ARRL 160 Meter Contest 2019 Full Results

By Mark Beckwith, N5OT (n5ot@arrl.net)

Alligators and BOGs

"Sorry for being such an alligator!" - N3QE
"RX Antennas: BOG and a loop." - ZF9CW

Down a little bit in wavelength from 200 meters you can find Alligators and BOGs. The 160-meter band is a special place. This past season's running of the ARRL 160 Meter Contest saw a record 1,656 stations turning in their logs in what has to be the friendliest "alligator bog" on the calendar. Not sure why, but for some reason nearly 20% more stations entered the contest this time around. Yes, all was right with the 160-meter world for the 2019 running, which seasoned to perfection on December 7-8.

Last year, we were reminded that 160 meters is the next thing you get to when you spin up your car's AM radio to the top of the band. When everyone else is tuning in stations in the next town, hams across the world are making two-way contacts with stations in the next state or the next country or even further away. Post-contest chatter was all about the great conditions that everyone enjoyed. That's a great reason to get on the air, for sure.

> "Conditions weren't too bad! Thanks to all who pulled me out of the noise!" - W7VO
>
> "I've never worked this much DX in a 160 contest!" - AD4TJ
>
> "It was great to work many stations in the 'far west.'" - OT6M

Signal density was, shall we say, robust. Lots and lots of stations packed themselves into the tiny sliver of spectrum that a great number of radio operators seeking innocent diversion on cold winter nights call home. "At times it felt more like a Sweepstakes slug-fest than the spiritual experience that 160-meter DXing can provide," reflects Dave, WD6T, who observed, as he broke the Pacific Division record from the well-known station of Ken, N6RO, "nearly all of the European spots had loud domestic stations CQing on top of them." Dave confirmed this contest is alive and well on the West Coast, even if the top scores generally come from the East, where signals don't have quite so far to go to work the coveted five-point QSOs with stations in Europe.

RECORDS RECORDS RECORDS

The great conditions, combined with the huge increase in activity resulted in a whopping 469,000+ contacts in the space of only 42 hours. That has to be a record right there! You can be sure quite a number of old score records have been broken and new records set. There were two new overall records: Bill, KO7SS, pushed the Single-Operator Unlimited, High Power category to a new height using K1A in Maine by remote control. Similarly, Ed, K1EP, piloted K1TTT in Massachusetts to a new high score record in the Single-Operator Unlimited, Low Power category.

In addition to those overall classes, at the Division level 19 records fell, and at the Section level, this year's competition produced a remarkable 89 new high water marks across all entry categories.

ARRL Northwestern Division Director Mike Ritz, W7VO put in a nice showing in the contest. (W7VO photo)

W/VE RESULTS

Single-Operator

Operating an amateur radio station by remote control is an idea whose time has come, and nowhere is this more evident than in recent radiosport results. A case in point: this year's winner in our Single Operator High Power category is Krassy, K1LZ, using a remotely-controlled station installed in Jonesport, Maine by Remote Ham Radio, fought off all challengers to take the victory. Doug, K1DG, who competed with both operator and station located in Maine, took the number two spot.

Single Operator, High Power	
K1LZ	674,500
K1DG	639,880
K1KI	559,845
W1UE	540,408
AA1K	506,112
W1/WP3C	452,718
NA8V	450,210
NP2J (K8RF, op)	435,837
VE3DZ	408,460
WØSD (WØDB, op)	391,556

With the top six High Power scores all coming from the East Coast, the efforts of NA8V in Michigan at #7, VE3DZ at #9, and WØSD at #10 are especially noteworthy.

Single Operator, Low Power	
K9PG	219,800
WB8JUI	206,300
K1BX	203,910
K8FH	199,008
K8NVR	187,880
ACØW	153,032
N8II	137,970
K1DC	130,254
N9JF	129,021
N8LJ	119,016

In the Single-Operator, Low Power category, curiously only two of the Top Ten are East Coasters. Last year's winner Paul, K9PG, won the prize again, with last year's #2 Rick, WB8JUI, coming in, again, #2. "When we saw each other at Dayton, I was greeted with 'Hello, #2.' I could only respond with 'Hello, #1.'". Readers might remember that Paul's secret weapon was a ground system featuring chicken wire mesh. Rick responds, "I have not put down any chicken wire for radials yet, but if Paul keeps kicking my butt, I may have to consider that option." Rick may have a reasonable excuse as he was experimenting with a new technique he calls SO1R1TV where the radio was in one ear and the B1G Game (The Ohio State University vs. University of Wisconsin in "Big Ten" Conference college football) was in the other. "Go Buckeyes," he was heard to transmit by accident in a CW contest. Just wait 'til next year, 'PG.

Single Operator, QRP	
N9SE	119,718
W3TS	64,944
NK8Q	61,655
W8GP	58,938
N7IR	51,436
N5OE	26,944
NA5NN (K2FF, op)	26,532
WB2CPU	21,855
N4IY	20,539
N5EE	19,893

There is a category for stations using even lower power than Low Power - QRP with 5 watts or less – which on 160 meters is one of the greatest challenges of all. This year, Marty, N9SE, set his sights on Single-Operator, QRP, and generated a score nearly twice that of his nearest challenger. We caught up with Marty to find out why on earth anyone would enter a 160-meter contest using only 5 watts. What we got was a great lesson in strategy and perseverance which you can read later in this write-up.

Single-Operator Unlimited

KO7SS ponders, “It's like a bucket list thing.” Bill chose the very short callsign K1A to use from a station in Maine he controlled remotely from his home in Arizona. “Last year I ran NN2DX in Maine by remote. I made a whole bunch of errors and came in second. I decided to try and figure this out.” Bill not only won the Single-Operator, Unlimited High Power category, he set a new record as well. He describes later in this article just how he did it.

Single Operator Unlimited High Power	
K1A (KO7SS, op)	649,700
N8OO	642,597
VA2WA	599,760
VE3EJ	541,940
WB9Z	527,340
VA2EW	473,144
KVØQ	470,968
KØRF	426,224
VE6WZ	418,734
WØAIH (KØTG, op)	412,050

Note the geographic diversity of the Unlimited High Power Top Ten. After the top two (from Maine and Louisiana), there are four Canadians and four Midwestern U.S. stations.

Single Operator Unlimited Low Power	
K1EP	265,995
VE3MGY	249,828
KG9X	182,061
NØUR	158,166
N2ZX	152,168
KØRC	134,830
W9XT	126,825
VA3DF	123,660
AI1TT (W1WBB, op)	116,776
N4IJ	115,974

The Single-Op, Low Power Unlimited category was buttoned up by Ed, K1EP, sitting at the controls of well-known contest station K1TTT in Massachusetts. Ed managed to hold off a venerable 160 stalwart, Brian, VE3MGY, who bemoaned an ice storm had wrecked his antennas only a week before, and he was lucky to be back on the air at all.

Ed, K1EP, cooked up the top score in the Single-Op Unlimited Low Power category. That huge monitor probably helped. (Photo courtesy K1EP)

Single Operator Unlimited QRP	
N2WK	53,067
K5LG	49,700
WE9R	49,700
N3HEE	45,646
N3CZ	30,208
W3UL	29,300
W1IE	25,800
K8ZT	21,010
W3RGA	5,910
K2AL	2,376

The Single-Op Unlimited, QRP honors go to N2WK with 461 QSOs running only 5 watts. No matter how you slice it, that's a feat! There was a tie for second place in the category between K5LG and WE9R. K5LG had a higher claimed score, but WE9R’s slightly better accuracy brought him even with LG when the log-checking dust had settled.

Multioperator

Missing last year's score by only a fraction of one percent, the South Jersey DX Association team at W2GD again took top honors in the Multioperator competition.

Multioperator High Power	
W2GD	617,045
NØNI	561,060
W3NX	448,335
WW2R	423,776
W5MX	418,340
KC4D	360,553
K5CM	355,680
W1VE	337,250
N4RV	320,670
W4PM	314,216

"During the exciting first sixty minutes, we logged 234 contacts which contained 50 five-pointers. The band was quiet which greatly simplified things. All of the station work done to enable in-band operation made this super fun," relates John, W2GD. This team has been hard to beat in this event for many years.

This is the W2GD team in the heat of battle. Pictured L-R are W2NO, W2GD, and NY3B all dogging the same small slice of a crowded 160-meter band. (W2GD photo)

Multioperator Low Power	
NC1CC	88,218
KA4J	62,832
WQ4RP	59,228
W3KWH	32,700
N1SOH	24,592
W5WTM	21,634
NT6H	1,216

Rhode Island's Newport County Contest Club, just starting out, fielded WA1BXY and KN1GUN operating the club station NC1CC to first place in the Multioperator, Low Power category.

DX Results

Single-Operator

Single Operator, High Power	
ZF9CW	208,662
XE2X	185,484
PJ2T (K8ND, op)	94,950
TM6M (F1AKK, op)	51,350
RTØF	38,064
S59A	33,930
YL2SM	29,312
CT1ILT	28,202
J35X	22,048
F6AGM (FM5CD, op)	19,376

A veteran of many 160 Meter contests, Stan, K5GO, operated ZF9CW to the top spot amongst all the Single Operators running High Power in the rest of the world. F1AKK operated the French superstation TM6M to the top spot in Europe, while RTØF was the only station in Asia to reach the Top Ten.

Single Operator, Low Power	
K7BX/VP9	90,374
CO2AN	37,296
CO2RQ	34,038
HI3AA	29,000
HI3Y	4,392
ON7EH	4,288
HC2AO	4,218
R7NW	3,648
JA7KPI	2,150
JE1SPY	2,058

Eso, K7BX, traveled to Bermuda to capture the Low Power honors as K7BX/VP9 with a dominating lead over two stations from Cuba in the #2 and #3 spots. The only European Low Power entrants to place in the Top Ten were ON7EH and R7NW.

Single Operator, QRP	
LY5G	16
JH7UJU	4

Just two hardy souls dared enter the Single-Operator QRP category from the DX side.

Single-Operator Unlimited

Marco, XE2S won the #1 position for Single Operator Unlimited High Power outside the United States and Canada, leveraging his geographic advantage to edge out EA7KW.

Single-Operator Unlimited High Power	
XE2S	68,526
EA7KW	54,528
OM2VL	47,232
GW3YDX	44,288
EM2Q (US8ICM, op)	41,904
D4C (IK2NCJ, op)	41,674
UW2M (URØMC, op)	35,604
EA5FR	34,188
OK7Z (OK2ZI, op)	31,752
G4AMT	25,220

Another Marco, IK2CLB in Italy, did the same on Low Power running only 100 watts, but into his impressive full-sized vertical dipole suspended from a 260-foot-tall TV tower in the Po River valley.

You'd smile too if you captured the Single-Op Unlimited Low Power category from across the Atlantic. Here is Marco, IK2CLB, and the support for his half wave vertical skyhook! (IK2CLB photo)

Single-Operator Unlimited Low Power	
IK2CLB	3,876
PC3T	2,106
EA4AOC	1,800
OZØB (OZ1ISY, op)	1,680
LY4ZZ (LY2BMX, op)	1,518
MI5I (GIØRQK, op)	1,200
SF1Z (SMØHEV, op)	1,120
G3ZRJ	1,092
OK2BFN	850
RV6ASU	588

And yes, there were QRP Unlimited entries!

Single-Operator Unlimited QRP	
JG1LFR	60
YO8WW	30
SD6F (SM6JWR, op)	8

Multioperator

The team of operators not in the US and Canada who put in the winning High Power score was just off the coast of the USA, in the Bahamas. They utilized a 9dbi array, newly developed for environmentally sensitive locations, standing in salt water. Making nearly 1400 QSOs, their victory was decisive!

Multioperator High Power	
C6AGU	227,918
TO9W	59,496
RL3A	51,392
LU8DPM	33,726
OT6M	31,200
OL1A	21,450
JA3YBK	20,580
HB7X	14,688
EA5DY	11,856
OK6O	6,888

The prevailing Multiop, Low Power team operated as V31MA from the Central American country of Belize, using DJ4KW's great station, V31YN.

Multioperator Low Power	
V31MA	54,470
DJ5LA	108

Affiliated Club Competition

Clubs love to compete with other clubs in contests, and winning this spot in the ARRL 160 Meter Contest has been a hotly contested prize since your dad got his license or possibly before. At the Unlimited level, The Frankford Radio Club managed to hold off the Potomac Valley Radio Club by a respectable margin for the top place in the category.

Contest Club Ontario accomplished the same over the Mad River Radio Club in the Medium category, for clubs with 50 or fewer entries. At the Local level, the Central Virginia Contest Club held the high score for another year in a row. Congratulations to all the clubs and all the individual entrants!

Club	Score	Entries
Unlimited		
Frankford Radio Club	9,012,473	86
Potomac Valley Radio Club	7,432,079	98
Yankee Clipper Contest Club	6,971,929	65
Society of Midwest Contesters	4,942,089	52
Minnesota Wireless Assn	4,368,887	72
Medium		
Contest Club Ontario	3,291,474	31
Mad River Radio Club	1,816,557	16
Florida Contest Group	1,589,387	22
Tennessee Contest Group	1,539,790	18
Southern California Contest Club	1,379,252	18
Arizona Outlaws Contest Club	1,364,315	25
Alabama Contest Group	1,286,573	13
Grand Mesa Contesters of Colorado	1,163,664	8
Kansas City Contest Club	1,132,728	7
North Coast Contesters	1,078,171	10
Central Texas DX and Contest Club	921,964	11
Hudson Valley Contesters and DXers	913,561	13
Kentucky Contest Group	868,906	9
Niagara Frontier Radiosport	780,467	11
Rochester (NY) DX Assn	571,449	8
South East Contest Club	494,302	9
Western Washington DX Club	470,253	8
Willamette Valley DX Club	451,601	8
Big Sky Contesters	442,465	4

Northern California Contest Club	434,130	18
DFW Contest Group	386,300	8
North Texas Contest Club	380,800	3
599 DX Association	343,321	6
Mother Lode DX/Contest Club	320,437	6
Maritime Contest Club	287,302	4
Not Quite Workable Contest Club	226,280	4
Northeast Wisconsin DX Assn	201,477	3
Carolina DX Association	179,665	4
Granite State ARA	160,034	3
West Park Radiops	129,865	3
Orca DX and Contest Club	35,704	4
New Providence ARC	29,308	3
Local		
Central Virginia Contest Club	755,151	6
CTRI Contest Group	656,603	7

Antennas

160 meters is a big radio wave. Most operators who explore 160 meters don't have the kind of room needed to put up what we might consider "conventional" on other bands, like a vertical or a dipole. On 160 meters those are either really long (a half-wave dipole is about 260 feet long), or really tall (a standard ¼-wave vertical is about 130 feet tall!). Instead, through the years hams have put a whole lot of effort into trying to make useful antennas that are not as long or not as tall – or both.

In reading the comments from people who get on for this annual QSO fest, an unscientific review finds that roughly half of the entrants are using an inverted L, or, as one entrant put it:

"Antenna is an Inverted-L that looks more like a '7' that fell on its face." - N7RK

Which can be about right sometimes. Inverted Ls are like this. You take a quarter wavelength long piece of wire, in the case of 160 meters, that's about 130 feet, then you go up from the feed point at or near ground level, according to conventional wisdom,, "as high as possible," then the wire radiator is bent and goes horizontal the rest of the way. In short, you go up some, and then you go out the rest. Use whatever's handy. Nearby supports determine how high you go before you go over. At the feed point, depending on whether it's sitting on the ground or elevated, you can do a variety of things that are known to work pretty well.

That would explain why half the people who get on for the ARRL 160 meter contest use Inverted Ls – as many as use every other kind of antenna combined. Stay tuned for a more scientific study of this interesting anecdote. Obviously inquiring minds want to know about how to get on 160 meters so they can start having a whole ton of fun like, well, like all of the above.

Rod, K8RR, gets the prize for this year's story about how to make it work on a city lot:

"One might think that a small town Ohio backyard with an S-6 RF noise level would be a deal breaker for the 2019 ARRL 160. But, signals were clear on an Active Receive Vertical and a nice big maple-supported Inverted-L wire base fed over 60 radials, all squeezed in, each only about 25 feet in length. RF Gain reduction, attenuation and phasing techniques with a Ten Tec Orion II and a DX Engineering NCC-2 helped snag about 920 QSOs. Of course, full legal limit really works on Top Band. Yes, there were a few stations I couldn't pull out of the noise, but it sure was fun getting nearly all of the sections; 78 out of 83 plus 16 DX multipliers!"

Operating Tips

"A note about the supposed DX window. Perhaps I read the rules incorrectly but they seemed to indicate only DX should be in the 1830 to 1835 span. Certainly not the case, at all, this contest. ARRL, either enforce this or eliminate the wording in the rules." - N4XD

"As always it was hard to break US/US pileups as well as finding a clear spot inside the Intercontinental segment which many US stations do not respect; Excerpt from the rules: "6.1. The

segment 1.830 to 1.835 should be used for intercontinental QSOs only." - EA7KW
"Note some loud stations called CQ and don't listen more than a few seconds before CQing again. Pausing a little longer may let you pick up some of the weak callers." - NØJK

"For a CW-challenged ham, most participants keep the CW a little slower, making it one of the more fun ones for me." - W1DYJ

Online Scoreboards

Quite a number of operators mentioned the new trend of online live scoreboards. Could they be another new wave of the future?

"That was nice to see a lot of great NA operators on the contest live scoreboard." - VA2WA

"We posted our score on the real-time scoreboard - and hope others will too." - W2GD

"Online Scoreboards is how you keep your butt in the chair." - KO7SS

"Watching the live scoreboard kept me motivated and my butt in the chair!" - W1UE

"Had a casual go, trying to follow a few local guys' progress via the online scoreboard." – ACØC

"Nice dogfight on the online scoreboard with my friends Oli, TM6M (F1AKK) and Drago, S59A." - EA7KW

Why QRP?

Marty, N9SE, this year's Single-Operator QRP winner, says the bottom of the sunspot cycle has been really good to 160 meters. "I always enjoy this contest. This year, antenna work fell behind schedule. Consequently, my plans to shunt feed my tower and install receive antennas were waylaid, so I used the old trusty inverted L.

The average ham can get on top band.
"Look, it's just a piece of wire that goes up only 65 feet. There is no reason you can't do this. You don't need anything fantastic. You can use even shorter antennas. For domestic contests the inverted L has a high angle radiation component that I think is helpful for closer in contacts." Marty also uses an inverted-L because of the lay of his property.

Marty is another operator who feels the trusty Inverted-L has something to offer. So I asked him what in the world would make you choose to operate with only 5 watts on 160 meters.

"Why QRP? The main reason is, my station is not going to be competitive in the higher power categories. I can't compete with them. I wanted to get into a category I could be competitive in."

Marty confides, "When I first considered trying 160 meter QRP, I thought I had to be out of my mind.

"But with a kilowatt, I would be getting all kinds of calls I couldn't hear. So my receiving antenna situation plays into it. If I'm going to run 5 watts on 160 meters, I don't have to worry about people calling me that I can't hear. I didn't want to be *that guy*.

"I hope my results encourage others to get active on 160 meters. I have worked 55 countries with 5 watts on 160 - all on CW, I'm not talking about FT8. .

"If somebody would have asked 5 years ago if I could work Europe with 5 watts on 160 meters, I would have laughed at them. And now here we are, I'm working Europe in every contest now. Don't be afraid to try QRP. You can make an awful lot of contacts on 160 meters running 5 watts."

You can win the ARRL 160 Meter Contest, too. Operators like Marty keep us focused on what is important.

The K1A Remote Operation

As mentioned, Bill, KO7SS set out this year to achieve a goal he did not accomplish last year. "It's like a bucket list thing," he described. "I don't think people get how bad 160 meter contesting can be from the west coast. There are a lot of operators with great contesting skills sitting around in W6 and

W7. “So this year, for my second attempt to win it, I was on 160 meters a lot with the K1A callsign on the days right before the contest. Being assisted [unlimited] makes it okay to do things like leveraging the Reverse Beacon Network to your advantage. “Some people questioned the idea to use the call K1A in a contest, but what I did was to seed the RBN skimmers throughout the world with this great call to the point that when the contest finally began, almost everyone knew perfectly well what my callsign was. This played out very well. K1A received over 5000 clicks on QRZ.com, where I had set up a special contest page, in the space of a week.

When not setting records in the ARRL 160 Meter Contest, Bill, KO7SS, lives to race bicycles. (Photo courtesy KO7SS)

Bill also spent the entire contest continuously monitoring his K1A signal on all the RBN skimmers. “If you're CQing and nobody's hearing you, you might as well stop doing that.”

KO7SS came up with new strategies for using new tools, and locked down the title.

Fun

As a dear departed friend, Ken, K5KA, used to say, our goal is to have fun. He was talking about multiopping at radio contests. Usually at his house. Sometimes on 160 meters. In memory of Ken, and to drive the point home, it is excellent to see how many 160 operators get on because it makes them so happy:

“Fun.” - N1PGA

“I don't have a 160 antenna, but loaded up a wire to work a few... Seemed like a Ton of activity!” - WV4P

“What a contest … Now to fix things.” - AI6O

“A slightly better score than last year. No stress contest. Always fun.” AB3CX

“I'll be back next year, with a better antenna..” AA5JF

“Fun times on Top Band” - K3PP
“A lot of fun and my personal best score in this contest.” - K1ESE

“Had a good time.” AD4ES

“Band seemed in pretty good shape. Thanks to ARRL for organizing the contest - great to see the band full from near 1800 to above 1865.” - N4XD

“Personal best on this one.” - K2AV

“Great activity all around. The band was full of signals. Thanks to all who got on the air!” - N2RC

“WOW that was a blast! I thought I would get on for a few hours … but I stayed for 12 hours and had a lot more fun!” NC3Y

“Man, I love this contest.” - KI9A

“Many familiar calls in this contest. Nice to hear and work so many of my radio friends.” - K8BKM

“I had a lot of fun in this one!” - W5WZ

“Nice and relaxing.” - N2NT

“As always a good time was had by all.” - W7WW

“My first 160M CW contest. Had a great time. Looking forward to future CW contests.” - N9OK

“100% Search and Pounce. Top Band is alive and well.” - K2YWE

“Thanks for making it fun.” - W9RE

“There are 18 dupes - so really only 982 QSOs, but 1000 looks so good …. See you in the Stew.” - N6TR

“My first ARRL 160. Learned a lot. Next year will be better!” - K7NJ

“Great fun and very challenging. 160M can be done from a small suburban lot using 100W and an Inverted L.” - N1DC

“It was another very interesting 15 hour adventure as it always is on the Top Band.” - UA9BA

“This is one of the more enjoyable of all CW contests. Lots of very good operators!” - K9CT

“I've never believed before that would be possible to have a JA pileup on 160 from Quebec.” - VA2WA

“This was my first 160m contest from my home station. Lots of fun.” - KG5HVO

“It was a pleasure to use my long time friend's call W4MYA in this contest. Many folks recognized the call. A number of RIPs and DUDEs were included with the exchanges received!” - W4PM

“Casual contesting. Had fun working many friends.” - NE1B

“Never operated on 160 before, although I've been licensed since 1961.” - W6SC

“Enjoyed working old friends.” - W5JR

“That was FUN! The band was in fine shape the whole contest.” – WØODS

“This was my first ever CW contest … it is a start.” - KE1IH

“Nice to have stations in Europe call me!”- KA6BIM

“Fun to be calling CQ and have Germany call in just as strong as the East Coast.” - K6NR

“Enjoyed this contest more than I thought I would since my antenna is poor.” - VE3SST

“Conditions turned out pretty good on Saturday night/Sunday morning. I worked more Europeans in the morning than I did JAs. That was a lot of fun. Let's do it again!” - K7CW

“Conditions were as good as I can ever remember on 160 Meters.” - NC6K

“Quiet band, good conditions, great activity.” - N9RV

“No major frequency battles, good behavior by about everyone - a lot of great ops!” - W5MX

“Next time I plan to post a big sign on the desk. 'REMEMBER, THIS IS FUN!' At my age, 88, I keep forgetting.” - N5ECT at WD5R

“Had big fun.” - W3GH

“I LOVE THIS CONTEST!” - W1TJL

A Sad Note

As this article was being prepared, the news arrived that long-time 160-meter operator Herb Schoenbohm, KV4FZ, had passed away. His potent station was a perennial beacon on the band and had been used many times (including this contest) by N2TTA, operating remotely using the callsign NP2P. R.I.P., Herb.

The Big 73

That about wraps it up for this year's installment of a really great, really *fun* operating event. All of us who have a hand in it hope you had a great time, and you are already looking forward to the next one on December 4-6! Hope to see you on the air.

Continental Winners		
Africa		
Single Operator, Low Power	3V8SF (KF5EYY, op)	154
Single Operator Unlimited, High Power	D4C (IK2NCJ, op)	41,674
Asia		
Single Operator, High Power	RTØF	38,064
Single Operator, Low Power	JA7KPI	2,150
Single Operator, QRP	JH7UJU	4
Single Operator Unlimited, High Power	JE1CKA	12,768
Single Operator Unlimited, Low Power	RD8D (RX9CAZ, op)	168
Single Operator Unlimited, QRP	JG1LFR	60
Multioperator, Single Transmitter, High Power	JA3YBK	20,580
Europe		
Single Operator, High Power	TM6M (F1AKK, op)	51,350
Single Operator, Low Power	ON7EH	4,288
Single Operator, QRP	LY5G	16
Single Operator Unlimited, High Power	EA7KW	54,528
Single Operator Unlimited, Low Power	IK2CLB	3,876
Single Operator Unlimited, QRP	YO8WW	30
Multioperator, Single Transmitter, High Power	RL3A	51,392
Multioperator, Single Transmitter, Low Power	DJ5LA	108
North America		
Single Operator, High Power	ZF9CW	208,662
Single Operator, Low Power	K7BX/VP9	90,374
Single Operator Unlimited, High Power	XE2S	68,526
Multioperator, Single Transmitter, High Power	C6AGU	227,918
Multioperator, Single Transmitter, Low Power	V31MA	54,470
Oceania		
Single Operator, High Power	5W1SA	570
Single Operator Unlimited, Low Power	YC2VOC	0
South America		
Single Operator, High Power	PJ2T (K8ND, op)	94,950
Single Operator, Low Power	HC2AO	4,218
Single Operator Unlimited, High Power	CX6VM	5,332
Multioperator, Single Transmitter, High Power	LU8DPM	33,726

REGIONAL LEADERS

West Coast Region		Midwest Region		Central Region		Southeast Region		Northeast Region	
(Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NT Sections)		*(Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections)*		*(Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)*		*(Delta, Roanoke and Southeastern Divisions)*		*(New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)*	
Single-Operator, High Power									
K6AM	292,444	WØSD (WØDB, op)	391,556	NA8V	450,210	NP2J (K8RF, op)	435,837	K1LZ	674,500
VE6BBP	277,772	NØTT	344,640	VE3DZ	408,460	WD5R	372,922	K1DG	639,880
K7RAT (N6TR, op)	238,818	KØTT	307,440	K9ZO	293,480	W4CB (W2RU, op)	316,224	K1KI	559,845
WJ9B	237,224	ACØC	306,614	W9RE	285,936	NR4M	313,272	W1UE	540,408
N9RV	190,320	K5BG	218,268	K9MA	227,968	KØEJ	212,520	AA1K	506,112
Single-Operator, Low Power									
WA7NB	44,676	ACØW	153,032	K9PG	219,800	N8II	137,970	K1BX	203,910
AC7A	43,946	N7IV	117,124	WB8JUI	206,300	K1DC	130,254	NJ3K	106,020
AK6A	31,169	NØHJZ	112,833	K8FH	199,008	KG5HVO	117,385	W1QK	97,416
K7QBO	28,656	KØPK	107,865	K8NVR	187,880	WA1FCN	114,208	K2ZR	94,004
VA7EU	18,375	NZ5A	105,924	N9JF	129,021	K7SV	92,168	K1VUT	77,854
Single-Operator, QRP									
N7IR	51,436	N5OE	26,944	N9SE	119,718	NA5NN (K2FF, op)	26,532	W3TS	64,944
K6EI	13,635	WØMB	19,800	W8GP	58,938	N5EE	19,893	NK8Q	61,655
VE7VV	6,264	NØOCT	19,400	N4IY	20,539	K3TW	18,668	WB2CPU	21,855
N6LL	3,950	KRØU	10,896	W9WR	19,822	W4QO	12,220	KN1H	15,394
W6MZ	3,072	KEØTT	7,844	N8IW	18,645	K2PI	8,172	K2MIJ	10,257

Single-Operator Unlimited, High Power												
VE6WZ	418,734		KVØQ	470,968		VE3EJ	541,940		N8OO	642,597		K1A (KO7SS, op)	649,700
VE6WQ	362,204		KØRF	426,224		WB9Z	527,340		K2AV	372,810		VA2WA	599,760
WD6T (@N6RO)	238,446		K3PA	403,522		WØAIH (KØTG, op)	412,050		NP2P (N2TTA, op)	372,118		VA2EW	473,144
KL7SB	235,653		K5NA	377,612		W8MJ	328,202		NN7CW	349,312		K1RX	405,318
KA6BIM	201,718		K7NJ	318,330		VE3RZ	318,184		K4RO	280,410		K3WW	367,510
Single-Operator Unlimited, Low Power													
KØXP	39,216		NØUR	158,166		VE3MGY	249,828		N4IJ	115,974		K1EP	265,995
W7MEM	23,506		KØRC	134,830		KG9X	182,061		KV8S	55,872		N2ZX	152,168
K7XC	22,646		NØAT	98,770		W9XT	126,825		N4ARO	50,976		AI1TT (W1WBB, op)	116,776
KN7K	22,064		KØEA	76,028		VA3DF	123,660		AB8RL	34,314		VA2CZ	83,187
W7VO	21,846		WØSEI	48,818		W9AV	104,662		KC4HW	24,360		W3KB	82,720
Single-Operator Unlimited, QRP													
K2GMY	1,224					WE9R	49,700		K5LG	49,700		N2WK	53,067
						K8ZT	21,010		N3CZ	30,208		N3HEE	45,646
									W1IE	25,800		W3UL	29,300
												W3RGA	5,910
												K2AL	2,376
Multioperator, High Power													
NI6W	214,390		NØNI	561,060		W5MX	418,340		WW2R	423,776		W2GD	617,045
NX6T	172,992		K5CM	355,680		W8PR	217,296		KC4D	360,553		W3NX	448,335
W7WW	169,377		NØIS	262,976		VE3YAA	116,560		N4RV	320,670		W1VE	337,250
KH6/KU1CW	156,464		NØKE	111,060		WE5P	41,883		W4PM	314,216		VE2OJ	305,738
KH6LC	64,586		W7II	69,422					W4NF	270,048		AC3BU	264,537
Multioperator, Low Power													
NT6H	1,216		W5WTM	21,634					KA4J	62,832		NC1CC	88,218
									WQ4RP	59,228		W3KWH	32,700
												N1SOH	24,592

Division Winners

SO: Single-Operator SOU: Single-Operator Unlimited; MO: Multioperator; HP: High Power; LP: Low Power (< 100W); QRP: QRP (<5 W)

	SO HP	SO LP	SO QRP	SOU HP	SOU LP	SOU QRP	MO HP	MO LP
Atlantic	AA1K	NJ3K	W3TS	K3WW	W3KB	N2WK	W2GD	W3KWH
Central	K9ZO	K9PG	N9SE	WB9Z	KG9X	WE9R		
Dakota	WØSD (WØDB, op)	ACØW	KEØTT	KØKX	NØUR			
Delta	WD5R	K4OAQ	NA5NN (K2FF, op)	N8OO	KV8S	K5LG		KA4J
Great Lakes	NA8V	WB8JUI	W8GP	W8MJ	K8BL	K8ZT	W5MX	
Hudson	W2XL	N2HMM	K2MIJ	N2NT	N2ZX	K2AL	NJ1F	
Midwest	NØTT	KØFLY	WØMB	K3PA	KØLAF		NØNI	
New England	K1LZ	K1BX	WB2CPU	K1A (KO7SS, op)	K1EP		W1VE	NC1CC
Northwestern	K7RAT (N6TR, op)	AK6A	K6EI	KL7SB	W7MEM			
Pacific	N6RK	KE6QR	K6MI	WD6T (@N6RO)	K7XC	K2GMY	KH6/KU1CW	NT6H
Roanoke	W4CB (W2RU, op)	N8II	K2PI	K2AV	N4IJ	N3CZ	KC4D	WQ4RP
Rocky Mountain	N2IC	WØETT	KRØU	KVØQ	KØUK		NØKE	
Southeastern	NP2J (K8RF, op)	K1DC	K3TW	NP2P (N2TTA, op)	KC4HW		WW2R	
Southwestern	K6AM	WA7NB	N7IR	WØRIC (W4IX, op)	KØXP		NI6W	
West Gulf	K5BG	NZ5A	N5OE	K5NA	K5LJ		K5CM	W5WTM
Canada	VE3DZ	VE3VSM	VE7VV	VA2WA	VE3MGY		VE2OJ	