as well as a few caps on the output circuit.

I had to switch gears and limp along on the 2m "chase" radio for the rest of the contest at 100w. With EME and scatter out of the picture I am sure my grid total was down by 20 grids on 2m. Oh well – If you aren't breaking things, you are not trying hard enough!

Aside from 50 MHz, 432 MHz still remains the dominant band in AZ, even with the 50W FCC restriction. At one point I was moving stations up past 432.140 – as all the frequencies lower were filled with a Rover or someone chasing a Rover. A good problem to have! Overall activity was lower on Saturday after the slow thunderstorm chased many away who never returned. I was able to catch KK6MC/R in several NM grids and picked up W7QQ in Santa Fe for the bands he was on. The Bullhead city crew was loud, and the southern Nevada crew are making a point to look for us down in Phoenix, but I am still missing CA activity. Need to reach out to get some of those border guys to swing east. Missed hearing the Maricopa Multi op station NN7AZ, for this contest. They have a loud signal and generate a lot of activity. The biggest thrill of the contest was working and hearing all the activity and excitement around the Rovers as Gary, N7IR dubbed them, the "AZ Rover Swarm".

Here in Arizona VHF roving is hot. Well, everything is hot in Arizona – but we are doing our best to push activity and get new people and active on the VHF bands. Knowing that six meters was probably going to be a bust here this September outside of the late night/early morning scatter contacts, QSOs and points for the contest would be down. So, what to do to make up for it? Here is a wild idea. How about recruit new and newish hams to go roving and throw at them a pile of old gear and antennas at them to use?

The plan sounded simple and we all know working more Rovers always equal higher scores. Tom, N7GP and I got together one night and brainstormed on whom we thought we could get out to go roving, knowing full well in September it can still be over 100 degrees in the desert. We came up with a list of hams we thought we could sweet talk into driving all over Arizona as well as a plan for loaner gear to give to them to use. I pulled together several

bands from some very old equipment I had sitting around from when I was back in Maine-some of it close to 40 years old. Complete and functional, even with sky high noise figures compared to the technology we have today. However, you can still make QSOs on it. Tom dug around and cobbled up a few antennas and mounts as well as logistical support on the best places to go rove – not to mention answering about a million questions from these new recruits. Having helped a Rover last year with an antenna issue I knew I had to make this gear super easy to setup and easy to operate. The Rovers dubbed my Frankenstein creations "KISS Crates". Older gears tossed into a milk crate, following the old mantra of "keep it simple, stupid". As part of my setup, all of the gear was wired and ready to go. All the Rovers needed to do was to add 13.8V to the rig runner, hook up antenna to each labeled antenna jack, turn it all on, and operate. Simple, easy and effective.



The KISS Crate (Photo courtesy Jay Baack, N1AV)

The goal was 6 bands per crate, 6-2-222-432-902 and 1296. 6-2-432 was covered by a few FT-857s, many of which the Rover recruits already owned. 222 was a transverter and a homebrew 30W amplifier. 902 was either an old DEMI 10W transverter or modified 900 MHz FM radios, and 1296 was a collection of either SGLabs 2.5w transverters or almost 40 year old DEMI 10W transverters. hamfest deals, Craigslist, local trades and borrowing provided the various antennas. Some used the back half or back third of long boom Directive systems or M2 antennas. Others were using the dual 5 element Cushcraft 144/432 Yagi's, and there were even a few WA5VJB cheap Yagi designs in the mix for 222 and 1296. Feedline was a mix of short 1/2" hardline and LMR400 and probably more RF adapters that we can count -- but they were on the air.

It was a ton of fun to build or find what we could to get these guys operational. For the previous month prior to the contest it was tons of emails, phone calls and driving all

over the state looking for “Rover gear” and antennas for 6-1296. For several it was their first rove ever – so there was a lot of education going on in addition to all the setup, operating and logging.



Justin, KJ7JC/R getting his Rover stack assembled for the first time. (Photo courtesy Jay Baack, N1AV)

We did a shake down run for several of the Rovers the week before at the local park. Going through how to setup the KISS Crates, stacking antennas, making sure the right coax went to the right antenna, which microphone when to which radio, and how to move stations up to run them on the bands. There in the park they got a ton of strange looks, but also pulled in a few new hams who saw their trucks all geared up with radios and equipment and antennas of different sizes and shapes off the back – who were wide eyed and quick to say “HOW CAN I DO THIS?” Yes! Another one hooked!



AC7FF/R KJ7JC/R and N7OW/R all setup and tests complete at the local park in DM43. (Photo courtesy Jay Baack, N1AV)

Throughout the contest the Rovers were a busy bunch and often ended up running into each other out on the road throughout the weekend. Some Rovers were spending too

much time in one grid, or landing on the same spot that another Rover was already using.



Tom, N7GP catching a quick selfie of his and Ryan, N7OW Rover setups in DM32. (Photo courtesy Jay Baack, N1AV)

All in all Arizona had seven Rovers on the air this contest. The largest Rover effort ever in Arizona. It was the first time out roving for several of them. Collectively they covered 9 grids, 7 bands, and over 1300 QSOs. Most of them running “old” borrowed gear that had been collecting dust, sitting on shelves for years, without preamps and small antennas.

Here in Arizona, as more and more new hams are moving into HOA restricted areas, roving is becoming a more attractive option. So, if you are reading this, and sitting on some older gear in your shack, recruit some new hams to get active and loan it out to a Rover! Get them setup and excited about working people on new bands for the first time.

This is the way we build more activity and more enjoyment for all of us on the bands, share your passion with someone new... and get them hooked on weak signal VHF as well!

K1TEO #1 Single Op High Power

By Jeff Klein, K1TEO, from 3830scores.com

Nothing very exciting to report. Activity was ok, conditions were a little enhanced Sunday morning but didn't work anything unusual though AA4ZZ was particularly loud as was W4IY. AA4ZZ was in here virtually all weekend on 2-meter which is not typical. There were quite a few Rovers in WNY and VE3 but elsewhere it was pretty limited.

A significant majority of my contacts were on SSB/CW so they can be made, hi! I didn't count but would guess about 10% of my 2-meter QSO's were FT8, only 1 on msk144, and perhaps 20% of my 6 meter QSO's were FT8 with another 15 or so on msk144. The biggest challenge I see is that I heard or worked a number of stations on 6 and/or 2-meter FT 8 that I usually work up through the microwaves. Many of them I never heard off of FT8 so that really hurts the 222 and up results. I tried a number of times to request a QSY on FT8 but only one station got the message and moved. One result for me is that I missed a number of easy local grids on 222 and the microwaves. For example, I've probably operated about 90 VHF contests from this location. I believe this is the first time I didn't work FM29 on 222. FN20 was scarce above 6 and 2 though W3ICC/R and WA2LTM came through with some microwaves late in the contest. FN10, normally easy was not worked on 902. I believe my 3 GHz was working well this time but quite a few stations I usually work had rig issues on the band this time or just weren't on.

I had a boneheaded result for about 10 minutes on 6M FT8 on Sunday. I had tried to move a station to 432 using message 6. When that didn't happen, I continued calling CQ but didn't notice that when I went to "Generate Std messages" it kept the 432 MHz in the message so I was on 6 calling "CQ 432"! After about 10 minutes of calling CQ with no answers a kind soul texted me and let me know what was happening. I did pay more attention to my xmit messages after that, hi! Thanks for the Q's and to the Rovers for heading out. Hope to see everyone in the sprints.

AA4Q #3 Single Op Portable

By Bill Poole, AA4Q

I was on Humboldt Mt which has an FAA radar site, I was on a patch of flat ground about 100 yds away from the peak to the North but it didn't seem to block RF getting to the Phoenix area. There was some commercial radio stuff right behind me that pretty much overloaded the 222 MHz Baofeng most of the time.

It is a SOTA peak, but since I mostly used equipment sitting on the truck tailgate, and I drove there, it didn't

count as a SOTA activation. W7A/AW-040, Humboldt Mountain at 1587m elevation in DM43cx. It overlooks the 7-springs valley to the west (access road) and the Verde River valley to the east. The chair and towel in the bed of the truck in the photos are just to provide a bit of shade.

I used a Yaesu FT-818, Alinco's for 902 & 1296 MHz and a Baofeng for 222 MHz – together with an Arrow antenna for 144/432 MHz, and a dipole on a piece of PVC pipe for 6m, WA5VJB PCB antennas for 902 and 1296 MHz but they really weren't any better than the rubber ducky. It was tough holding the antenna in one hand, the microphone in the other and logging on paper!



The AA4Q Operating Position and Location (Photo courtesy Bill Poole, AA4Q)

KC0UDO Single Op – Low Power

QTH: EN36 - WI

By Will Lohrbach, KD0UDO

This was the first ham radio contest that I have participated in. What can I say - it was a blast. I know I don't have a huge score, but I am still very proud of it. I did a lot of research and planning working up to it. I even moved my shack into the garage to shorten my feed line run to limit line loss. For my modest station (FT-736R driving a brick on 2, and 30 watts on 432 - both into 10 and 11 element beams), I think I did great. I am fortunate to have met some great operators that have given advice to help me develop in the hobby. VHF weak signal has really started to

become my main interest in the hobby and I am looking forward to expanding on it. Conditions were excellent off to my southwest, which allowed for a few long distance SSB contacts that I never imagined getting over those days. Of course, a couple days after the contest the band opened off to the southeast and I made a SSB contact into EN70 on 2 meters.

Site-Seeing in South Jersey

W3ICC/R – Classic Rover

By W3ICC and W2PED, reprinted with permission from October 2019 Pack Rats Cheese Bits Newsletter

Rovers have a never-ending search to find better operating locations. W3ICC/R has operated from FM29wx Toms River which gave good results up and down the coast, but disappointing signals from the heart of Packrat land. W2PED spent considerable time on Radio Mobile (<https://www.ve2dbe.com/english1.html>) looking at path profiles as well as the impact on travel times, and came up with several candidate sites. The suggestions from AA2UK's first-hand experience were very valuable.

The first site FM29tw, in Manchester NJ, was on Hill Top Road, a promising sounding VHF site that also looked good on Radio Mobile! Although we worked a number of stations through 432 MHz, we unfortunately had technical issues on the microwave bands. Our DEMI weak signal source proved that we were hearing but with poor sensitivity. We lowered the mast to check things out, and the last section of mast wouldn't retract. It took two men hanging on it to encourage the last section to come down. Another lesson learned; don't extend the mast to full height. Measuring the Tx power, both 1296 and 2304 had no output. The fact that the problem was common to both bands helped isolate the cause. When the IF transmit power was measured, we found an SMA connector had worked loose from serious levels of vibration in the Rover! We were elated that tightening the connection fixed the MW problems. Once we were operational on 1296 and 2304, we worked several stations but signals were down from what we expected.

Next, we drove another 30 minutes south on RT539 into the pine barrens near Little Egg Harbor township to scope out an area recommended by Bill, AA2UK. The second site at FM29tr near the military bombing range was nearly 70 ft lower in elevation but the pine trees were also much lower; our mast would easily clear the 10 ft trees. We set up around 8 PM in the dark and found stations to be stronger on 432. Signals to most stations on 1296 and 2304 averaged at least 10 dB higher than the previous site, a definite advantage. The downside was that coordination was difficult as cell coverage was very spotty from the site in the middle of the pine barrens. Without a beacon within ear shot, we couldn't accurately calibrate the antenna rotor. We will, nevertheless, use this site in future contests,

unless a better one emerges. We learn or re-learn some valuable lessons each time we take the Rover out:



W3ICC/R (Photo Courtesy October 2019 Pack Rats Cheese Bits Newsletter)



W3ICC/R (Photo Courtesy October 2019 Pack Rats Cheese Bits Newsletter)

- ☐ Completely check out all bands before we roll. Don't depend on how well everything worked the day before.
 - ☐ While ground elevation is important, so is the height and type of trees, as is terrain obstructions which are not visible from the ground.
 - ☐ It's critical to check out new sites in person before the contest. Can we get off the road? Is access to the site restricted by gates or armed guards?
 - ☐ Will the trees on both sides of a narrow access road wipe out the antennas?
 - ☐ Without 4-wheel drive, is there quick sand?
- Thanks to N3RG, KR1ST, W3GAD, AA2UK, W2SJ, K1RZ, W2BVH, WA3NUF for their help with on-air

checks, which was invaluable to understand the effectiveness of each site.



W3ICC/R (Photo Courtesy October 2019 Pack Rats Cheese Bits Newsletter)

WA9STI – #8 Single Op Portable – DM14

By Scott Hanley, WA9STI

This event was of particular interest to me since I combined a SOTA (Summits on the Air) trip to Mt Lewis to coincide with the VHF Contest. Mt Lewis is in the San Gabriel Mountains and approximately 50 miles north of downtown Los Angeles.

The SOTA reference for Mt Lewis is W6/CT-246. See <https://summits.sota.org.uk/summit/W6/CT-246>

My plan was to operate all the VHF and UHF bands and no HF, since HF is what I exclusively use during a SOTA. While the hike from the trailhead to Mt. Lewis was only 4/10 of a mile, there was a 500-foot elevation gain which made the trek very steep to the summit at 8396'. This was a solo operation.

I carried all my gear in a backpack which included an Elecraft KX3 for 6- and 2-meter SSB; a Yaesu VX7 HT for 2 meter and 446 MHz FM; an Alinco DJ-G29T HT for 220 and 927 MHz FM; and an Alinco DJ-G7 HT for 1.2

GHz FM. I also carried a Kenwood TH-D72 HT for APRS and SOTA spotting. My antennas consisted of a 6-meter end-fed dipole, an Arrow Yagi with 3 elements for 2 meters and 7 elements for 446 MHz; a roll-up J-pole for 2 and 446; a 5-element beam for 220; a 6 element Yagi for 927 MHz; and a 10-element Yagi for 1.2 MHz. All the beam antennas were broken down and strapped to the outside of my pack. Therefore, the packed weighed about 35 pounds.

All the Yagi/beams were held by hand and not mounted on any tripods. Thus, I had to hold the beam in one hand while rotating it with an HT in the other. I was constantly going back and forth to the different bands, putting down one antenna and HT to pick up another, when contest stations would ask me to QSY. It got hectic at times standing juggling the rigs, antennas, and logging the time, call signs, and grid squares.

All transmissions were QRP: 10 watts on 6 meters; 3 to 5 watts on 2 meters; 5 watts on 446, 3 watts on 220; 1.7 watts on 927; and 1 watt on 1.2 GHz.

My longest contacts were 250 miles to Arizona on 6-meter SSB; 225 miles to Nevada and 168 miles to Tijuana, Mexico on 2-meter SSB; and 70 miles to Long Beach, CA on 927 MHz. In three hours of operation, I made a total of 32 contacts on 5 bands into 8 different grid squares. Although I called and listened numerous times, I was unable to make any contacts on 1.2 GHz.

Over the years, I have given 10 SOTA presentations to various ham groups and always mention how technician class licensees can participate by activating a summit with only an HT on 2-meter simplex. However, I also point out that one of the best times to activate a SOTA from a mountaintop is during a VHF contest when there would be many more chasers (i.e. contest operators) on the air plus the opportunity to use other VHF and UHF frequencies. This was my first time on an all VHF/UHF SOTA and certainly found it to be fun and challenging. There is a nice view from the top of Mt Lewis and holding a Yagi pointed towards the distant horizon causes one to imagine their signal traveling to a faraway point.

N6ZE – Single Op Low Power – CN87 WWA

By Peter Heins, N6ZE

Fun contest! All QSOs were on SSB or FM (NO FT USED). Weather summary for the weekend: partly cloudy, misting, pelting rain at various times; winds southerly 5 - 25 miles per hour; temperatures ~65F on Saturday and ~60F on Sunday. No trop enhancement noted, but big surprise were Sunday QSOs on both 2-meter & 70-cm with W7MEM in DN17 (ID) at 252 miles over the Cascades! I also had comms with him on 2 meters at

mid-day and early evening. Rovers were active, but SOTA stations and stations casually mobiling on 2-meter or 70-cm FM added to the QSO totals this time: thanks to them. QSOs were made with just over 70 unique callsigns.

Rigs: Yaesu FT991 with 1/4 wave mag mount whip on 6m; 7 el. Cushcraft Yagi on 2 meters; 11 element M2 Yagi on 70 cm; Kenwood TM231 with 6 element "VJB Cheapie Yagi" on 135 cm; and ALINCO DJ-G29 with 10 element "VJB Cheapie Yagi" on 33 cm; and ALINCO DJ-G7 with 10 element "VJB Cheapie Yagi" on 23 cm. See you in January from DM04ne or CN87tw.

WB2CUT – Single Op Low Power – FN20 NNJ 2-Meter only *By Richard Kaplan, WB2CUT*

Equipment: Yaesu F897D + Mirage B5018-G amp /preamp, and KLM 13LBA 43' up. And it is certainly true that electrical and electronic equipment does NOT like me. On Saturday I made NO contacts between 2145 and 2318 UTC. In fact, I did not HEAR anybody though the noise level did its usual variation as I swung the beam and the SWR seemed typical. WA2GFN suggested that I see if I could hear a repeater on FM. One, barely. But when I switched back to SSB I was right back in business, making 9 contacts between 2318 and 2355 (WB1GQR FN33 calling me), also including KA2LIM/R in FN11. And it stayed precipitation-free here, though a weak front sliding through surely didn't help propagation. So I battled my way through, picking up 16 grids (though only 60 contacts) on Saturday. Sunday started off quite well. I made my first contact of the day at 13:50 and another 13 by 15:15, including both FN23 and FN44 (N1JEZ, who called me). Then it sadly fell apart. I only made another 18 contacts the rest of the contest, none after 01:30 on the 16th, though LIM did call me for FN12, so I got my 19th grid - never did hear an FN10, much less N3MK in FN27 (if he was on). So my score was two contacts better than the June contest. (It's also true that the last few hours I wasn't calling CQ after CQ with little break. I was quite tired, and it wasn't getting me much of anything, though the FN00 was an unexpected bonus.) It was a little odd. FM29's were scarce, FM19's were not. And, with W4IY back on in FM08, I worked both 08 and 09. FN32's were around, too. No FN22's again, and nothing from WNY again except LIM. But I did get an unexpected call from W0GPR/R for my second FN00, and his QRZ page says he QSLs. I wonder what county he was operating from. In fact, I sent out 12 QSL cards for new stations - that's a LOT for only 92 contacts - and several say they will QSL. At least there was little QRM and not much QRN. Kept the preamp on most of the contest, even sometimes in the noisy area to the southwest, which wasn't always noisy. Almost 72 and still putting in 9+ frantic hours of CQ'ing

on Saturday and another 13 on Sunday. See you in January.

N8LRG - #10 Single Operator Low Power EN80 By *Phil Humphries, N8LRG, from 3830scores.com*

My use of a 150 watt AMP on 432 took me out of the 3 Band category as I exceeded the power limit. I upgraded my 6m antenna from two Halo's to a 6m5 Yagi. I side mounted it and just pointed northeast. Looking to find a ring rotor for it. I took time out for church and a church picnic. Came back to shack stuffed and ready to go for the rest of the contest. Altogether about 19 hours. Bands seemed pretty flat until evening. Got a few DX grids on 6m when the band popped up. Didn't get my 1296 antennas up in time but only have 10w on the rig. The IC7610 on 6m and the IC9700 on 2/432 is a great combo. Kept really busy with S02R. The ON4KST reflector was a real help. I was surprised how many 432 stations I was able to work. The majority of QSO's were FT8 and SSB. I did get one FT4 QSO with W1VD for fun. Had to try it. Many Thanks to all and especially the Rovers... As I am submitting this I happened to work AA0F in EN04, over 850 miles on SSB. Too bad we didn't have that propagation during the contest!

Regional Leaders

West Coast Region		
(Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NT Sections)		
N6NB/R	162,480	R
N7GP/R	78,474	R
NI6G/R	69,624	R
WB6HYD/R	69,552	R
N6TEB/R	18,432	R
W6AMT/R	18,432	R
N6GP/R	7,568	RL
N7OW/R	4,602	RL
K6LMN/R	2,024	RL
KC7OOY/R	2,002	RL
K7MDL/R	1,134	RL
K6MI/R	83,760	RU
N1AV	46,662	SOHP
WA7XX	17,405	SOHP
K7YDL	15,282	SOHP
KE7SW	12,400	SOHP
N7EPD	11,144	SOHP

W7TV (W6YEP,op)	38,055	SOLP
N7VD	13,296	SOLP
WZ8T	11,825	SOLP
N7KSI	5,986	SOLP
KT7E (K7ZS, op)	5,850	SOLP
AA4Q	1,900	SOP
K7ATN	1,666	SOP
WA9STI	792	SOP
W6KKO	420	SOP
K7IW	189	SOP
N7IR	10,584	SO3B
N7QOZ	2,860	SO3B
N7RK	2,575	SO3B
K7BDB	2,331	SO3B
K7XC	544	SO3B
KM6PHB	2,436	SOFM
W7AIT	598	SOFM
K7JSG	368	SOFM
N9VM (N1VM,op)	198	SOFM
N7AKC	60	SOFM
WB7PEK	150	LM
W7DK	60	LM
K7VHF	3,094	UM
W6EK	2,898	UM
WW7LW	885	UM
Midwest Region		
(Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections)		
NØLNO/R	36,864	R
KA9VVQ/R	29,256	R
W9FZ/R	28,566	R
WØZF/R	19,154	R
KØBBC/R	9,225	R
KI5FIQ/R	13,380	RL
WB5IDY/R	6,000	RL
KA5D/R	3,472	RL
AA5PR/R	2,166	RL
ABØYM/R	1,980	RL
NØLD/R	27,600	RU
KCØSKM/R	18,614	RU
AE5P/R	16,647	RU
KT5TE/R	14,670	RU
N6RH/R	14,580	RU
WØGHZ	35,776	SOHP
KØTPP	12,936	SOHP
W9RM	10,829	SOHP
KØAWU	9,360	SOHP
K5LLL	8,960	SOHP

WBØHHM	11,220	SOLP
WØZQ	7,830	SOLP
WBØNRV	4,900	SOLP
NØLL	4,731	SOLP
N5ITO	3,445	SOLP
WBØLIC	2,240	SOP
KØNR	1,155	SOP
NØSUW	204	SOP
NØJK	168	SOP
NA1KW (N1SPX,op)	120	SOP
ACØRA	44,684	SO3B
W5TRL	2,535	SO3B
KØVG	1,972	SO3B
NØUR	1,650	SO3B
WBØLUX	1,392	SO3B
WAØKXO	85	SOFM
KG5UNK	6	SOFM
K5QE	60,606	LM
K5LRW	529	LM
KC5MVZ	189	UM
Central Region		
(Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)		
VE3OIL/R	67,100	R
VE3CRU/R	6,734	R
VE3SMA/R	41,984	RL
N9GH/R	1,248	RL
K9JK/R	1,120	RL
AE8AT/R	120	RL
VA3ELE	67,456	SOHP
WØUC	37,968	SOHP
VE3ZV	17,538	SOHP
K8ZR	15,879	SOHP
W9FF	9,512	SOHP
VE3DS	47,676	SOLP
K9MU	37,620	SOLP
N8LRG	19,380	SOLP
W9GA	11,100	SOLP
W9HQ	3,840	SOLP
WK9U	750	SOP
VA3TO	64	SOP
KD9MQV	30	SOP
KO9A	19,749	SO3B
VE3WY	5,550	SO3B

VE3SST	2,944	SO3B
WB9TFH	1,972	SO3B
W9ZB	1,260	SO3B
WB9WOZ	2,196	SOFM
W9VW	23,142	LM
W9RVG	22,698	LM
N8GA	57,512	UM
N9UHF	465	UM
Southeast Region		
(Delta, Roanoke and Southeastern Divisions)		
W5VY/R	9,976	R
KF4TPW/R	154	R
K2JB/R	2,646	RL
KM4OZH/R	1,218	RL
W4LJS/R	442	RL
KM4QCH/R	54	RL
N4GLE/R	558	RU
W3IP	65,520	SOHP
N4QWZ	32,256	SOHP
KE8FD	20,064	SOHP
K4XR	10,787	SOHP
KF7NN	6,832	SOHP
AJ6T	4,888	SOLP
K4FJW	2,960	SOLP
AA4DD	2,015	SOLP
W4GO	1,972	SOLP
KA2KQM	1,943	SOLP
W4RXR	6,055	SOP
NV4B	1,560	SOP
WA4LDU	1,470	SO3B
KK4MA	1,392	SO3B
K4EA	682	SO3B
K5OLV	611	SO3B
N1IA	345	SO3B
K4NRT	30	SOFM
AA4ZZ	113,176	LM
W4IY	46,400	LM
N4HB	21,590	LM
NE5BO	6,572	LM

WB4WXE	2,044	LM
W4NH	17,850	UM
AG4V	14,094	UM
Northeast Region		
(New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)		
KF2MR/R	119,595	R
K2TER/R	51,504	R
W3ICC/R	28,032	R
K2ET/R	21,168	R
W2EV/R	18,360	R
NF2RS/R	52,576	RL
KJ2G/R	16,121	RL
W1RGA/R	5,846	RL
AF1R/R	3,000	RL
WA2TMC/R	1,000	RL
N2SLN/R	33,830	RU
KA2LIM/R	30,690	RU
K1SIG/R	16,000	RU
KJ1K/R	2,976	RU
K1TEO	282,000	SOHP
K1RZ	154,328	SOHP
N2TB	97,712	SOHP
WZ1V	73,320	SOHP
K1KG	47,508	SOHP
AF1T	82,000	SOLP
WB1GQR (W1SJ, op)	73,988	SOLP
N2WK	49,248	SOLP
WA3EOQ	23,130	SOLP
N8RA	21,904	SOLP
WB2AMU	1,034	SOP
N2YTF	644	SOP
W2NTN	570	SOP
KQ2RP	28	SOP
KA2BPP	4,879	SO3B
K3TEF	4,070	SO3B
NA2NY	3,220	SO3B
KC3NPK	2,496	SO3B
KG2H	1,680	SO3B
VA2DG	132	SOFM
KA2CGB	42	SOFM
N1SFE	32	SOFM
WA2HOY	10	SOFM
KM2B	4	SOFM
N2NT	126,720	LM
W2LV	64,736	LM
W3SO	53,193	LM
W1QK	9,150	LM

WA3EKL	7,200	LM
W2SZ	293,923	UM
W2EA	108,882	UM
KD2LGX	47,630	UM
WE1P	35,100	UM
W1XM	8,500	UM

Division Winners

Classic Rover		
Atlantic	KF2MR/R	119,595
Dakota	KA9VVQ/R	29,256
Delta	W5VY/R	9,976
Midwest	NØLNO/R	36,864
Northwestern	KE7MSU/R	5,511
Pacific	N6NB/R	162,480
Southeastern	KF4TPW/R	154
Southwestern	N7GP/R	78,474
West Gulf	KBØYHT/R	3,456
Canada	VE3OIL/R	67,100

Limited Rover		
Atlantic	NF2RS/R	52,576
Central	N9GH/R	1,248
Dakota	NØSPN/R	1,000
Great Lakes	AE8AT/R	120
Hudson	KA2YRA/R	832
Midwest	KBØZOM/R	1,430
New England	KJ2G/R	16,121
Northwestern	KC7OOY/R	2,002
Roanoke	K2JB/R	2,646
Rocky Mountain	AA5PR/R	2,166
Southwestern	N6GP/R	7,568
West Gulf	KI5FIQ/R	13,380
Canada	VE3SMA/R	41,984

Unlimited Rover		
Atlantic	N2SLN/R	33,830
Midwest	KCØSKM/R	18,614
New England	K1SIG/R	16,000
Pacific	K6MI/R	83,760
Rocky Mountain	KRØVER/R	11,592
Southeastern	N4GLE/R	558
West Gulf	NØLD/R	27,920

Single Operator, High Power		
Atlantic	K1RZ	154,328
Central	WØUC	37,968
Dakota	WØGHZ	35,776
Delta	N4QWZ	32,256
Great Lakes	K8ZR	15,879
Hudson	AA2TT	9,568
Midwest	KØTPP	12,936
New England	K1TEO	282,000

Northwestern	K7YDL	15,282
Pacific	ND7M	5,310
Roanoke	W3IP	65,520
Rocky Mountain	W9RM	10,829
Southeastern	KE8FD	20,064
Southwestern	N1AV	46,662
West Gulf	K5LLL	8,960
Canada	VA3ELE	67,456
Single Operator, Low Power		
Atlantic	N2WK	49,248
Central	K9MU	37,620
Dakota	WBØHHM	11,220
Delta	AA4DD	2,015
Great Lakes	N8LRG	19,380
Hudson	WB2JAY	8,786
Midwest	WBØNRV	4,900
New England	AF1T	82,000
Northwestern	WZ8T	11,825
Pacific	W6TY (W6YEP,op)	38,055
Roanoke	K4FJW	2,960
Rocky Mountain	WB7CJO	644
Southeastern	AJ6T	4,888
Southwestern	N7VD	13,296
West Gulf	N5ITO	3,445
Canada	VE3DS	47,676
Single Operator, Portable		
Central	WK9U	750
Dakota	WBØLJC	2,240
Delta	W4RXR	6,055
Hudson	WB2AMU	1,034
Midwest	NØJK	168
Northwestern	K7ATN	1,766
Pacific	W6KKO	420
Rocky Mountain	KØNR	1,155
Southwestern	AA4Q	1,900
Canada	VA3TO	64
Single Operator, 3 Band		
Atlantic	K3TEF	4,070
Central	KO9A	19,749
Dakota	KØVG	1,972
Delta	W4BCG	70
Great Lakes	KV4ZY	1,170
Hudson	KA2BPP	4,879
Midwest	ACØRA	43,684
New England	KA1VMG	420
Northwestern	N7QOZ	2,860
Pacific	K7XC	544
Roanoke	WA4LDU	1,470
Rocky Mountain	KC7QY	224
Southeastern	K4EA	682
Southwestern	N7IR	10,584
West Gulf	W5TRL	2,535
Canada	VE3WY	5,550

Single Operator, FM Only		
Atlantic	KA2CGB	42
Central	WB9WOZ	2,196
Delta	K4NRT	30
New England	N1SFE	32
Northwestern	K7JSG	368
Pacific	KM6PHB	2,436
Rocky Mountain	WAØKXO	85
Southwestern	N7AKC	60
West Gulf	KG5UNK	6
Canada	VA2DG	132
Limited Multioperator		
Atlantic	W3SO	53,193
Central	W9VW	23,142
Delta	NE5BO	6,572
Hudson	N2NT	126,720
New England	W1QK	9,150
Northwestern	WB7PEK	150
Roanoke	AA4ZZ	113,176
Rocky Mountain	K5LRW	529
Southeastern	WB4WXE	2,044
West Gulf	K5QE	60,606
Unlimited Multioperator		
Atlantic	W2EA	108,882
Central	N9UHF	465
Delta	AG4V	14,094
Great Lakes	N8GA	57,512
Hudson	WE1P	35,100
New England	W2SZ	293,923
Northwestern	K7VHF	3,094
Pacific	W6EK	2,898
Southwestern	W4NH	17,850
West Gulf	KC5MVZ	189

QSO & Mult Leaders

Classic Rover	
50 MHz QSOs	
N7GP/R	144
K2TER/R	110
KF2MR/R	80
VE3OIL/R	66
W2EV/R	65
50 MHz Mults	
K2TER/R	20
KF2MR/R	19
VE3OIL/R	17
W5VY/R	15
N7GP/R	12
NØLNO/R	12
W9FZ/R	12
KA9VVQ/R	12
144 MHz QSOs	
N7GP/R	137
KF2MR/R	89
VE3OIL/R	89
KA9VVQ/R	82
W9FZ/R	82
W2EV/R	82
144 MHz Mults	
NØLNO/R	21
VE3OIL/R	21
W5VY/R	19
KF2MR/R	17
W3ICC/R	17
222 MHz QSOs	
N7GP/R	112
KF2MR/R	66
K2TER/R	59
VE3OIL/R	43
W2EV/R	42
222 MHz Mults	
KF2MR/R	16

NØLNO/R	13
KA9VVQ/R	11
VE3OIL/R	11
W9FZ/R	11
432 MHz QSOs	
N7GP/R	134
KA9VVQ/R	62
W9FZ/R	62
KF2MR/R	61
K2TER/R	52
W2EV/R	52
432 MHz Mults	
KA9VVQ/R	15
KF2MR/R	15
NØLNO/R	15
W9FZ/R	15
WØZF/R	14
902 MHz QSOs	
N7GP/R	88
KF2MR/R	51
N6NB/R	36
K2TER/R	32
KØBBC/R	28
WØZF/R	28
902 MHz Mults	
N6NB/R	10
KF2MR/R	9
VE3OIL/R	9
KØBBC/R	8
NØLNO/R	8
WØZF/R	8
1.2 GHz QSOs	
N7GP/R	96
N6NB/R	48
KF2MR/R	47
NI6G/R	36
WB6HYD/R	36

1.2 GHz Mults	
KF2MR/R	10
N6NB/R	10
NØLNO/R	10
VE3OIL/R	9
N7GP/R	7
2.3 GHz QSOs	
N6NB/R	48
NI6G/R	36
WB6HYD/R	36
KF2MR/R	28
VE3OIL/R	16
2.3 GHz Mults	
N6NB/R	10
KF2MR/R	9
VE3OIL/R	7
NI6G/R	6
NØLNO/R	6
WB6HYD/R	6
3.4 GHz QSOs	
N6NB/R	48
NI6G/R	36
WB6HYD/R	36
KF2MR/R	21
N6TEB/R	12
W6AMT/R	12
3.4 GHz Mults	
N6NB/R	10
KF2MR/R	8
NI6G/R	6
WB6HYD/R	6
K2TER/R	4
N6TEB/R	4
VE3OIL/R	4
W6AMT/R	4
5.7 GHz QSOs	
N6NB/R	48
NI6G/R	36

WB6HYD/R	36
KF2MR/R	12
N6TEB/R	12
W6AMT/R	12
5.7 GHz Mults	
N6NB/R	10
KF2MR/R	6
NI6G/R	6
WB6HYD/R	6
K2TER/R	4
N6TEB/R	4
VE3OIL/R	4
W6AMT/R	4
10 GHz QSOs	
N6NB/R	47
NI6G/R	35
WB6HYD/R	35
N6TEB/R	12
W6AMT/R	12
10 GHz Mults	
N6NB/R	10
KF2MR/R	6
NI6G/R	6
WB6HYD/R	6
K2TER/R	4
N6TEB/R	4
W6AMT/R	4
24 GHz QSOs	
N6NB/R	30
NI6G/R	18
WB6HYD/R	18
N6TEB/R	12
W6AMT/R	12
Classic Rover	
24 GHz Mults	
N6NB/R	10
NI6G/R	6
WB6HYD/R	6

N6TEB/R	4
VE3OIL/R	4
W6AMT/R	4
Light QSOs	
VE3OIL/R	4
Light Mults	
VE3OIL/R	4
Limited Rover	
50 MHz QSOs	
VE3SMA/R	98
NF2RS/R	97
KJ2G/R	73
KI5FIQ/R	73
N6GP/R	72
50 MHz Mults	
AA5PR/R	30
N6GP/R	24
NF2RS/R	23
VE3SMA/R	20
AB0YM/R	17
KK6MC/R	17
144 MHz QSOs	
NF2RS/R	155
VE3SMA/R	136
KI5FIQ/R	79
KJ2G/R	70
WB5IDY/R	51
144 MHz Mults	
NF2RS/R	33
VE3SMA/R	24
KJ2G/R	14
W1RGA/R	12
KBØZOM/R	10
KC7OY/R	10

222 MHz QSOs	
KI5FIQ/R	69
NF2RS/R	64
VE3SMA/R	63
KJ2G/R	49
WB5IDY/R	49
222 MHz Mults	
NF2RS/R	21
VE3SMA/R	15
KJ2G/R	10
KI5FIQ/R	6
W1RGA/R	6
432 MHz QSOs	
KI5FIQ/R	78
VE3SMA/R	76
NF2RS/R	58
KJ2G/R	51
WB5IDY/R	51
432 MHz Mults	
NF2RS/R	20
VE3SMA/R	16
KJ2G/R	9
W1RGA/R	7
KI5FIQ/R	6
W3DHJ/R	6
Unlimited Rover	
50 MHz QSOs	
AE5P/R	91
N2SLN/R	84
N6RH/R	81
KT5TE/R	79
NØLD/R	66
50 MHz Mults	
NØLD/R	25
N2SLN/R	20
KA2LIM/R	19
K6MI/R	9
K1SIG/R	8

144 MHz QSOs	
N2SLN/R	107
AE5P/R	92
KA2LIM/R	88
N6RH/R	85
KT5TE/R	82
144 MHz Mults	
KA2LIM/R	28
N2SLN/R	24
KCØSKM/R	17
NØLD/R	16
K1SIG/R	11
222 MHz QSOs	
AE5P/R	87
KT5TE/R	82
N6RH/R	77
N2SLN/R	58
KA2LIM/R	38
222 MHz Mults	
N2SLN/R	16
KA2LIM/R	15
KCØSKM/R	12
NØLD/R	9
K1SIG/R	8
432 MHz QSOs	
AE5P/R	90
N6RH/R	83
KT5TE/R	82
KA2LIM/R	46
NØLD/R	42
432 MHz Mults	
KA2LIM/R	18
KCØSKM/R	14
N2SLN/R	13
NØLD/R	11
K1SIG/R	8
K6MI/R	8

KRØVER/R	8
902 MHz QSOs	
K6MI/R	24
NØLD/R	19
KRØVER/R	18
K1SIG/R	17
KCØSKM/R	10
NØBSR/R	10
902 MHz Mults	
KCØSKM/R	9
K6MI/R	6
KA2LIM/R	6
KRØVER/R	6
NØBSR/R	6
1.2 GHz QSOs	
K6MI/R	40
KRØVER/R	17
K1SIG/R	14
KCØSKM/R	10
NØBSR/R	9
1.2 GHz Mults	
KCØSKM/R	9
K6MI/R	6
KRØVER/R	6
NØBSR/R	6
K1SIG/R	4
KJ1K/R	4
2.3 GHz QSOs	
K6MI/R	36
KCØSKM/R	8
KJ1K/R	3
KA2LIM/R	1
Unlimited Rover	
2.3 GHz Mults	
K6MI/R	6
KCØSKM/R	6
KJ1K/R	2
KA2LIM/R	1

3.4 GHz QSOs	
K6MI/R	36
KJ1K/R	1
3.4 GHz Mults	
K6MI/R	6
KJ1K/R	1
5.7 GHz QSOs	
K6MI/R	36
KJ1K/R	3
5.7 GHz Mults	
K6MI/R	6
KJ1K/R	2
10 GHz QSOs	
K6MI/R	34
KA2LIM/R	1
10 GHz Mults	
K6MI/R	6
KA2LIM/R	1
24 GHz QSOs	
K6MI/R	18
24 GHz Mults	
K6MI/R	6
Single Op High Power	
50 MHz QSOs	
K1JT	181
K1TEO	160
WZ1V	151
WU1ITU	132
K3ISH	123
50 MHz Mults	
W9FF	82
ND7M	59
KØTPP	57
NA6L	56

KØGU	54
144 MHz QSOs	
K1TEO	217
W3IP	173
K1RZ	157
W1VD	136
N2YB	127
144 MHz Mults	
W1VD	62
W7JW	60
K1TEO	50
K1RZ	49
W3IP	48
222 MHz QSOs	
K1TEO	94
N2YB	66
K1RZ	65
K1TR	48
WZ1V	48
222 MHz Mults	
K1TEO	34
K1RZ	31
WZ1V	22
W3IP	21
K1TR	19
N2YB	19
432 MHz QSOs	
K1TEO	117
N2YB	78
K1RZ	70
K1TR	59
WZ1V	58
432 MHz Mults	
K1TEO	36
K1RZ	27
W3IP	24
N2YB	22

WZ1V	22
902 MHz QSOs	
K1TEO	28
K1RZ	25
N2YB	24
WØGHZ	22
N1AV	19
902 MHz Mults	
K1TEO	21
K1RZ	15
WØGHZ	11
VA3ELE	10
K1GX	9
1.2 GHz QSOs	
K1TEO	52
K1RZ	37
N2YB	28
WZ1V	26
VA3ELE	25
1.2 GHz Mults	
K1TEO	27
K1RZ	15
VA3ELE	13
WZ1V	13
K1GX	11
2.3 GHz QSOs	
K1TEO	19
K1RZ	16
N2YB	15
VA3ELE	13
WØGHZ	8
2.3 GHz Mults	
K1TEO	13
K1RZ	11
VA3ELE	9
K1KG	7
N1AV	7

3.4 GHz QSOs	
K1TEO	9
N2YB	7
VA3ELE	7
K1KG	6
VE3ZV	3
3.4 GHz Mults	
K1TEO	7
K1KG	5
VA3ELE	5
N2YB	4
K1GX	2
K1RZ	2
N1JEZ	2
5.7 GHz QSOs	
K1TEO	6
K1KG	5
N2YB	5
K1GX	4
VA3ELE	3
5.7 GHz Mults	
K1TEO	6
K1GX	4
K1KG	4
N2YB	4
K1RZ	2
N1GJ	2
VA3ELE	2
10 GHz QSOs	
VA3ELE	11
WØGHZ	9
KØAWU	7
K2UA	6
K1RZ	4
10 GHz Mults	
VA3ELE	6

WØGHZ	5
K2UA	4
K1RZ	3
KØAWU	3
24 GHz QSOs	
VA3ELE	1
24 GHz Mults	
VA3ELE	1
Single Op Low Power	
50 MHz QSOs	
WB1GQR	182
W1TR	110
N8RA	107
KR1ST	105
AF1T	85
K9MU	85
N2WK	85
50 MHz Mults	
K9MU	42
NØLL	35
WBØNRV	34
N5ITO	33
W9GA	33
144 MHz QSOs	
WB1GQR	168
N2WK	105
N8RA	101
AF1T	95
N8LRG	93
144 MHz Mults	
N8LRG	48
N2WK	30
N8RA	30
N3BBI	29
VE3DS	29
222 MHz QSOs	

AF1T	57
N2WK	55
WB1GQR	55
VE3DS	32
N2BEG	31
222 MHz Mults	
AF1T	21
VE3DS	18
WA3EOQ	16
WB1GQR	16
N8RA	13
432 MHz QSOs	
AF1T	65
WB1GQR	64
N2WK	47
VE3DS	44
WZ8T	42
432 MHz Mults	
N8LRG	23
VE3DS	20
AF1T	19
K9MU	18
WA3EOQ	17
902 MHz QSOs	
W6TV	24
K9MU	19
AF1T	18
VE3DS	17
N2WK	12
902 MHz Mults	
VE3DS	11
K9MU	10
AF1T	9
WB1GQR	7
N7VD	6
W6TV	6
WA3EOQ	6
WØZQ	6

1.2 GHz QSOs	
W6TV	24
AF1T	22
WB1GQR	19
N7VD	16
VE3DS	14
1.2 GHz Mults	
WB1GQR	10
AF1T	9
VE3DS	9
WA3EOQ	8
AC1J	6
N7VD	6
W6TV	6
WB2JAY	6
2.3 GHz QSOs	
W6TV	24
AF1T	9
N2WK	6
VE3DS	5
WB1GQR	4
2.3 GHz Mults	
AF1T	6
W6TV	6
N2WK	4
WB1GQR	4
VE3DS	3
3.4 GHz QSOs	
W6TV	24
N2WK	6
VE3DS	6
AF1T	4
WB2JAY	2
3.4 GHz Mults	
W6TV	6
AF1T	4
N2WK	4

VE3DS	3
WB2JAY	2
5.7 GHz QSOs	
W6TV	24
AF1T	8
VE3DS	1
W1RGA	1
W3EKT	1
5.7 GHz Mults	
AF1T	6
W6TV	6
VE3DS	1
W1RGA	1
W3EKT	1
10 GHz QSOs	
W6TV	18
AF1T	5
NØUK	1
W1RGA	1
W3EKT	1
WØZQ	1
10 GHz Mults	
W6TV	5
AF1T	4
NØUK	1
W1RGA	1
W3EKT	1
WØZQ	1
Single Op - Low Power	
24 GHz QSOs	
AF1T	1
24 GHz Mults	
AF1T	1
Light QSOs	
AF1T	1
WB3IGR	1

Light Mults	
AF1T	1
WB3IGR	1
Single Op, Portable	
50 MHz QSOs	
W4RXR	62
WK9U	30
NV4B	18
AA4Q	12
K7ATN	12
NA1KW	12
W2NTN	12
WB2AMU	12
50 MHz Mults	
WK9U	25
W4RXR	19
NA1KW	10
NØJK	10
NV4B	9
144 MHz QSOs	
K7ATN	30
N2YTF	26
W4RXR	23
WB2AMU	23
WBØLJC	22
144 MHz Mults	
NV4B	12
WB2AMU	12
N2YTF	9
W2NTN	8
NØSUW	7
WA9STI	7
WBØLJC	7
222 MHz QSOs	
W4RXR	19
AA4Q	5
N2YTF	5

K7ATN	4
WA9STI	4
222 MHz Mults	
W4RXR	5
AA4Q	4
NV4B	3
N2YTF	2
WA9STI	2
432 MHz QSOs	
W4RXR	19
AA4Q	12
K7ATN	11
KØNR	9
WBØLJC	9
432 MHz Mults	
AA4Q	6
KØNR	6
NV4B	6
W4RXR	5
WBØLJC	5
902 MHz QSOs	
W4RXR	4
AA4Q	2
K7ATN	2
W6KKO	2
WA9STI	2
902 MHz Mults	
AA4Q	2
WA9STI	2
K7ATN	1
N2YTF	1
NØJK	1
W4RXR	1
W6KKO	1
1.2 GHz QSOs	
K7ATN	6
AA4Q	4

KØNR	3
N2YTF	1
1.2 GHz Mults	
AA4Q	4
K7ATN	2
KØNR	2
N2YTF	1
2.3 GHz QSOs	
WBØLJC	8
K7ATN	1
N2YTF	1
2.3 GHz Mults	
WBØLJC	2
K7ATN	1
N2YTF	1
10 GHz QSOs	
WBØLJC	8
VA3TO	3
10 GHz Mults	
VA3TO	3
WBØLJC	3
24 GHz QSOs	
VA3TO	1
24 GHz Mults	
VA3TO	1
3-Band Only	
50 MHz QSOs	
KO9A	113
ACØRA	106
VE3WY	87
N7IR	82
VE3SST	67
50 MHz Mults	

ACØRA	59
KO9A	51
VE3WY	40
N7IR	35
W5TRL	31
144 MHz QSOs	
ACØRA	103
KO9A	64
KA2BPP	56
N7QOZ	46
K7BDB	43
144 MHz Mults	
ACØRA	48
KO9A	28
KA2BPP	24
KV4ZY	21
W3KWH	20
W3MW	20
432 MHz QSOs	
ACØRA	59
N7IR	37
N7QOZ	27
KO9A	25
N7RK	23
432 MHz Mults	
ACØRA	27
N7IR	9
KO9A	8
WBØULX	7
N7RK	7
FM Only	
50 MHz QSOs	
KM6PHB	16
WB9WOZ	9
K7JSG	4
W7AIT	3
N9VM	2

50 MHz Mults	
KM6PHB	5
WB9WOZ	4
N9VM	2
K7JSG	1
VA2DG	1
W7AIT	1
144 MHz QSOs	
WB9WOZ	53
KM6PHB	42
K7JSG	30
W7AIT	17
VA2DG	12
144 MHz Mults	
WB9WOZ	7
KM6PHB	6
K7JSG	5
W7AIT	5
N9VM	4
222 MHz QSOs	
KM6PHB	9
WB9WOZ	7
N7AKC	4
VA2DG	4
K4NRT	2
N1SFE	2
222 MHz Mults	
KM6PHB	4
WB9WOZ	3
N1SFE	2
N7AKC	2
W7AIT	2
432 MHz QSOs	
WB9WOZ	23
KM6PHB	20
W7AIT	12
K7JSG	6

VA2DG	6
432 MHz Mults	
KM6PHB	6
W7AIT	5
WB9WOZ	4
WAØKXO	3
KA2CGB	2
N9VM	2
Limited MultiOp	
50 MHz QSOs	
W2LV	220
N2NT	206
AA4ZZ	196
W4IY	173
W3SO	169
50 MHz Mults	
K5QE	73
AA4ZZ	61
W9VW	59
N2NT	47
W4IY	47
W9RVG	47
144 MHz QSOs	
N2NT	268
AA4ZZ	248
W3SO	184
W2LV	178
W4IY	135
144 MHz Mults	
K5QE	75
AA4ZZ	59
N2NT	56
W3SO	52
W9VW	50
222 MHz QSOs	
N2NT	75
AA4ZZ	33

W2LV	32
K5QE	21
N2JQR	14
222 MHz Mults	
N2NT	27
AA4ZZ	21
W2LV	18
K5QE	17
W4IY	10
432 MHz QSOs	
N2NT	84
AA4ZZ	74
W3SO	47
W2LV	41
W4IY	35
432 MHz Mults	
AA4ZZ	31
N2NT	30
W3SO	22
W4IY	20
W2LY	18
Unlimited MultiOp	
50 MHz QSOs	
W2SZ	372
W2EA	264
N8GA	163
KD2LGX	113
W4NH	98
50 MHz Mults	
N8GA	77
W2SZ	50
W4NH	43
KD2LGX	38
W2EA	37
144 MHz QSOs	
W2SZ	214
WE1P	173

W2EA	160
N8GA	120
KD2LGX	99
144 MHz Mults	
N8GA	56
W2SZ	43
W2EA	38
WE1P	36
KD2LGX	29
222 MHz QSOs	
W2SZ	95
W2EA	39
WE1P	33
KD2LGX	28
KE1LI	21
222 MHz Mults	
W2SZ	28
W2EA	20
WE1P	19
KD2LGX	14
AG4V	12
432 MHz QSOs	
W2SZ	121
W2EA	41
KD2LGX	34
WE1P	34
N8GA	25
432 MHz Mults	
W2SZ	31
W2EAS	20
WE1P	17
AG4V	13
KD2LGX	12
N8GA	12
Unlimited MultiOp	
902 MHz QSOs	
W2SZ	33

