ARRL Contest Name 2017 Results

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Digital modes come into their own for VHF contesting with MSK144

The January 2017 VHF contest marked a turning point in the use of the digital modes in VHF contests. With the newly introduced MSK144 package in WSJT-X, the weak signal digital package finally has a mode that can be effectively used in contests. MSK144, with its 15 second turnaround and automatic sequencing, is ideal for contesting. The old complaints that the digital modes are not fast enough for contesting and require too much attention to a computer have finally been addressed. The digital modes are not just for the big guns. VE1SKY reported that 31 out of his 33 QSOs were on MSK144! KO9A reported a big increase in his meteor/digital QSOs over last year. K2DRH observed that he made lots of MSK144 QSOes by simply calling CQ on 50.280 and at times had mini pileups. While designed for meteor scatter, many found that the MSK144 was also well suited for troposcatter propagation on 50 MHz and 144 MHz. The complaint that many ops, especially rovers, had against digital modes, namely that they took up valuable time and caused some analog QSOs to be missed entirely, is addressed by the quickness of the new mode. Fixed stations and rovers alike were happy with the advantages that MSK144 offered. Make plans to use it in future contests if you are not already.

With the second January contest allowing assistance in the books, operators have integrated the use of chat rooms, clusters, APRS, the Reverse Beacon Network (RBN), cell phones, and texting into their station activities to the point where they add significantly to the score without taking up too much valuable time. Assistance is particularly important in the often slow January contests as it allows fixed stations to find rovers in rare grids, point beams accurately, eek out marginal QSOes, and set up effective meteor scatter skeds. K3TUF echoed the feelings of many when he said

"...assistance has taken the pressure off all of the planning and worry about getting the next meaningful contact. Now you can relax and enjoy the weak signal and VHF/UHF/Microwave essence that draws us to this hobby and sport."

Many ops were helped out by assistance, even if they did not directly use it themselves. While the Ping Jockey Web site and local chat rooms have proved to be invaluable, several fixed ops, including W9RM, have noted that the best way to find rovers is with APRS. The rovers agree, as APRS, either on the air or by smartphone, requires little additional time or resources in the rover. Assistance has helped the January contest activity immensely and is here to stay.

The 2017 ARRL VHF Contest was moved up a weekend in hopes of having a better chance of getting some Sporadic E (Es), at the expense of competing with the NFL playoffs. Unfortunately the Es openings were, well, sporadic. Some, stations, particularly in the Northeast, reported an uptick in activity after the last playoff game had ended. Here's hoping that future January contests have better Es.

W9SZ, usually a 10 band portable single operator station, scaled back this year with a three band portable single operator station in a cornfield. Zack could only operate on Sunday and was feeling under the weather, but put in a good effort with this modest setup.

More and more of the top finishers are using software defined radios (SDR) or panadapters to be competitive. These devices allow one to look at the band or bands and see activity over a wide spectrum. This has several advantages: you can see a new station as soon as they get on the air; you can be operating on one band while simultaneously observing the activity on another band; you can look at beacons to see where propagation is going ; and you can easily find off frequency stations on the microwave bands. Still, most SDR ops noted that there is still a lot to learn in implementing SDR into the contest station and that things like switching bands and modes can be slower than with conventional radios.

Weather always plays a significant role in the January contest, and this contest was no different. But, the weather took an odd turn. The northeast and midwest were blanketed in warm weather and fog, while the southwest had an unusual January snow and ice storm on Saturday, which moved through the region to Oklahoma, Texas, and Arkansas on Sunday where the warmer air generated thunderstorms, tornadoes and the accompanying noise. The west coast had rain much of the weekend.

In most January contests, W9FZ/R and KA9VVQ/R are either knee deep in snow or standing in front of a thermometer reading -10 degrees. This year, they had warm weather, although the fog didn't really help the comfort factor or the propagation. (Photo credit W9FZ)

Activity Trends

There were 679 entrants in the 2017 January VHF Contest, slightly up from the 2016 total of 645 and showing a slight growth trend over the last four years. This is a healthy trend, despite the drop from the peak of 820 in 2010, when there was good sporadic-E over much of the country. While these numbers are low enough that it is hard to extract much significant statistical information from them, it is encouraging that the activity in the January contest is holding steady after a decline.

Year	Total Entries
2017	679
2016	645
2015	649
2014	622
2013	721
2012	767
2011	710
2010	820
2009	649
2008	708

Table 1 – January VHF Contest Entries by Year

It will be interesting to see what the future brings for the January contest, particularly with MSK144 and potentially other fast digital modes making contacts with the lack of conventional propagation easier.

Category	Number of Entrants
All	**679**
Three Band	118
Low Power	256
High Power	161
FM-only	25
Portable	18
Limited Multiop	20
Multiop	20
Classic Rover	29
Limited Rover	27
Unlimited Rover	5

Table 2 – Entrants by Category

Table 2 shows 2017 activity by entry category. As usual, the Single Operator Low Power category was the most popular. The Three Band category continues to grow in popularity with 118 entrants. While a popular category with those who have the so called "DC to Daylight" rigs and don't want to invest in getting on 222 MHz, it has also removed a bit of the incentive to add capability to one's station. This is not a new phenomenon. The Limited Multioperator class appears to have reduced microwave activity, as has the introduction of the Limited Rover category. Still, overall participation in these categories has remained the same, so the impact is on individual bands not overall participation. Inactivity on the microwave bands, whether in a contest or not, is not good for anyone. The FM category is steady this year with 20 entries and while not a big entry category, it does give an intro to contesting to the FM-only crowd. With the addition of 145.52 MHz to the contest repertoire, FM has become an important part of VHF contesting with the trip to the simplex frequencies paying off in a few more QSO points and perhaps an additional mult or two. Successful contest stations have taken to vigorously pursing two meter FM QSOs. With only five entrants, the Unlimited Rover category has failed to gain much traction in the January contest, or any other VHF contest for that matter. That is unfortunate as the category has lots of creative potential for innovative competition. Many think a significant part of the reason this category has not gotten much traction in competition is that the scores cannot be assigned to the club competition.

Propagation

Conditions were predictably flat for the January contest, with few propagation enhancements. Very few stations reported Es, and those that did were for the most part those well-equipped stations with savvy ops who are able to take advantage of the brief, weak Es openings when they occur. W7QQ/R, who runs high power from his rover, had a short Es opening resulting in a single QSO from DM73 to DM40.

Tropo openings were few and far between, W3SO in FN00 reported QSOes from Chicago around to New England, but that was the exception, not the rule. NØJK/P and K2DRH made use of a weak lift to work on Sunday. K2DRH worked a few other stations on tropo, but it was far from a widespread opening.

The widespread fog and warm weather caused a lot of attenuation on bands above 432 MHz, and so there were fewer microwave QSOs made than usual. The hoped-for inversions and troposcatter that can accompany these conditions failed to materialize. During the often flat January contest propagation conditions the microwave QSOes often save an otherwise slow contest, but the propagation gods took even that haven away this year.

Not everyone had fog and gloomy weather for the contest. KBØYHT suggested that the NØLD/R Rover make a stop at Pelican Island (EL29, Texas) hoping for some of that infamous trans-Gulf of Mexico tropo ducting, which, unfortunately, never developed. (Photo by NØLD)

Club Competition

Club competition is a significant factor that encourages contest participation. The club competition for the January VHF Contest is the granddaddy of all the ARRL contest club competitions. And while the club competition has spread to other contests and specifically to other VHF/UHF contests, winning the club competition for the January VHF contest remains a goal for many clubs, both contest and VHF alike, and a badge of honor when won. The Mt. Airy VHF Radio Club, more commonly referred to as the Pack Rats, had (literally) no competition and repeated as winners of the Unlimited club category. Their aggregate score was down a bit from last year, more an indication of poor conditions rather than participation. The North East Weak Signal Group won the Medium Category by a wide margin with 21 entries, up from last year. The Potomac Valley Radio Club, who finished second in the medium category, had 48 contributors to their score, a testament to their ability to get club participants interested in VHF/UHF contesting and also to the old adage that no score is too small to contribute.

In the local category, the Bergen Amateur Radio Association edged out the Estern Connecticut ARA (each with just 3 entries). With the limited club radius and limited number of participants, it can be difficult to put in a competitive local club score year after year, but several clubs, manage to do it, usually the results of a single individual who promotes the competition, coordinates the entrants eligibility, and monitors log submittals. Hats off to those individuals.

Affiliated Club Competition		
Club Name	**Score**	**Logs**
Unlimited		
Mt. Airy VHF Radio Club	1,916,167	66
Medium		
North East Weak Signal Group	594,896	21
Potomac Valley Radio Club	222,104	48
Rochester VHF Group	200,028	22
Contest Club Ontario	161,680	14
Society of Midwest Contesters	152,692	13
Frankford Radio Club	133,564	7
Northern Lights Radio Society	71,570	12
Florida Weak Signal Society	64,220	8
Yankee Clipper Contest Club	61,886	11
Badger Contesters	58,183	6
Pacific Northwest VHF Society	48,837	32
Roadrunners Microwave Group	40,287	5
Michigan VHF-UHF Society	29,444	8
South Jersey Radio Assn.	17,167	9
North Texas Microwave Society	13,073	5
Northern California Contest Club	11,405	9
Six Meter Club of Chicago	10,486	6
Arizona Outlaws Contest Club	5,984	12
West Valley ARA	3,969	4
Willamette Valley DX Club	1,776	3
Florida Contest Group	1,479	6
Texas DX Society	469	3
Alaska VHF-Up Group	382	3
Local		
Bergen ARA	20,569	3
Eastern Connecticut ARA	18,338	3
Pottstown Area ARC	16,031	5
Contoocook Valley Radio Club	2,958	3
Bristol (TN) ARC	2,087	3
Peterborough Amateur Radio Club	1,406	3
Ventura County Amateur Radio Society	1,331	4
NorDX Club	254	4

Table 3 - Affiliated Club Competition

This year marked the first year the January VHF Contest implemented the rule that clubs had to submit rosters of competitors before the contest. This did not seem to affect the contest club competition this year, but serves as good incentive for clubs to get their competition plans in place early and for club contest coordinators to get their club members fired up for the contest. Club competition is one of the few things that coordinate well with contest activity, so it is important to encourage clubs to enter the competition and to encourage club members to compete.

Rovers

For rovers, there are two keys to making a big score, visiting a lot of grids, and, for the Classic Rovers, having a lot of bands. K2EZ/R easily took the Limited Rover Category by visiting 13 grids, six more than the runner up in this category, WB2SIH/R. As K2EZ/R visits many grids, having traveled 1200 miles this year, it can be a big surprise to fixed stations to hear her on from widely separate grids. Her grid total was only passed by NØLD as an Unlimited Rover with 14 grids.

K1DS/R drove off with the Classic Rover category in large part by having two more bands than the runner up, K2TER/R, even though he visited one less grid. In addition, K1DS/R concentrated his QSOs on the high QSO point bands. This is an effective contest strategy.

The Unlimited Rover category continues to lack the traction of the other two rover categories with only five entries, one less than in 2016. N2SLN/R won the category by a large margin, with a score that would have placed in the top ten in the other two rover categories. There are a lot of possibilities to have fun and rack up a large score in the Unlimited class, but those have been largely ignored by contestants.

Rover	Grids visited
NØLD/R	14
K2EZ/R	13
W7QQ/R	9
KA5D/R	8
KD5IKG/R	8
VE3OIL/R	8
KA9VVQ/R	7
WB2SIH/R	7
N2SLN/R	7
N2DXT/R	7
AG4V/R	7
W9ZF/R	7

Table 4 – Grids visited by top Rovers

The number of grids that a rover goes to is a delicate balance among many competing factors: how much time you can spend in a grid before it becomes unproductive while still working everyone who wants to work you; how many grid visit multipliers the rover can accumulate; the desire to go to rare grids (by both the rover and the fixed stations); road conditions; sleep; meals; and the price of gas. This is particularly true in January, where weather conditions add to the quandary and football interests compete with contesting. **Table 4** shows the top grid visits by rovers in this years contest.

NØLD/R visited 14 grids as an Unlimited Rover, a feat not fully appreciated until one has roved. Way to go, Randall! K2EZ "took it easy" for this contest going to a mere 13 grids. W7QQ was ready to bag the contest all together when he found his rover covered in snow with more coming down on Saturday morning after taking all week to set it up, but Bill went out and visited 9 grids, passing out many grids in New Mexico that would not have otherwise been activated. As a rover in similar conditions, your author took Saturday off after all the snow and only roved on Sunday.

Unlimited Rover

Call	Score	QSOs	Mults	Grids Act'd	Bands
N2SLN/R	22,704	262	66	7	ABCD
NØLD/R	5,776	115	38	14	ABD
KD5IKG/R	4,370	90	38	8	ABCD
VE7AFZ/R	1,080	48	18	2	ABCDE
WD5DJW/R	576	32	12	4	BD

Top Ten Rovers by Category

Classic Rover

Call	Score	QSOs	Mults	Grids Act'd	Bands
K1DS/R	74,889	412	53	4	ABCD9EF GHI
K2TER/R	62,046	434	81	5	ABCD9EF G
NN3Q/R	60,192	401	57	4	ABCD9EF GHI
KF2MR/R	56,236	396	68	4	ABCD9EF GHI
VE3OIL/R	35,651	238	77	8	ABCD9EF GHI
W3ICC/R	29,631	411	51	5	ABCD
KØBAK/R	25,431	180	49	4	ABCD9EF GHI
K4SME/R	21,645	109	65	5	ABCD9EF GHI
W2HRY/R	17,964	273	36	4	ABCD9E
KA9VVQ/R	17,215	180	55	7	ABCD9

Limited Rover

Call	Score	QSOs	Mults	Grids Act'd	Bands
K2EZ/R	50,625	497	75	13	ABCD
WB2SIH/R	20,121	253	57	7	ABCD
N2DXT/R	11,275	213	41	7	ABCD
W9YOY/R	6,975	164	31	6	ABCD
KC1EYG/R	6,453	197	27	4	ABD
N8KH/R	6,216	201	21	4	ABCD
KA5D/R	4,760	107	35	8	ABCD
K9JK/R	3,848	117	26	6	ABD
KE7MSU/R	3,740	135	22	2	ABCD
K2JB/R	3,625	112	29	4	ABCD

The advent of assistance has made the finding and working of rovers easier for the fixed stations. While this is good for both the rover and the fixed stations, it puts a big burden on the rover to not only work as many stations as one can in the time allocated to the grid, but also to pay attention to the incoming texts, chat room input, APRS status, and phone calls. Helmet fires are common if there isn't a disciplined approach to assistance. It is inmportant for ops, both rovers and fixed stations to realize that assistance is just that, assistance, and the purpose of the contest is to work stations, not to perfect assistance techniques. It is easy to get consumed as a rover reading texts and trying to comply with everyone's requests rather than making contacts. One must never lose sight of the goal that making QSOes is the object of contesting, not optimizing assistance. While the notion of "calling CQ on the internet" is a cynical view of assistance, it can become reality if people put the emphasis on assistance rather than on making QSOes. It is all too easy to tell someone to "use the chat room" when discussing why a QSO wasn't made rather than looking to see if there was an operating procedure that would have made the QSO easier.

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				

ARRL VHF Contest Band Abbreviations

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

Digital modes have taken the fixed stations by storm, but rovers have been reluctant to adopt them. Part of the reluctance to accept the digital modes by the rovers is the time they consume. Time is a precious commodity for a rover and QSOs that take a significant amount of time must be traded off against trying to move to other grids or digging for the weak ones. The advent of MSK144 has sped up the process of making QSOs, so it is becoming more attractive as a rover tool. An MSK144 QSO can be completed in 2 or 3 minutes, so the time spent with MSK144 is starting to be come comparable to that spent on a weak signal CW tropo QSO. So rovers will eventually adopt MSK144, but it will take a while to become widespread. Not only are there additional software and interface issues, there is also the question of how it will be implemented. It will be in the rover's interest to use MSK144 to get new grids and mults. That is also the goal of the fixed station. With the limited time available to a rover, these items are in conflict. We live in interesting times.

Multioperator

The multioperator stations are one of the foundations of the contest, providing signals that are always on the air, usually on more than one band at a time. N3NGE dominated the Unlimited Multioperator Category this year. Last year's runnerup, K2LIM, moved over to the Limited Multioperator Category this year, winning that handily over N2NT, despite N2NT's increased score over last year. K5TR, the beneficiary of hours of good tropo last year in this category dropped in the standings; a testament as to the importance of propagation in the January contest. Perennial powerhouse K5QE dropped in this year's standings from second to fifth and proclaimed this year *"...the worst Jan contest that we have ever seen."*

Top Ten Multioperator Scores by Category

Limited Multioperator			Unlimited Multioperator	
K2LIM	147,576		N3NGE	430,066
N2NT	127,650		VA3ELE	57,886
W3SO	80,172		WA3EHD	39,928
K5QE	61,766		N8ZM	19,359
W1QK	17,738		K5TR	19,344
WB4WXE	4,455		KE1LI	16,698
KB7ME	3,480		N1JEZ	15,600
WØVB	3,280		W1XM	15,288
W3ARO	3,210		W4NH	11,842
W2NPT	2,052		NY2NY	9,588

Single Operator

Single operator entries are the bread and butter of the VHF contests, with more single operator entries than all the other classes combined. Part of the attraction is the many many categories from which one can choose to compete. The single operator high power category is where many of the heavy hitters in VHF contesting chose to participate and many of the little pistols count on QSOes with these stations to fill in multipliers from grids that are usually hard to work. The hardworking trio of K1TEO, K1RZ, and K3TUF repeated their first, second and third finish from last year, with K1TEO handily taking the category.

Top Ten Single Operator Scores by Category

High Power			Low Power	
K1TEO	327,124		K2DRH	123,606
K1RZ	196,185		WA3NUF	89,675
K3TUF	154,980		N3RG	87,714
K3IPM	92,232		AF1T	71,145
W5ZN	81,954		WA3GFZ	41,496
W3IP	68,139		K1KG	33,031
K1GX	59,752		WB2JAY	31,815
WA3DRC	57,600		N4QWZ	27,642
WZ1V	54,910		N3YMS	26,523
N3HBX	51,514		N3JDR	21,684

The single operator low power category is one where operator skill is as important as a well oiled station to success. This year, K2DRH overtook WA3NUF to take first place, swapping their places from last year. K2DRH is still in the process of integrating his SDR with his transverters and should be even more formidable competition when he has that all up and running smoothly.

Top Ten Single Operator Scores by Category				
Portable			Three Band	
VE3EG	1,386		KO9A	19,602
WB2AMU	1,296		N3BBI	9,042
WX3P	1,170		N3ALN	5,191
WA7JTM	1,152		WB2EOD	4,263
W4DVE	1,110		KC2THQ	4,095
W9SZ	493		KF2Y	3,990
KØNR	168		NE2U	3,969
KQ2RP	108		N2BEG	3,570
K7JFD	105		N3MWQ	3,451
NK1N	85		W3LL	3,400

The Single Operator Portable category in January is only for the hardiest of souls and the competition was tough this year with less than 300 points separating the top 4 places. VE3EG narrowly edged out last year's winner, WB2AMU. This category has received a boost in recent years from rise in activity of the Summits on the Air (SOTA) program, which increases interest in portable activation of summits. WA7JTM, famously known for his robust June Limited Multi efforts, took advantage of this synergy to put Scarlet Mountain in DM33 on the air and finish fourth in this category. There are a lot of SOTA chasers in AZ and Peter took advantage of their enthusiasm. Here's hoping that more SOTA ops take the hint and activate summits in the single operator portable category in the future.

The Single Operator Three Band category appeals to many ops as they can be competitive with the popular transceivers without having to arrange for 222MHz transverters and antennas. KO9A took the category this year, moving up from third last year to first this year. Other three band stations improving their standings include: WB2EOD, N3ALN, NE2U, and KC2THQ. Lets hope that these ops get the contesting bug and add other bands in the future.

FM Only	
W2EV	6,292
KM4KMU	6,231
W6KKO	2,096
N2HJD	2,086
N2SCJ	1,944
KO5OK (NL7CO, op)	660
N9VM (N1VM, op)	576
KC9PCP	567
AF5Q	470
WB9WOZ	301

The FM category, introduced a few years ago to stimulate contest interest and activity among hams that are not traditionally active in VHF/UHF contests, had significant growth in activity with many more QSOes made this year than in past years. W2EV, the perennial winner of this category didn't disappoint and repeated this year, but only by a small margin of 61 points out of more than 6,000 over KM4KMU.

One doesn't often see this much VHF/UHF antenna firepower vertically polarized, but it was key in KM4KMU's second place finish in the single operator FM category. KM4KMU set a new for number of multipliers worked in this class. This is not a rover, KM4KMU operated in a single grid. (Photo by KM4KMU)

KM4KMU operates a rover style station in a single grid for an unusual FM category entry. FM QSOs can be particularly productive for rovers when they have worked out a grid, but often require a different approach than the typical contest QSO. K2EZ/R concentrated on working FM stations and reported *"As for results, I worked more stations on FM in the first hour than total FM contacts I have gotten in entire contests. Perhaps 50% of my Qs the first hour were stations on FM."* When the band gets slow, don't hesitate to go up to FM simplex and call CQ. Many organizations use the VHF Contest FM category as a training exercise for emergency operators which points out the versatility of contesting. As KM4KMU points out, FM contesting is a different animal: *"FM takes a very light touch. With very few contesters, you need to be prepared to chat a while and then talk people through the contest contact along with provide them their grid."*

Contest Weekend

The lack of sporadic E propagation in the January contests is always discouraging. When it does occur we all celebrate. When it does not, we resort to the higher bands, which are often not too good in January either. In the middle 60s the VHF Sweepstakes, as it was known then, was held on the first or second week of January.

This scheduling was in large part to place the contest closer to the sporadic E peak near the end of December. The contest moved later in the month in the 70s and further away from the sporadic E peak. The NFL playoffs further complicated the matter and attempts to avoid them by putting the contest on the weekend before the Super Bowl moved the contest further from the sporadic E season. Coupled with the stagnant activity in the January contest, this has discouraged many contest participants. Suggestions have been made to move the contest earlier in the month, which would help propagation and presumably increase participation. Complications to this are primarily schedule conflicts other contests, including the RTTY contest held on the first weekend, except when the first weekend includes News Years. A simple solution would be to swap the VHF contest and RTTY contest dates. Doing that is probably a major undertaking, but it makes sense. There are football games that weekend, but they probably have less impact than the games later in the month. In any case, the football playoffs only affect a few of the participants, but these are not uniformly distributed across the country.

Assistance

The implementation of assistance in the VHF contests was the result of years of discussion, often vigorous. While many felt that this would change the complexion of the contesting for the worse, I think that most competitors would say that it has helped. The impacts have been particularly significant to the rover categories and those using the digital modes. Assistance and the digital modes are synergistic and they have helped each other grow considerably. That is the case with the rover classes and assistance as well, no longer is the question of where to point the beam when and on what band the driver of whether or not a rover can be worked. Still the stations with these skills will excel even though the competition has assistance. There has been little juggling of the top positions in the various categories. Assistance makes the best operators better, the good operators great, all the while making the rest of us more competitive.

Summary

The January 2017 ARRL VHF Contest is in the books. Now is the time to begin prep for the June and September contests, as well as for next January. MSK144 has proved to be an effective tool, so you may want to incorporate that into your bag of tricks. It takes a lot of resources to run, so be sure that your computer is up to it. Also, look how best to incorporate the APRS page into your station to track rovers. If you are roving, look into incorporating FM into your contest plans if you have not already done so. FM is a growing part of VHF contesting and can be a productive way to add unpopulated grids and bands to your score.

Division Winners		
Classic Rover		
Atlantic	K1DS/R	74,889
Central	KA9VVQ/R	17,215
Dakota	KCØP/R	4,060
Delta	AG4V/R	13,320
Midwest	NØLL/R	56
Pacific	N6JET/R	5,829
Rocky Mountain	W7QQ/R	9,135
Southeastern	K4SME/R	21,645
Southwestern	WA8WZG/R	4,450
Canada	VE3OIL/R	35,651
Limited Rover		
Atlantic	N8KH/R	6,216
Central	W9YOY/R	6,975
Dakota	KEØFMX/R	552
Delta	W5VY/R	1,768
Hudson	K2EZ/R	50,625
New England	KC1EYG/R	6,453
Northwestern	KE7MSU/R	3,740
Pacific	N9DK/R	2,552
Roanoke	K2JB/R	3,625
Southwestern	K6LMN/R	714
West Gulf	KA5D/R	4,760
Canada	VE2NCG/R	189
Unlimited Rover		
Atlantic	N2SLN/R	22,704
Delta	WD5DJW/R	576
West Gulf	NØLD/R	5,776
Canada	VE7AFZ/R	1,080

Single Operator, High Power		
Atlantic	K1RZ	196,185
Central	WØUC	51,253
Dakota	WØGHZ	3,774
Delta	W5ZN	81,954
Great Lakes	K8TQK	28,140
Hudson	W2KV	25,830
Midwest	KFØM	6,069
New England	K1TEO	327,124
Northwestern	K7YDL	4,998
Pacific	WA6OSX	3,680
Roanoke	W3IP	68,139
Rocky Mountain	WB2FKO	7,245
Southeastern	KØVXM	21,390
Southwestern	KC6SEH	1,674
West Gulf	W5LUA	9,064
Canada	VE3ZV	38,016
DX	XE2JS	25
Single Operator, Low Power		
Atlantic	WA3NUF	89,675
Central	K2DRH	123,606
Dakota	WBØHHM	2,727
Delta	N4QWZ	27,642
Great Lakes	K8CC	14,365
Hudson	WB2JAY	31,815
Midwest	KØCQ	285
New England	AF1T	71,145
Northwestern	KEØCO	2,831
Pacific	K2GMY	8,840
Roanoke	K4FJW	1,940
Rocky Mountain	NJ7A	1,377
Southeastern	W4RAA	3,696
Southwestern	N6TCZ	630
West Gulf	K5TRA	3,096
Canada	VE3DS	13,213
DX	XE2HWB	90
Single Operator, Portable		
Atlantic	WX3P	1,170
Central	W9SZ	493
Hudson	WB2AMU	1,296
Midwest	NØJK	35
Northwestern	W4DVE	1,110
Roanoke	KB4IRR	4
Rocky Mountain	KØNR	168
Southwestern	WA7JTM	1,152
Canada	VE3EG	1,386

Single Operator, 3 Band		
Atlantic	N3BBI	9,042
Central	KO9A	19,602
Dakota	WØZF	162
Great Lakes	KE8EWI	435
Hudson	KA2BPP	1,342
Midwest	KØJQA	405
New England	W1DYJ	1,428
Northwestern	K7KAD	1,341
Pacific	K6ERF	1,463
Roanoke	K5VIP	1,764
Rocky Mountain	K4UB	1,152
Southeastern	WA4GPM	1,976
Southwestern	N7IR	708
West Gulf	K5TXM	51
Canada	VE3IQZ	990
Single Operator, FM Only		
Atlantic	W2EV	6,292
Central	KC9PCP	567
Hudson	W2DPT	130
New England	KB1YSK	210
Northwestern	WA6PX	70
Pacific	W6KKO	2,096
Roanoke	KM4KMU	6,231
Rocky Mountain	KF5RCN	33
Southeastern	KE6GFI	1
Southwestern	NA6AA	84
West Gulf	KO5OK	660
Canada	VA2DG	60

Limited Multioperator		
Atlantic	K2LIM	147,576
Central	W9RVG	1,408
Dakota	WØVB	3,280
Delta	NE5BO	800
Hudson	N2NT	127,650
New England	W1QK	17,738
Northwestern	KB7ME	3,480
Southeastern	WB4WXE	4,455
West Gulf	K5QE	61,766
Canada	CG6AO	324
Unlimited Multioperator		
Atlantic	N3NGE	430,066
Central	N2BJ	2,900
Great Lakes	N8ZM	19,359
Hudson	NY2NY	9,588
New England	KE1LI	16,698
Pacific	WA6OIB	7,452
Southeastern	W4NH	11,842
West Gulf	K5TR	19,344
Canada	VA3ELE	57,886

Regional Leaders

LM = Limited Multioperator R = Classic Rover RL = Limited Rover RU = Unlimited Rover SO3B = Single Operator, 3 Band SOFM = Single Operator, FM Only
SOHP = Single Operator, High Power SOLP = Single Operator, Low Power SOP = Single Operator, Portable UM = Unlimited Multioperator

West Coast Region

Pacific, Northwestern, and Southwestern ARRL Divisions; Alberta; British Columbia, and NT RAC Sections

Call	Score	Cat
N6JET/R	5,829	R
WA8WZG/R	4,450	R
N6ZE/R	860	R
KE7MSU/R	3,740	RL
N9DK/R	2,552	RL
W6ESL/R	1,088	RL
K6LMN/R	714	RL
WB5CTS/R	676	RL
VE7AFZ/R	1,080	RU
K7YDL	4,998	SOHP
KD7UO	4,968	SOHP
KE7SW	4,368	SOHP
N7EPD	4,180	SOHP
WA6OSX	3,680	SOHP
K2GMY	8,840	SOLP
KC6ZWT	7,067	SOLP
K6MI	5,088	SOLP
KEØCO	2,831	SOLP
K7ATN	2,076	SOLP
WA7JTM	1,152	SOP
W4DVE	1,110	SOP
K7JFD	105	SOP
N6BSC	70	SOP
K6ERF	1,463	SO3B
K7KAD	1,341	SO3B
N4DLA	840	SO3B
W5MMW	737	SO3B
N7IR	708	SO3B

Midwest Region

Dakota, Midwest, Rocky Mountain and West Gulf ARRL Divisions; Manitoba and Saskatchewan RAC Sections

Call	Score	Cat
W7QQ/R	9,135	R
KCØP/R	4,060	R
NØHZO/R	2,912	R
KK6MC/R	2,568	R
K5WO/R	1,088	R
KA5D/R	4,760	RL
KEØFMX/R	552	RL
NØSPN/R	234	RL
NØLD/R	5,776	RU
KD5IKG/R	4,370	RU
W5LUA	9,064	SOHP
K5LLL	8,901	SOHP
WB2FKO	7,245	SOHP
K5AND	7,098	SOHP
KC5WX	6,256	SOHP
K5TRA	3,096	SOLP
WBØHHM	2,727	SOLP
WB5ZDP	1,680	SOLP
AA5AM	1,617	SOLP
NJ7A	1,377	SOLP
KØNR	168	SOP
NØJK	35	SOP
K4UB	1,152	SO3B
KC7QY	468	SO3B
KØJQA	405	SO3B
WØZF	162	SO3B
KØTAR	114	SO3B

Central Region

Central and Great Lakes ARRL Divisions; Greater Toronto Area, Ontario East, Ontario North, and Ontario South RAC Section

Call	Score	Cat
VE3OIL/R	35,651	R
KA9VVQ/R	17,215	R
W9FZ/R	17,105	R
KC9MUT/R	54	R
W9YOY/R	6,975	RL
K9JK/R	3,848	RL
N9GH/R	3,016	RL
WØUC	51,253	SOHP
VE3ZV	38,016	SOHP
K8TQK	28,140	SOHP
K8ZR	13,561	SOHP
K9EA	9,984	SOHP
K2DRH	123,606	SOLP
K8CC	14,365	SOLP
VE3DS	13,213	SOLP
N9LB	11,395	SOLP
VA3ZV	11,286	SOLP
VE3EG	1,386	SOP
W9SZ	493	SOP
N2XDO	6	SOP
KB2PBR	6	SOP
KO9A	19,602	SO3B
KA9VDU	2,580	SO3B
WB9TFH	1,820	SO3B
VE3IQZ	990	SO3B
KE8EWI	435	SO3B

Southeast Region

Delta, Roanoke, and Southeastern ARRL Divisions

Call	Score	Cat
K4SME/R	21,645	R
AG4V/R	13,320	R
WA3RGQ/R	5,481	R
K2JB/R	3,625	RL
W5VY/R	1,768	RL
AF5WN/R	644	RL
WD5DJW/R	576	RU
W5ZN	81,954	SOHP
W3IP	68,139	SOHP
KØVXM	21,390	SOHP
W4ZRZ	14,755	SOHP
NG4C	6,336	SOHP
N4QWZ	27,642	SOLP
W4RAA	3,696	SOLP
K4FJW	1,940	SOLP
N4BRF (WA2VNV, op)	1,872	SOLP
KD4NOQ	1,008	SOLP
KB4IRR	4	SOP
WA4GPM	1,976	SO3B
K5VIP	1,764	SO3B
K4SO	1,633	SO3B
KK4MA	800	SO3B
N4PD	780	SO3B

Northeast Region

New England, Hudson and Atlantic ARRL Divisions; Maritime and Quebec RAC Sections

Call	Score	Cat
K1DS/R	74,889	R
K2TER/R	62,046	R
NN3Q/R	60,192	R
KF2MR/R	56,236	R
W3ICC/R	29,631	R
K2EZ/R	50,625	RL
WB2SIH/R	20,121	RL
N2DXT/R	11,275	RL
KC1EYG/R	6,453	RL
N8KH/R	6,216	RL
N2SLN/R	22,704	RU
K1TEO	327,124	SOHP
K1RZ	196,185	SOHP
K3TUF	154,980	SOHP
K3IPM	92,232	SOHP
K1GX	59,752	SOHP
WA3NUF	89,675	SOLP
N3RG	87,714	SOLP
AF1T	71,145	SOLP
WA3GFZ	41,496	SOLP
K1KG	33,031	SOLP
WB2AMU	1,296	SOP
WX3P	1,170	SOP
KQ2RP	108	SOP
NK1N	85	SOP
N2TEB	48	SOP
N3BBI	9,042	SO3B
N3ALN	5,191	SO3B
WB2EOD	4,263	SO3B
KC2THQ	4,095	SO3B
KF2Y	3,990	SO3B

W6KKO	2,096	SOFM
N9VM (N1VM, op)	576	SOFM
W7AIT	266	SOFM
W6IA	264	SOFM
NA6AA	84	SOFM
KB7ME	3,480	LM
K7CPU	427	LM
CG6AO	324	LM
WA6OIB	7,452	UM
N6SPP	935	UM

KO5OK (NL7CO, op)	660	SOFM
AF5Q	470	SOFM
KF5RCN	33	SOFM
WAØKXO	24	SOFM
K5QE	61,766	LM
WØVB	3,280	LM
WCØAAA	10	LM
K5TR	19,344	UM
KC5MVZ	583	UM

KC9PCP	567	SOFM
WB9WOZ	301	SOFM
VE3PYJ	1	SOFM
W9RVG	1,408	LM
VA3ELE	57,886	UM
N8ZM	19,359	UM
N2BJ	2,900	UM
W8RU	1,026	UM

KM4KMU	6,231	SOFM
KJ4JSF	33	SOFM
KE6GFI	1	SOFM
WB4WXE	4,455	LM
NE5BO	800	LM
N9LHS	152	LM
W4NH	11,842	UM

W2EV	6,292	SOFM
N2HJD	2,086	SOFM
N2SCJ	1,944	SOFM
KB1YSK	210	SOFM
W2DPT	130	SOFM
K2LIM	147,576	LM
N2NT	127,650	LM
W3SO	80,172	LM
W1QK	17,738	LM
W3ARO	3,210	LM
N3NGE	430,066	UM
WA3EHD	39,928	UM
KE1LI	16,698	UM
N1JEZ	15,600	UM
W1XM	15,288	UM