



ARRL 160 Meter Contest

2017 Results

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Conditions Keep Improving; Activity Keeps Growing

The ARRL 160 Meter Contest remains a very popular event! Last December's contest had 1394 logs submitted, which is more than any of the past five years. Some of that increase can be attributed to fewer sunspots and improved conditions, but most of the credit goes to the steady increase in the number of hams who are fascinated by the unique propagation in the Medium Wave part of the spectrum.

Let's get right to the results, beginning with the US/VE operators...

Single Operator, High Power

Station	Score
K3ZM	511,488
NO3M	495,564
AA1K	478,640
K1KI	432,388
W4CB (W2RU, op)	431,802
W5MX	426,441
K1LT	402,722
WØSD (WØDB, op)	396,150
W3BGN	343,434
WF2W	332,994

Peter, K3ZM topped the Single Op HP category from his VA QTH with a score of 511,488 points. It took plenty of work to get the win, as he posted:

"This year set a record for the number of different repairs that were required to my listening antennas ... I spent about nine man days fixing and upgrading RX antenna systems, including building an 800 foot 'fence' all the way to my outer RX Four Square near the tide pools of the Bay and enclosing 800 feet of feedline for that antenna in conduit. I taped each joint, but was not satisfied and ultimately raised the conduit about four feet off the ground going all the way out to the antenna. This involved miles and miles of walking on uneven terrain. No well-adjusted person does such a thing."

As for the conditions, Peter notes that he made a total of 317 European contacts (including many dupes), but no QSOs with JA or VK or ZL.

With better conditions to Europe than to other parts of the world, and good activity as well, the High Power category was an Eastern Time Zone affair. The lone exception was WØSD (WØDB, op.) in South Dakota, who managed to take the 8th spot in the Top Ten list.



Gary, K9MMS, posted a nice score from this well-appointed shack. Note his numerous awards! (K9MMS photo)

Single Operator, Low Power

Station	Score
K8FH	199,296
K8NVR	199,038
WB8JUI	196,378
K9PG	187,528
K7SV	173,151
WØUO	171,859
K9MMS	166,408
W7SE	145,605
KG9X	137,858
K4FT	137,104

K8FH and K8NVR captured the top two positions in SOLP, finishing just 258 points apart — just two QSOs worth!

Third place finisher, Rick, WB8JUI, reported that he missed some multipliers, but that his last two were good ones (AK and ND), worked around 1200Z Sunday morning.

Also see the accompanying feature story later in this article about perennial Low Power Top Ten finishers WØUO and K9MMS. These two hams have had scores very close to one another in the 160 Meter Contest (and other contests) for many years!

Single Operator, QRP

Station	Score
K5RX	120,560
W3TS	75,852
N3CZ	73,990
K9TF	58,888
N7IR	57,684
W8GP	52,700
AA4GA	47,580
N8LJ	40,641
WB4MSG	38,430
N8BB	36,312

Jim, K5RX, is the Single-Op QRP winner this year, easily exceeding 100k points from his Texas QTH. He is followed by a number of familiar calls in the QRP Top Ten, which continues to be competitive and “just plain fun” for these operators!

Mike, W3TS, has been contesting at QRP levels for a long time, and finished in 2nd place this time around. If you wonder what it takes to be a successful QRP contester, here is a run-down of his station:

*“Rig: Ten-Tec Orion at 5 watts
TX antenna: 60 foot high 80M/40M fan dipole used as an 1/8 wave Tee over 70 × 70 foot long radials
RX antennas: 300 foot NE/SW short beverage and 300 foot SE/NW beverage and a NE and NW Flag;
The best I can do on a 150 x 200 foot town lot with the help of understanding neighbors.”*

Single Operator Unlimited, High Power

Station	Score
VE3EJ	533,729
WB9Z	450,912
N2ZX	448,056
K3WW	429,910
N8OO	429,056
KVØQ	397,110
NR4M	395,351
KØRF	391,080
W8MJ	374,850
K9NW	332,486

John, VE3EJ, piloted his well-equipped station to victory in the High Power Unlimited category, to become one of this year’s repeat winners. His win was decisive, but the next four places had scores just a few percent apart. Jerry, WB9Z, managed to find enough QSOs and multipliers to finish in second place, just ahead of N2ZX, K3WW and N8OO.

Colorado was well-represented in this contest, with Bill, KVØQ and Chuck, KØRF making “the box” at 6th and 8th place, respectively. With this good showing from a western section, we might consider that the ability to chase spots helps level the playing field for “unlimited” participants.

Single Operator Unlimited, Low Power

Station	Score
W9SN	231,660
N2KW	213,750
W3LL (ND3D, op)	212,576
VE3MGY	189,906
KØTI	174,870
N9CK	166,840
AA5AM	141,897
K3MD	140,718
NØAT	112,299
W1QK	112,000

Steve, W9SN, put the TN Section on the map with a win in the Unlimited, Low Power category. He posted the following comments about the contest and his effort to assemble a top-notch contest station:

“I spent a full week repairing my full size 160M 4-square and it paid off. This thing really sings! I can break pile ups with low power! Second radio has just a dipole about 120'. Missed KH6, KP4, and ND. Nobody in LAX could hear me calling many times on low power. Fun contest with a fast rate in the beginning, and turns into endurance the second day.”

N2KW and ND3D (at W3LL) finished neck-and-neck at 2nd and 3rd, with Midwesterners VE3MGY (ONS), KØTI (MN), and N9CK (WI) taking the next three spots.

Single Operator Unlimited, QRP

Station	Score
N2CEI	79,352
WA7LNW	66,297
NØUR	52,542
NA5NN (K2FF, op)	46,694
K8ZT	29,640
W2DPT	26,784
NK8Q	22,908
NN9K	12,212
N9NBC	3,348
K2GMY	756

Steve, N2CEI, (NFL Section) was the Unlimited, QRP victor in the 2017 contest, with 91 sections and 406 QSOs after log checking. Following Steve was Jack, WA7LNW, who told the following story to fellow testers:

“This is one of my favorite winter contests. Returned from two weeks of travel and excuse myself from a Friday night party invitation in order to make it happen. Operated QRP this year in honor of a good friend and nearby neighbor Jim Rodenkirch, K9JWV (SK). Jim was our one and only QRP enthusiast in southern Utah and could often be heard calling CQ on 1.810 nights and early mornings. Knowing Jim and his love for our hobby, I am sure he was listening in on the action this weekend.

“Several section multipliers appeared absent this year. My CW Skimmer is located at the remote site and was essential in spotting new multipliers and

determining when their signals were peaking. Fellow Arizona Outlaws Contest Club member, Gary, N7IR (AZ), normally operates QRP during this event, so I closely monitored our comparative RBN signal reports and areas of coverage. At various times during the night, our geographic separation and choice of antennas became apparent.

Arizona section was well represented by AOCC members. In fact Utah seemed well represented too. My thanks go out to C6, XE, PJ2, ZF9 operators for pulling my QRP signal out of the noise. There were plenty of strong JA signals around 0800 UTC and again at my local sunrise, but none heard me well enough to complete a full contact.

Fun as always. See everyone again next year!”

Multioperator, Single Transmitter, High Power

Station	Score
W2GD	526,812
NØNI	525,720
N1LN	462,915
W3UA	410,972
N3EB	399,873
K5NA	375,144
NA7TB	350,790
K9NR	279,104
K5KC	268,827
W8PR	261,495

Some excerpts from John, W2GD’s 3830 post will give you an idea how winning M/S HP is done!

“As has been our practice we use the ARRL 160 event to iron out whatever problems might be lurking at this location at the end of ‘Murphy Drive’... We had two work parties before CQWW CW, the first one saw installation of the TX array on the 300 foot tower, and the second to complete cabling of the seven RX antennas. There never seems to be enough time at this point in Contest Season and with ARRL 160 just six days after CQWW CW, it’s a tight squeeze on the schedules for many of us.

“We enjoyed the best first hour of any 160 meter contest in the last 30+ years. During the exciting first sixty minutes, we put 213 contacts in the log which amazingly contained 25% five-pointers from EU and the Carib. What a rush! The band was dead quiet, not a static crash to be heard. In fact over the whole weekend we were blessed with QRN free reception.

“Seemed to be hordes of USA participants again this year — which supported fantastic run rates during the first eight hours — definitely a highlight of the weekend. The opening to the western US was never great and we never heard a KH6, VK, ZL or JA.

“We enjoyed the camaraderie you have with a large team. K2SG, N2NC and newcomer KE2D filled the operator chairs when the core team needed a break. As always, thanks to the owners of WYRS-FM for making this fantastic site available to us and to the members of the SJDXA for their assistance.”

Out in Iowa, Toni NØNI and his team of operators keeps getting better. This year, they finished in 2nd place, with a score that was less than 1 percent behind the W2GD powerhouse!

Our thanks to all the Multi-Single stations — their efforts to assemble competitive stations and make lots of QSOs, helps make it possible for many small stations to have bit more success — and more fun!

Multioperator, Single Transmitter, Low Power

Station	Score
W4GZX	68,904
NØHJZ	65,850
WQ4RP	63,784
N8ZA	45,672
NJ1F	44,919
AG5RS	42,297
KA9VVQ	41,741
W1CCE	39,715
AC6ZM	30,622
W8DC	23,868

The winner in this category is the Cleveland, TN ARC station, W4GZX, followed by the station of

Rich, NØHJZ in the MN Section. These two top finishers are a good example of how the Low Power categories seem to be best from the middle of North America.

In 3rd place was a QRP entry!

“The WQ4RP Multi-Op team (Knightlites QRP Society, in the TN Section) enjoyed running QRP again this year, and we ended up working our last three states (CA, NE, WY) to qualify for the 160M QRP WAS Award. We also topped our performance from last year’s ARRL 160 Contest. Quiet band conditions, with lots of activity both nights, made for a productive, fun contest. Maybe one day ARRL will add a QRP Multi-Op category to the ARRL 160, so our group won’t have to compete directly with our higher power brethren.”

DX Single Operator, High Power

Station	Score
ZF9CW (K5GO, op)	213,856
C6AGU (AA7JV, op)	184,480
XE2X	178,720
XE2S	80,100
TM6M (F1AKK, op)	66,024
TM5N (F6AFM, op)	25,812
UX1UA	16,380
UA2F (UA2FB, op)	16,290
GM4Z (GM4ZUK, op)	14,792
EU4E	12,400

ZF9CW (Stan, K5GO) and C6AGU (George, AA7JV) were #1 and #2 among DX entries in this contest. Both stations feature experienced operators using effective antennas and station equipment.

Stan described the contest this way:

“This is a lot like Sweepstakes except one band. You make 50% of your contacts before midnight and then it is slow going for the duration. You do have the possibility of a clean sweep to look forward to but in this instance I could not find a KP4. At least the noise was not too bad.”

In 3rd place was Jorge, XE2X, who posted:

“Many thanks to all for the QSOs, the propagation was somewhat good. Some problems with the RX antenna and the amplifier forced me to finish the contest early, in any way it was very fun and a great opportunity to put many friends in the log. See you next year and happy holidays for all.”

DX Single Operator, Low Power

Station	Score
CO2AN	25,984
CO2JD	14,760
HI8A	9,632
US7VF	3,172
V31YN (DJ4KW, op)	2,726
ON7EH	2,376
UY5VA	1,406
SP5CJY	1,178
JE1SPY	640
JA1BJI	504

Two Cubans came out on top in the Low Power category. Abel, CO2AN, was the winner, followed by Juan, CO2JD. This nearby DX neighbor to US/VE was represented well! Another Caribbean operator, Rafael, HI8A, placed third.

Several US/VE stations noted the strong signals from the low power European stations. Although the openings to Europe were fairly long, many stations on both sides of the Atlantic needed to wait for peak time to complete QSOs. During those relatively short times, things got very interesting!

DX Single Operator, QRP

Station	Score
JH4UYB	8
SP6JOE	2

Obviously QRP is a very difficult category for DX stations in this contest!

DX Single Operator Unlimited, High Power

Station	Score
EA7KW	61,380
UW2M (URØMC, op)	30,264
OK2ZI	29,052
GW5R	27,060
LY7M	23,800
EI2CN	21,112
G4AMT	20,592
IK2CLB	17,340
S53O	17,248
UR5AS	16,896

DX Unlimited winner Jose, EA7KW, put in a lot of effort for the contest!

“I went to the coast of Cadiz for this contest, setting antennas from scratch on Thursday, high winds broke fiber glass post. Repaired and rebuilt it in the night. Had good propagation both nights, hearing NA well before dusk until 2 hours past dawn. I need to improve the TX antenna, very difficult to be heard on a rare section pile-up. Thanks to everybody for the QSO and for your extreme patience!”

DX Single Operator Unlimited, Low Power

Station	Score
OT6M (ON9CC, op)	2,970
DJ3RA	1,794
EU3AA	800
LA5LJA	748
JA1KVT	736
OK2BFN	442
G3RLE	384
DL3TU	286
UX7UU	280
JG1LFR	252

At the top of this list is OT6M (Frank, ON9CC, operator), who posted this contest story:

“I started the contest on Friday evening. With about 25 stations in the log my eyes fell shut at about 02:15 local hence I went to bed. After I got home

from a birthday party on Saturday evening, I quickly checked the band and as I couldn't hear a lot of stations (and those I did hear, were down in the noise), I went to bed with the plan to get up at about 05:00 local. That turned out to be a good decision as the conditions on Sunday morning were better than Saturday evening. With the limited RX antenna I had I did notice somewhat of a sunrise peak and heard NM and AZ.

“Working Low Power can be frustrating as I did hear SD, TX, MO, NM and AZ but they didn't hear me. Also I only had the dipole for TX, which is tuned for the higher SSB part of the band. And as I still didn't have the opportunity to put up the TX vertical and RX beverages in the field, I only had the dipole for TX/RX and K9AY for RX. Although I also called CQ for extensive times (around 1855-1860) only 2 or 3 stations came back to my CQ (suprisingly one of them was a station in MN). But all in all it was fun and I was able to work some 60 stations which exceeded my target for using this setup.”

DX Multioperator, Single Transmitter High Power

Station	Score
PJ2T	127,820
EA5RS	24,624
R7AB	22,842
LZ5R	18,492
OHØZ	14,432
JA3YBK	10,168
DK4WW	7,098
PA7PYR	2,214
RUØLAX	736

PJ2T once again ruled the M/S DX results, with an excellent score from Curacao. The top European stations were EA5RS, R7AB and LZ5R, all with good results.

DX Multioperator, Single Transmitter Low Power

Station	Score
JK2VOC	12
JJ1ZEJ	2

Affiliated Club Competition

Club competition is a lot of fun, and the ARRL 160 Meter Contest has a history of enthusiastic participation at the club level! This time, PVRC mustered the most participation and the highest aggregate score. Contest Club Ontario was the best in the Medium size category, while the Niagara Area Radiosport group was the best of the Local clubs. Listed below are club name, total points, and number of entries.

Affiliated Club Competition		
Club	Score	Entries
Unlimited		
Potomac Valley Radio Club	8,830,867	84
Frankford Radio Club	7,040,474	65
Society of Midwest Contesters	6,250,866	75
Yankee Clipper Contest Club	5,188,166	62
Minnesota Wireless Assn	3,597,518	60
Medium		
Contest Club Ontario	2,498,375	30
Mad River Radio Club	2,392,540	18
Tennessee Contest Group	1,459,584	18
Hudson Valley Contesters and DXers	1,140,262	11
Arizona Outlaws Contest Club	1,112,228	21
North Coast Contesters	1,058,535	8
DFW Contest Group	1,022,997	18
Alabama Contest Group	1,019,281	12
Central Texas DX and Contest Club	699,716	8
Georgia Contest Group	688,370	4
Florida Contest Group	681,851	11
Northern California Contest Club	671,481	21
Grand Mesa Contesters of Colorado	645,196	5
Rochester (NY) DX Assn	587,283	8
Kansas City Contest Club	557,307	5
Kentucky Contest Group	516,709	7
South East Contest Club	472,105	6
Mother Lode DX/Contest Club	464,841	15
Big Sky Contesters	415,368	4
Southern California Contest Club	391,002	12
North Texas Contest Club	348,172	4
Western Washington DX Club	292,805	6
Willamette Valley DX Club	283,897	5
Northeast Maryland Amateur Radio Contest Society	229,269	4
North Carolina DX and Contest Club	223,713	5
Texas DX Society	137,245	3

West Park Radiops	125,652	5
Carolina DX Association	54,314	3
Metro DX Club	33,172	4
Swamp Fox Contest Group	31,009	3
Local		
Niagara Frontier Radiosport	528,684	9
CTRI Contest Group	454,352	3
Medina 2 Meter Group	429,886	3
St Louis ARC	367,984	4
Central Virginia Contest Club	284,624	4
Bristol (TN) ARC	195,612	5

A Few Soapbox Observations

Here are some selected post-contest comments from the “3830” reflector on Contesting.com. Your author chose them to provide an idea of how the contest unfolded from the viewpoint of its participants.

Visits from Murphy

I was all set to get to the farm in plenty of time to get things going. As I was driving out I received a call from home. Did you mean to take the blue backpack along? What?? I don't have it? After a quick inventory of what I had in there and I realized I have to head back and get it. Well after an extra 100 miles later, I got started about two hours late. So much for planning. — WØAIH (KØTG)

Running on generator power as power has been off since hurricane Irma hit on Sept 6th!!! — NP2J (K8RF)

Due to a keying issue, this was S&P only. — K1PX

All the antennas here were redone over the summer and the one that had to be compromised was the 160 transmit vertical — and wow could I tell. I am down many dB from years prior. I have a plan to fix that in the spring. — N4GG

My biggest problem was the damn wind generators surrounding me now would not stop turning for the whole contest, so lots of birdies, especially in the 1832 to 1838 range where so much EU was active. — VE3CV

All contacts hand sent because the keying interface decided that it didn't want to work. Paddles weren't adjusted so I was the number one lid on the band. Had to can Friday operation because of antenna

feed issue, but found out that using the antenna in the 80m position would give a low enough SWR that the tuner could handle it. LOUD nearby electric fence caused a lot of hash and a tick sound every few seconds, but signals were loud enough to overcome that, mostly. — N8VW (@K8MK)

I had antenna problem, so ran very low power. Thanks for your patience with my weak signal. — KA6BIM

Band Conditions

Conditions were excellent overall, but didn't hear much from W6, where was everybody??? Either way I had a great time and it was a pleasure working some excellent CW ops. — KC2GOW

Pretty decent conditions. Europe was at times pretty strong, at other times weak. But there was consistent activity from EU. West cost was pretty strong as well. — N1UR

Conditions on Friday night were perfect and EU sounded like they were stateside! This made for a great contest as always. Plenty of US and EU activity during the time I was on. — K2CYE

Just S&P for mults Friday and Saturday evening. Nice run Sunday morning and great to work 16 JA stations — N5AW

The band was hopping! Wall-to-wall signals each evening. — N4CF

Nice condx...and mostly quiet band! Quite a bit of DX. — K9NW (@K9UWA)

As the upper HF bands fade 160 meters returns to life. Propagation was better this year than in the previous two contests. QSB was a problem on the second night but wasn't outrageous. — N7IR

Operating Experiences

I've got to get up a better antenna! Frustrating to hear stations that cannot hear me, especially longer paths. — W2EG

After Wisconsin's disappointing loss in the Big 10 Championship game, I sat down at the radio to see how fast I could make 50 QSOs. — WI9WI

183 first hour probably best start ever for this one.
— K3WW

Many, many couldn't copy my 400W station :-(— UA9BA

My first 160m contest. Thanks to all that had patience for me to get their call, especially on the long hauls. — W4DXX

First contest in which I operated remotely from home using NIMM+ and RemoteRig boxes connected to K3 and amplifiers at remote site. Only antenna was an inverted L with 46 foot vertical section hung off 50 foot tower and eight 130 foot radials. Had 10 to 15 EU stations come back to my CQs. Fun contest. — N4QS

Fun! And no thunderstorms! A short burst of EU Fri nite , otherwise DX hard here as usual. Sun morn held a couple of JA for me but not a lot heard. Made my goal of 1k QSOs, a first on 160 contest. — KIØI

One Eu worked, GW3, answered CQ on Sat night at UK sunrise. Heard several French stations but no luck. Strong JA's on Sunday morning, but few stations on. All states worked except WV! Heard but did not work MAR. — N6ZFO

WØUO, K9MMS, and Low Power Contesting

Two Hams Who are Not-So-Ordinary Contesters

Jim Spaulding, WØUO and Gary Hornbuckle, K9MMS are two friends of mine. They don't know each other so well, but I've known Jim and his family since the mid-1980s, and have had many long conversations with Gary at Dayton and at ham gatherings here in the Midwest.

Perhaps some of you who are reading this have noticed that these two call signs: 1) appear regularly in the Single Op, Low Power Top Ten listings; and 2) sometimes are adjacent to one another — such as their #6 and #7 finish in the 2017 ARRL 160 Meter Contest! They are evenly matched competitors, about the same age, and both in the middle of the U.S. However, they are in different QTHs (Jim is

located a bit West of Ft. Worth, TX and Gary is in the metro Chicago area), and like most hams, have built their stations to suit their own operating styles.

160M Contest Notes from WØUO



Jim, WØUO, at his simple but effective operating position (WØUO photo)

“I've been thinking about the 160 contest over the years. My first top ten listing was made with only a little over 700 QSOs. Participation has increased so much that it takes over 900 to make the listing and may soon take over 1000. Conditions change over the solar cycle so that the bottom of the cycle, on the upswing, gives much more favorable conditions. Some contests I make zero Europe and zero JA and in others 20 or so EU countries and up to 16 JA in a run. This one [2017] was probably more typical than not. Over much of this season the spotlight seemed to favor W8, especially Michigan. Very few good days here, although I haven't been that active.

“Not a bad contest this year, more W/VE than usual, but not good openings to EU and JA. I worked 3 EU, 6 NA, 2 SA, and one JA. Conditions are definitely improving, but not as good as they will be in a couple of years. What have been rare sections (NE, WV, WY, NLI, etc.) have become more available and now NNY is getting hard to find. Like all 160 Meter contests, this one started with a bang and ended with a whimper. Bulk of QSOs first night and before midnight. After that things get slow.

“What has changed in the 22 years I've operated this contest is the number of good signals both in the US and overseas. Improvements in equipment (receivers, clean transmitters) make a major difference also. I'm looking forward to the day when key clicks are a thing of the past. My method of operating this contest has not changed over the years: run W/VE as hard as possible and place myself so that DX might trip over me! Still works!”

Reflections on 160M from K9MMS

Gary has lived at his current QTH in northern Illinois for 30 years, and the property is 0.7 acre in size. For about 25 of those years, an antenna farm has been developed in the back yard, which is 120 by 200 feet in size. The 120 foot dimension runs NE/SW. The antenna system consists of 2 towers:

32-foot HBX with an A3WS at 33 feet and TH2 at 40 feet

62-foot 25G with two yagis (402CD at 63 feet and TH6 at 73 feet)

The 25G tower also supports an 80 meter inverted V dipole with apex at 58 feet, and a 160 meter inverted L with knee at 58 feet. It also holds up one end of a low fan dipole. The towers are shown in the photo below:



WØUO shunt-fed tower after winter ice storm
(WØUO photo)

The WØUO station in rural Texas includes two towers with the larger tower shunt-fed on 160. Plenty of radials underneath. The photo shows the recent state of affairs of that tower and its 40 Meter beam, after experiencing a winter ice storm! Receive antennas include various temporary wires, including one or two on-ground arrays.



K9MMS towers (K9MMS photo)

For the low bands, there are four dedicated receiving antennas:

- Dual EWE (ESE/WNW)
- KD9SV RBOG (ESE/WNW)
- Hi-Z 23, 3-element active, right-triangular, vertical array (NE/SE/SW/NW)
- Customized geometry (saw-tooth), window-line reversible (NE/SW)



The Hi-Z 3-element array at K9MMS (K9MMS photo)



K9MMS "sawtooth" reversible window-line Beverage (K9MMS photo)

Division Winners

Division	Single Operator					
	High Power		Low Power		QRP	
Atlantic	NO3M	495,564	NJ3K	112,180	W3TS	75,852
Central	W9IU	261,360	K9PG	187,528	K9TF	58,888
Dakota	WØSD	396,150	ACØW	122,148	NTØZ	30,870
Delta	WD5R (N5ECT, op)	304,110	N4ZI	70,776	WB4GHZ	19,787
Great Lakes	W5MX	426,441	K8FH	199,296	W8GP	52,700
Hudson	W2XL	246,198	W2EG	60,573	K2YGM	19,136
Midwest	NØTT	309,669	NZØT	62,370	WTØA (KE5RX, op)	18,582
New England	K1KI	432,388	K1EP	130,204	W1TW	22,800
Northwestern	W2VJN	201,066	KG7CW	113,148	KC7DM	6,438
Pacific	N6JV	136,318	N6RK	116,110	K6MI	2,550
Roanoke	K3ZM	511,488	K7SV	173,151	N3CZ	73,990
Rocky Mountain	WD5COV	236,184	W7SE	145,605	KF7MD	28,520
Southeastern	KU8E	166,770	WA1FCN	111,774	AA4GA	47,580
Southwestern	K6NA	165,629	W6AYC	51,048	N7IR	57,684
West Gulf	K5WA	299,314	WØUO	171,859	K5RX	120,560
Canada	VE3DZ	313,803	VE3VN	117,540	VE7VV	5,516

Division	Single Operator Unlimited					
	High Power		Low Power		QRP	
Atlantic	K3WW	429,910	W3LL (ND3D, op)	212,576	NK8Q	22,908
Central	WB9Z	450,912	N9CK	166,840	NN9K	12,212
Dakota	KØKX	227,032	KØTI	174,870	NØUR	52,542
Delta	N8OO	429,056	W9SN	231,660	NA5NN (K2FF, op)	46,694
Great Lakes	W8MJ	374,850	K8BKM	75,110	K8ZT	29,640
Hudson	N2ZX	448,056	AA2VG	18,480	W2DPT	26,784
Midwest	KØVXU	155,480	KØJPL	61,486	-	-
New England	W1SJ	252,000	N2KW	213,750	-	-
Northwestern	K7QA	132,855	W7KF	65,649	-	-
Pacific	W6DR	102,085	NU6O	11,289	K2GMY	756
Roanoke	NR4M	395,351	KK4R	41,440	WC4J	16
Rocky Mountain	KVØQ	397,110	WA7BNG	9,917	WA7LNW	66,297
Southeastern	NP2J (K8RF, op)	284,193	K4MM	33,189	N2CEI	79,352
Southwestern	KO7SS	82,782	W7RH	70,136	-	-
West Gulf	K5ZO	217,554	AA5AM	141,897	-	-
Canada	VE3EJ	533,729	VE3MGY	189,906	-	-

Division	Multioperator, Single Transmitter			
	High Power		Low Power	
Atlantic	W2GD	526,812	KA3D	9,503
Central	K9NR	279,104	KA9VVQ	41,741
Dakota	-	-	NØHJZ	65,850
Delta	-	-	W4GZX	68,904
Great Lakes	W8PR	261,495	N8ZA	45,672
Hudson	-	-	NJ1F	44,919
Midwest	NØNI	525,720	WØGJ	22,624
New England	W3UA	410,972	W1CCE	39,715
Pacific	N6DZ	32,092	W6OFM	8,568
Roanoke	N1LN	462,915	WQ4RP	63,784
Southeastern	NP2X	180,205	-	-
Southwestern	NA7TB	350,790	-	-
West Gulf	K5NA	375,144	AG5RS	42,297
Canada	VE7NY	136,329	-	-

Regional Leaders

SO: Single-Operator; MS: Multi-operator, Single Transmitter; SOU: Single-operator Unlimited; HP: High Power; LP: Low Power; Q: QRP

West Coast Region			Midwest Region			Central Region			Southeast Region			Northeast Region		
Pacific, Northwestern, and Southwestern ARRL Divisions; Alberta; British Columbia, and NT RAC Sections			Dakota, Midwest, Rocky Mountain and West Gulf ARRL Divisions; Manitoba and Saskatchewan RAC Sections			Central and Great Lakes ARRL Divisions; Greater Toronto Area, Ontario East, Ontario North, and Ontario South RAC Section			Delta, Roanoke, and Southeastern ARRL Divisions			New England, Hudson and Atlantic ARRL Divisions; Maritime and Quebec RAC Sections		
Call	Score	Cat	Call	Score	Cat	Call	Score	Cat	Call	Score	Cat	Call	Score	Cat
W2VJN	201,066	SOHP	WØSD	396,150	SOHP	W5MX	426,441	SOHP	K3ZM	511,488	SOHP	NO3M	495,564	SOHP
WJ9B	181,544	SOHP	NØTT	309,669	SOHP	K1LT	402,722	SOHP	W4CB			AA1K	478,640	SOHP
K7RAT									(W2RU, op)	431,802	SOHP			
(N6TR, op)	180,270	SOHP	K5WA	299,314	SOHP	VE3DZ	313,803	SOHP	WD5R			K1KI	432,388	SOHP
K6NA	165,629	SOHP	WD5COV	236,184	SOHP	NA8V	295,000	SOHP	(N5ECT, op)	304,110	SOHP	W3BGN	343,434	SOHP
N9RV	158,756	SOHP	KIØI	194,486	SOHP	VE3CX	280,348	SOHP	KT3Y	258,096	SOHP	WF2W	332,994	SOHP
N6RK	116,110	SOLP	WØUO	171,859	SOLP	K8FH	199,296	SOLP	N4XD	256,965	SOHP	K1EP	130,204	SOLP
KG7CW	113,148	SOLP	W7SE	145,605	SOLP	K8NVR	199,038	SOLP	K7SV	173,151	SOLP	NJ3K	112,180	SOLP
W6AYC	51,048	SOLP	ACØW	122,148	SOLP	WB8JUJ	196,378	SOLP	N8II	136,992	SOLP	K1PTF	86,578	SOLP
AC7A	48,600	SOLP	KØPK	108,966	SOLP	K9PG	187,528	SOLP	W1FCN	111,774	SOLP	N1IX	76,680	SOLP
W6JTI	41,480	SOLP	K5FO	81,838	SOLP	K9MMS	166,408	SOLP	K4ORD	100,810	SOLP	WA3EOQ	65,961	SOLP
N7IR	57,684	SOQ	K5RX	120,560	SOQ	K9TF	58,888	SOQ	W4AA	85,260	SOLP	W3TS	75,852	SOQ
KC7DM	6,438	SOQ	N5OE	32,745	SOQ	W8GP	52,700	SOQ	N3CZ	73,990	SOQ	W1TW	22,800	SOQ
VE7VV	5,516	SOQ	NTØZ	30,870	SOQ	N8LJ	40,641	SOQ	AA4GA	47,580	SOQ	K2YGM	19,136	SOQ
K6EI	5,208	SOQ	KF7MD	28,520	SOQ	N8BB	36,312	SOQ	WB4MSG	38,430	SOQ	KQ2RP	18,630	SOQ
K6MI	2,550	SOQ	WBØCFF	18,865	SOQ	K4TO	21,616	SOQ	WB4GHZ	19,787	SOQ	KN1H	18,180	SOQ
VE6WQ	171,912	SOUHP	KVØQ	397,110	SOUHP	VE3EJ	533,729	SOUHP	K2XN	13,846	SOQ	N2ZX	448,056	SOUHP
K7QA	132,855	SOUHP	KØRF	391,080	SOUHP	WB9Z	450,912	SOUHP	N8OO	429,056	SOUHP	K3WW	429,910	SOUHP
K4XU	116,754	SOUHP	KØKX	227,032	SOUHP	W8MJ	374,850	SOUHP	NR4M	395,351	SOUHP	N3RD	325,200	SOUHP
W6DR	102,085	SOUHP	K5ZO	217,554	SOUHP	W8MYA	321,600	SOUHP	W4MYA	321,600	SOUHP	AA3B	323,400	SOUHP
KO7SS	82,782	SOUHP				K9NW	332,486	SOUHP	K2AV	312,390	SOUHP	N3QE	312,624	SOUHP
W7RH	70,136	SOULP	KØVXU	155,480	SOUHP	WØAIH			K4XL	305,974	SOUHP	N2KW	213,750	SOULP
W7KF	65,649	SOULP	KØTI	174,870	SOULP	(KØTG, op)	323,973	SOUHP	W9SN	231,660	SOULP	W3LL		
W7ZR	42,210	SOULP	AA5AM	141,897	SOULP	VE3MGY	189,906	SOULP	K3IE	99,407	SOULP	(ND3D, op)	212,576	SOULP
KA6BIM	35,392	SOULP	NØAT	112,299	SOULP	N9CK	166,840	SOULP	WF7T	66,024	SOULP	K3MD	140,718	SOULP
W7MEM	34,719	SOULP	K5KJ	87,740	SOULP	WT9Q	98,619	SOULP	NA5Q	48,204	SOULP	W1QK	112,000	SOULP
K2GMY	756	SOUQ	WØUC	69,993	SOULP	CF3FF	95,534	SOULP	N4ARO	45,761	SOULP	NY3B	110,176	SOULP
			WA7LNW	66,297	SOUQ	W9XT	89,908	SOULP	N2CEI	79,352	SOUQ	W2DPT	26,784	SOUQ
			NØUR	52,542	SOUQ	K8ZT	29,640	SOUQ	NA5NN			NK8Q	22,908	SOUQ
						NN9K	12,212	SOUQ	(K2FF, op)	46,694	SOUQ			
NA7TB	350,790	MSHP	NØNI	525,720	MSHP	N9NBC	3,348	SOUQ	WC4J	16	SOUQ	W2GD	526,812	MSHP
NX6T	144,855	MSHP	K5NA	375,144	MSHP	K9NR	279,104	MSHP	N1LN	462,915	MSHP	W3UA	410,972	MSHP
VE7NY	136,329	MSHP	K5KC	268,827	MSHP	W8PR	261,495	MSHP	NP2X	180,205	MSHP	N3EB	399,873	MSHP
WØRIC	43,654	MSHP	NØIS	255,000	MSHP	K4WW	120,197	MSHP	KC4D	167,958	MSHP	KØOO	147,552	MSHP
N6DZ	32,092	MSHP	K5CM	236,486	MSHP	VE3FAS	48,048	MSHP				K3MJW	141,201	MSHP
						W9VW	32,538	MSHP						

W6OFM	8,568	MSLP	NØHJZ	65,850	MSLP	N8ZA	45,672	MSLP	W4GZX	68,904	MSLP	NJ1F	44,919	MSLP
			AG5RS	42,297	MSLP	KA9VVQ	41,741	MSLP	WQ4RP	63,784	MSLP	W1CCE	39,715	MSLP
			WØGJ	22,624	MSLP	W8DC	23,868	MSLP	AC6ZM	30,622	MSLP	W1FM	23,210	MSLP
			W5WTM	18,819	MSLP	N9MT	680	MSLP				KA3D	9,503	MSLP