

# 160 Meter Contest 2016 Results

By Gary Breed, K9AY (k9ay@k9ay.com)

#### How close did you get to a Sweepstakes-style Clean Sweep?

1311 logs have been received, entered, and checked, and all eight entry categories have been scored for both US/VE and DX competitors. Take a look at the results tables to see if you and any of your friends made the Top Ten box. These are the operators who get bragging rights until next year!

## Making a Clean Sweep

In this contest, the US/VE multipliers are the 83 ARRL/RAC Sections, as they are in the November Sweepstakes contests. Although there is no official recognition for working all of them (a "Clean Sweep") in the 160 Meter Contest, it is still fun to try to work them all since it rarely happens.

This time, thanks to VE3JM, VE3KI, and VE4EA activating VY1AAA in the "remote" NT section via the Internet for 114 QSOs (more on this later), fifteen entrants completed the sweep! The K7CA multiop team even managed the feat using low power, and three single-operator stations got it done without spotting assistance.

Single-Operator, High Power
K1LT
W5MX
N800
Single-Operator Unlimited, High Power
KØRF
N2KW (@K1TTT)
WØAIH (KØTG op)
NN3W (@N3HBX)
K5NA
К9СТ
VE6JY
Single-Operator Unlimited, Low Power
К7СА
Multioperator, High Power
NØNI
W2GD
NA7TB
K9NR (@WB9Z)
Stations working all 83 ARRL/RAC Sections

## An Unlimited success

In the 2016 ARRL 160 Meter Contest, 44 percent of all submitted logs used spotting assistance, either choosing the Unlimited category or as Multioperator entries. There were four all-time Unlimited category records set this year — US/VE records at all three power levels, and a high power DX record. You can find the full list of section and country records at this link: www.arrl.org/contest-records

Assisted (includes SOU + MS)	580	44%
Non-assisted	731	56%
Total	1311	

#### Entries using spotting assistance

Many participants in 160 meter contests are not concerned with winning, but really enjoy the high activity as they add to their DXCC totals, work on WAS, or pursue other awards. Many others just want to experience a band they rarely operate. 160-meter activity is typically pretty quiet unless there is a special event like a contest or DXpedition, or a time when Mother Nature provides exceptional conditions that draw operators to the band. During these times, a spotting network can help you find and work more stations.

## The Results

Of course, you can easily scan the Top Ten lists to see who the top scorers were in each category. There are some accomplishments worthy of note:

## **High Power**

## Multioperator

The perennial powerhouse on the New Jersey shore, W2GD and friends, won again this year, but only by a small margin. Midwest stations at NØNI and WB9Z (using K9NR's call) were within a few percent of the top score, and out west the team at NA7TB in Arizona did a terrific job to stay close and take the fourth spot!

Station	Score
W2GD	504,708
NØNI	483,588
K9NR	442,468
NA7TB	411,628
NR4M	398,895
N1LN	373,164
N2CEI	367,375
VE2OJ	258,752
N3EB	240,750
W4ML	239,820

Top Ten W/VE Multioperator High Power

The NA7TB station was built by long-time topbander Milt Jensen, N5IA. Milt died June 9, 2016 after falling from one of the towers at the site despite his many years of experience working for a power company and a telecommunication company. The station, with its 8circle 160-meter array of full-size <sup>1</sup>/<sub>4</sub>-wave verticals and eight two-wire Beverage receiving antennas, is now known as the Milt Jensen Memorial Station.



Photo courtesy Top Band Club of Arizona.

## **Single-op Unlimited**

Among the Unlimited contestants, John, VE3EJ, made the top of the list, besting the second-best score by more than 10 percent. Out in the middle of continent, K5NA (STX), KVØQ (CO) and WØAIH (WI) showed that stations away from the East Coast can be competitive in this all-out maximum category.

Single-operator Unlimited		Single-Operator	
Station	Score	Station	Score
VE3EJ	481,144	K3ZM	532,092
KD4D	431,053	NO3M	485,364
K5NA	408,456	VY2ZM	443,256
NN3W			
(@N3HBX)	401,448	AA1K	430,375
VA2WA	378,322	K1LT	414,401
		WØSD	
N2KW	373,504	(WØDB, op)	409,717
KVØQ	371,583	NØTT	375,921
K3WW	346,846	κικι	370,148
WØAIH			
(KØTG, op)	332,843	N800	359,652
W3LL			
(ND3D, op)	332,508	W3BGN	332,367

#### Top Ten W/VE Single Operator High Power

#### Single-operator

The Single-op winner was Peter, K3ZM, who is always near the top. This year, he had a healthy lead over the rest of the pack. Like the Unlimited group, this category also had respectable representation away from the Eastern Time Zone, with WØSD (SD), NØTT (MO) and N8OO (LA) making it into the Top Ten.

## Low Power

#### **Multioperator**

The Multi-op, Low Power category has gotten good support since it was added to the mix in 2011. All low power categories are always well-represented by stations in the center of the continent.

Station	Score
K7TD	154,700
NA5NN	154,176
KM4FRM	103,680
КК6МС	95,004
VE9ML	74,418
WQ4RP	63,248
N8ZA	60,768
VE5ZX	42,624
W5WTM	36,792
<b>W3KWH</b>	28,662

#### Top Ten W/VE Multi-single, Low Power

This year, three of the top four are from the Mountain Time Zone — #1 K7TD (CO), #2 NA5NN (NM) and #4 KK6MC (NM) — as well as three more well away from the coast.

#### Single-operator Unlimited

Only two of the Top Ten Unlimited stations were located near the "advantageous" East Coast. The top three represent different advantages: Really big antennas decisive winner Al, K7CA — and plenty of contest experience combined with good central locations and top-notch stations — #2 VE3MGY and #3 KØTI.

Single-Operator Unlimited		Single-Operator	
Station	Score	Station	Score
К7СА	244,316	WE9V	228,192
VE3MGY	178,002	K9IG	220,230
кøті	167,320	K8FH	197,682
K8BL	159,014	K8NVR	186,964
K3MD	141,120	WB8JUI	171,720
AA5AM	137,547	WØUO	160,552
K1VR (K1EP, op)	118,736	K9MMS	156,165
N9CK	111,520	W2ID	155,820
KG7CW	104,835	NA8V	130,240
кіøі	104,232	ACØW	125,460

Top Ten W/VE Single-Operator Low Power

#### Single-operator

The unassisted Low Power list includes only one East Coast station, in 8th place. The winner is Midwesterner, Chad, WE9V who had the advantage of an extremely quiet rural Wisconsin QTH. Nine of the Top Ten are centrally located, from OH, MI, IN, TX, IL, MN.

## QRP

#### **Single-op Unlimited**

Somehow, the terms "QRP" and "Unlimited" don't seem to be compatible, but a sizeable handful of participants chose this as their operating category. At the top of the list is repeat winner, Glenn, WØGJ. Second place finisher N9SE was well ahead of the pack despite being far back from the leader.

#### Single-operator

Long-time QRP entrant, Mike, W3TS, earned the top spot from his EPA OTH, followed closely by KA1J in CT. The rest of the SOQRP Top Ten represent WI (2), AZ, NC, TX (3) and MN. That covers a lot of the continental U.S.

Single-Operator Unlimited		Single-Operator	
Station	Score	Station	Score
WØGJ	152,910	W3TS	76,568
N9SE	99,176	KA1J	72,562
N9LQ	68,250	K9TF	53,399
NK8Q	50,875	N7IR	51,825
N9TF	29,646	N3CZ	49,595
W1WBB	27,945	К9АҮ	40,158
WØMB	18,666	W5/MMØLID	35,721
W2DPT	16,121	WBØCFF	31,806
NØUR	15,600	N5OE	30,267
VE3YT	14,874	K5LG	27,104

Top Ten W/VE Single Operator QRP

#### DX Top Ten by Category

About 11% of the entries in this contest came from DX stations. This may seem low, but the structure of the contest requires that a W/VE station be at one end of every QSO. Many DX stations have limited ability to reach the target area, and since DX-to-DX QSOs don't count, participation overseas is limited. Of course, their activity is very much appreciated by the W/VE operators!

Station	Score
High Power	
FS/K9EL	32,132
GW5R	17,992
JA3YBK	13,818
YO3GNF	2,184
RA4LW	1,444
RM4F	112
Low Power	
V31MA	29,040
Top Ten DX Multio	nerator

Top Ten DX Multioperato

Single-Operator Unlimited		Single-Operator	
Station	Score	Station	Score
PJ2T	153,600	ZF9CW	221,400
(KB7Q, op)		(K5GO, op)	
CW5W	17,808	XE2X	156,168
(CX6VM, op)			
DG1CMZ	14,364	PJ4/K4BAI	59,160
OK2W	11,160	CS2C	56,146
EA1DR	8,096	TM6M	35,014
G3UJE	7,954	XE2ST	19,656
DK2FG	7,832	PJ4/W4EF	16,952
OL1A	7,740	PJ4/KU8E	12,384
(OK1CW, op)			
UW2M	6,510	G4AMT	10,560
(URØMC, op)			
JH2FXK	6,068	PZ5RA	10,350

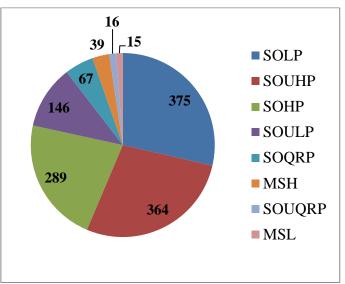
**Top Ten DX Single Operator High Power** 

Single-Operator Si		Single-Op	ingle-Operator	
Unlimited, Low Power		Low Power		
Station	Score	Station Score		
VP5CW	59 <i>,</i> 396	4M1K	60,166	
(W5CW, op)				
HC2AO	18,910	XE2S	59 <i>,</i> 052	
HA4XH	3,100	HI3Y	18,550	
CO8ZZ	2,100	ON7EH	1,820	
LA5LJA	540	JE1SPY	780	
DL3TU	264	JA1BJI	462	
G3RLE	50	JA7KPI	396	
PA2A	40	DJ9MH	264	
DLØNG	32	JN1MSO	192	
(DK8NC, op)				
OK6Y	24	OL5Y	128	
(OK2PTZ, op)				
Single-Operator, QRP				
JH4UYB 2				

Top Ten DX Single Operator Low Power & QRP

#### **Entries by Category**

It's always interesting to see how many stations enter each category. This year, Single-operator, Low Power was the most popular, closely followed by Single-op Unlimited, High Power.



**Entries by Category** 

#### About that VY1AAA Operation

Operators who have entered the 160 Meter contest competitively know that the most elusive section, and the one that usually prevents getting a Clean Sweep, is the 'NT" Section, which includes the Northwest Yukon, and Nunavut Territories, in Northern Canada. There are not many active HF operators in that area, but J Allen VY1JA is one.

A few years ago, several amateurs, including Gerry Hull, W1VE, embarked on a project to get J's station set up for remote operation over the Internet. The call sign VY1AAA is used for remote operations from the site.

Numerous successful operations have ensued. According to W1VE, J's Internet connection is a 15Mbps/1 Mbps DSL line from the phone company and is amazingly reliable.

In December 2016, Cary, VE4EA (from Winnipeg), and Rich, VE3KI (from Ottawa), were invited to go to Vlad, VE3JM's station, outside of Ottawa, for a Multi-single operation in the 160 Meter contest.

Cary has the RemoteRig box and K3/0 mini hardware to allow remote to VY1AAA. Cary decided to bring his gear with him, because both Rich and Vlad were very interested in learning about remote operation.

At the VY1AAA station end, one of the antennas J has been working on is the V-Beam. Its apex is at 70 feet and, currently, the ends are only at 40 feet. However, the elements are 600 feet long.



View from apex of VY1AAA Vee Beam (Photo courtesy J Allen, VY1JA)

Low bands are amazingly quiet from the Yukon — Beverages optional. Because of the quiet, often you hear many people you cannot work.



VY1SLZ Working on the Vee Beam (Photo courtesy J Allen, VY1JA)

While Gerry was in a hotel room in Toronto, he helped the guys get through some network issues, but once that was done, they were up and running. For Vlad and Rich, it was their first remote operating experience.



Vlad VE3JM in the foreground (operating VY1AAA) and Rich VE3KI (operating the local station, VE3JM) in background. (Photo courtesy Cara Rubenfeld, VE4EA)

## **Club Competition**

Winning gavels for their 2016 participation are: Potomac Valley Radio Club (Unlimited), Contest Club Ontario (Medium) and Central Virginia Contest Club (Local). The Unlimited clubs alone represent nearly 25 percent of the total number of submitted logs, plus a slightly larger total from the Medium and Local groups. Overall, half the entries had a club affiliation!

Affiliated Club Competition		
Club Name	Score	Entries
Unlimited Category		
Potomac Valley Radio Club	7,249,696	80
Frankford Radio Club	5,050,221	52
Society of Midwest Contesters	4,626,546	70
Yankee Clipper Contest Club	4,396,310	65
Minnesota Wireless Assn	3,361,152	51
Medium Category		
Contest Club Ontario	2,947,957	36
Mad River Radio Club	1,487,661	13
Florida Contest Group	1,455,034	21
North Coast Contesters	1,419,088	13
Arizona Outlaws Contest Club	1,330,777	23
Tennessee Contest Group	1,047,161	19
Grand Mesa Contesters of		
Colorado	711,048	6
DFW Contest Group	687,472	14
Central Texas DX and Contest		
Club	674,896	8

Northern California Contest Club	643,577	26
Kentucky Contest Group	633,614	9
Willamette Valley DX Club	593,519	13
Big Sky Contesters	501,279	6
Hudson Valley Contesters and		
DXers	488,764	9
Contest Group du Quebec	431,193	4
CTRI Contest Group	411,634	5
Alabama Contest Group	403,626	5
North Texas Contest Club	352,239	4
Carolina DX Association	287,654	5
Georgia Contest Group	279,404	7
Louisiana Contest Club	276,371	5
Western Washington DX Club	273,843	9
Southern California Contest Club	238,173	14
Rochester (NY) DX Assn	216,408	6
Orca DX and Contest Club	198,206	5
South East Contest Club	178,248	8
Swamp Fox Contest Group	81,932	4
Radiosport Manitoba	77,558	3
Local Category		
Central Virginia Contest Club	500,489	5
Medina 2 Meter Group	482,160	4
Kansas City Contest Club	454,106	8
Niagara Frontier Radiosport	450,643	9
North Carolina DX and Contest		
Club	373,885	4
Delara Contest Team	335,466	5
Mother Lode DX/Contest Club	142,815	4
Maritime Contest Club	136,442	4
Spokane DX Association	116,550	3
West Park Radiops	102,468	3

## This is a two-day contest!

After every 160 Meter contest, there is always some complaining about the slow rates and lack of excitement on the second day. Helloooo! This is an event that stretches out over two nights and the daytime between them. It is a single-band contest, so naturally the number of potential QSOs is mathematically reduced as the contest progresses.

In your author's opinion, the complainers just need to get over it and focus on the change in skill and effort that must be applied later in the contest. The challenge shifts from maintaining high rates to locating additional multipliers, working DX for their higher QSO points, finding new participants as they show up, and digging out weaker stations that were unable to get your attention when the band was busy. Personally, I find the change in operating style as the contest proceeds to be quite interesting. Yes, it is frustrating at times. But it can be exhilarating when the band suddenly opens up at European sunrise or prime evening hours in Africa or South America. Or when that Pacific or Asian station calls you during that little bump in propagation at their sunset. Or simply when an unexpected new section multiplier goes into the log!

## Wrap-Up

The 2016 ARRL 160 Meter Contest is history, and with the next solar cycle just beginning, the next 2-3 years have the potential to be a lot of fun for Top Band enthusiasts! Each year, the contest provides an incentive for improvements to the low band capabilities of many stations. And it serves as the excuse for a new group of hams to enjoy the unique experience of operating 160M with an extremely high activity level.

Be ready at 2200Z on December 1, 2017! The next ARRL 160 Meter Contest will again fill the band with competitive, but courteous operators looking for QSOs from all ARRL/RAC sections, and as many DXCC entities as possible!

## **Division Winners**

Division	Single-	Single-Operator					
	Operator, High	Unlimited, High Power					
	Power						
Atlantic	NO3M	KD4D					
Central	W9RE	WØAIH					
		(KØTG <i>,</i> op)					
Dakota	WØSD	κøκχ					
	(WØDB, op)						
Delta	N800	AD4EB					
Great Lakes	K1LT	W8MJ					
Hudson	N2GC	W2GDJ					
Midwest	NØTT	WØTT					
New England	K1KI	N2KW					
Northwestern	WJ9B	KA6BIM					
Pacific	N6NF	W7RN					
		(W6UQZ, op)					
Roanoke	K3ZM	K2AV					
Rocky Mountain	K7IA	KVØQ					
Southeastern	NP2X (K9VV, op)	K90M					
Southwestern	W6PH	N6SS					
West Gulf	K5KC	K5NA					
	(W5TM, op)						
Canada	VY2ZM	VE3EJ					
Division	Single-	Single Operator					
	Operator, Low Power	Unlimited, Low Power					
Atlantic	NJ3K	K3MD					
Central	WE9V	_					
Central							
Dakota	_	N9CK					
Dakota	ACØW	KØTI					
Delta	ACØW W4DAN	KØTI K3IE					
Delta Great Lakes	ACØW W4DAN K8FH	KØTI K3IE K8BL					
Delta Great Lakes Hudson	ACØW W4DAN K8FH W2ID	KØTI K3IE K8BL KA2D					
Delta Great Lakes Hudson Midwest	ACØW W4DAN K8FH W2ID WAØBJR	KØTI K3IE K8BL KA2D KIØI					
Delta Great Lakes Hudson Midwest New England	ACØW W4DAN K8FH W2ID WAØBJR W1QK	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op)					
Delta Great Lakes Hudson Midwest New England Northwestern	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW					
Delta Great Lakes Hudson Midwest New England Northwestern Pacific	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA N6RK	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW NU6O					
Delta Great Lakes Hudson Midwest New England Northwestern Pacific Roanoke	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA N6RK N8II	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW NU6O N3UA					
Delta Great Lakes Hudson Midwest New England Northwestern Pacific Roanoke Rocky Mountain	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA N6RK N8II WØETT	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW NU6O N3UA K7CA					
Delta Great Lakes Hudson Midwest New England Northwestern Pacific Roanoke Rocky Mountain Southeastern	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA N6RK N8II WØETT WA1FCN	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW NU6O N3UA K7CA N4TOL					
Delta Great Lakes Hudson Midwest New England Northwestern Pacific Roanoke Rocky Mountain Southeastern Southwestern	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA N6RK N8II WØETT WA1FCN AC7A	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW NU6O N3UA K7CA N4TOL NA2U					
Delta Great Lakes Hudson Midwest New England Northwestern Pacific Roanoke Rocky Mountain Southeastern	ACØW W4DAN K8FH W2ID WAØBJR W1QK K7QA N6RK N8II WØETT WA1FCN	KØTI K3IE K8BL KA2D KIØI K1VR (K1EP, op) KG7CW NU6O N3UA K7CA N4TOL					

Division	Single- Operator, QRP	Single-Operator Unlimited, QRP					
Atlantic	W3TS	NK8Q					
Central	K9TF	N9SE					
Dakota	WBØCFF	NØUR					
Delta	K5LG	-					
Great Lakes	N8BB	K8ZT					
Hudson	KQ2RP	W2DPT					
	WTØA						
Midwest	(KE5RX, op)	WØGJ					
New England	KA1J	W1WBB					
Northwestern	K6EI	-					
Pacific	K6MI	К9ҮС					
Roanoke	N3CZ	K1FR					
Rocky Mountain	K9JWV	ĸiøii					
Southeastern	AA4GA	-					
Southwestern	N7IR	-					
West Gulf	W5/MMØLID	-					
Canada	VE3DQN	VE3YT					

Division	Multioperator,	Multioperator,					
	High Power	Low Power					
Atlantic	W2GD	W3KWH					
Central	K9NR	KA9VVQ					
Delta	KN5O	NA5NN					
Great Lakes	AD8P	KM4FRM					
Hudson	K2XT						
Midwest	NØNI						
New England	W1TJL	W1FM					
Northwestern	N7IP						
Pacific	KH6LC						
Roanoke	NR4M	WQ4RP					
Rocky Mountain	AA5B	K7TD					
Southeastern	N2CEI						
Southwestern	NA7TB						
West Gulf	W5XD	W5WTM					
Canada	VE2OJ	VE9ML					

## **Soapbox and E-mail Comments**

As I've done for several years, your author selected some comments from posts to the "3830" list, Soapbox comments submitted with the logs, notes from a couple club e-mail lists, and private e-mails. I've organized them by topic—I think this collection will give you some insight into the contest from different points of view.

#### In Memoriam—

Inaugural operation from the Milt Jensen (N5IA) memorial station located in Safford, AZ. The station consists of an 8-circle TX array and a system of 8 bidirectional beverages. It was a dream to use this station in this contest. —NA7TB (AA7A op), MSHP

Farewell to K8PO [SK 23 Oct 2016 – ed.]. I am really going to miss Paul. He outscored K3ZM on several occasions in different 160 meter contests from his splendid station in Maine. Paul was a complete gentleman and an honorable contester. What a loss. — K3ZM, SOHP

#### **Operating Experiences**—

Only planned to try hand out a few points. But got rather engrossed. Band was in great shape and very easy to get through at times. —W5/MMØLID, SOQRP

This is only my second or third time in the 160-M contest. The more times I work it, the better I like it. Just wish I had a decent antenna system for 160. —N5XE, SOLP

I did manage to silence the neighbor's dimmer switch, at least temporarily. Another neighbor, however, apparently turned on another noisemaker right at sunrise Saturday. Such is the lot of the urban contester. — K9MA, SOHP

Thanks for the QSOs! It was a fun contest. I've never heard so much constant activity on 160m. —K4AFE, SOUHP

First time in this contest - what a real hoot! The band was crowded from the bottom up to 1870. My second season on Topband and it continues to amaze. — W6SZN, SOHP

This is a personal best on 160 with limited hours Saturday night/Sunday morning.—N1DC, SOLP

Great fun! 100 Watts, Flex 6500/Maestro working beautifully. Had an amazing time with this one. Lots of fun ops, noise all night last night, but still had my best 160 effort ever. WAS in this contest alone! —AB5OR, SOULP

Highlight was having a JA call in at 1120Z. I have never been called by a JA on 160 in any contest. —N1UR, SOHP

#### **Band** Conditions—

Having lots of fun getting back into Contesting. Looks I need to resolve a few minor issues. Band conditions were pretty good throughout and especially with the band open on Saturday Afternoon. —VE3YF, SOLP

Conditions to EU seemed just fine both nights - and especially Northern Europe the second night - but not a whole lot of EU worked. —N3QE, SOUHP

My favorite contest of the year! Band conditions were good and quiet, and all equipment worked well. I didn't have as much chair time as I'd have liked, thanks to a busy honey-dew list that required my presence elsewhere, but the 9 hours I did have were productive with a few good runs. —W2IRT, SOHP

#### Station Descriptions—

I have no 160M antenna, only an 80-6M Carolina Windom. On a whim, I decided to see how the K3 would tune it. The SWR was 3:1 or higher, but enough RF escaped into the ether to work 38 stations in 24 sections. —N4CF, SOLP

Remote operation of my MD station from S. FL. K9AY fixed on NE direction made an amazing difference with New England stations that were in the mud with my TX antenna (65' Tee), but S9 on the K9AY. —N3AM, SOUHP

Entered mostly to test receiving antennas. Friday night I had a flag only, as there was a broken feedline connection on the 3-element short vertical array. Saturday morning, I fixed the feedline and installed a 350 foot beverage to NE. Saturday night I used all three extensively. They are all keepers. —N3RD, SOUHP

This contest was the first real test of a years' worth of station and antenna improvements for 160 meters. I added a legal limit amplifier and a K9AY receiving loop as well as restrung the inverted L getting the horizontal leg up higher. The amplifier replaced my 500 watt amplifier and the K9AY loop replaced my Hi-Z vertical array. As a result I was able to hear better than ever before. I am also a little stronger on transmit. —N3HEE, SOUHP In trying to maximize my small suburban lot for contesting, I've been using an Inverted L with an FCP counterpoise. I also laid out a relatively short BOG aimed at about 70 degrees and set the K3 in dual RX diversity. —NQ6N, SOUHP

K3/10 at 5 watts to a 260' inv vee up 50' at the center. Condx seemed good from MN, almost no QRN and big signals at times. Thanks for your great copy of my QRP sigs. Had a good time! —KEØTT, SOQRP

#### Visits from Murphy—

Had to spend most of the day Sat fixing beverages that were damaged from fallen limbs in the woods. Conditions seemed pretty good from here to EU but I don't believe a whole lot of stations were on from there. —W5MX, SOHP

For some reason I kept getting disconnected from packet spotting. Annoying when you're running assisted. Could be RF problem in PC router. —VE4GV. SOUHP

Eternal problem is AMTRAK and their RFI from the overhead power lines 100' away. Always some arcing but the majority of trains run right around Grayline. Must relocate... —KA1J, SOQRP

#### WAS and Section Sweeps—

The propagation gods smiled down on us and the participation level was impressive. It was a thrill to work a US/Canada clean sweep and so many country multipliers with 114 5-point Qs. —K9NR (@WB9Z), MSHP

I don't remember too many times ever getting a sweep in ARRL 160. That was a true highlight. Thanks to VY1AAA and VO1HP for getting on. —K9CT, SOUHP

Never thought I'd get a sweep on 160 and never thought my last section would be LAX. —NN3W (@N3HBX), SOUHP

VY1AAA called around 0514Z to finish my one and only 'clean sweep' of ARRL sections during an ARRL 160 test. —K1LT, SOHP

This has always been my favorite contest and this year is the 42nd year that I have participated and sent in a log. I was surprised that I managed a sweep of all the sections. I operated in the Unlimited category and it was helpful to have the DX cluster spots working for me. Every section called me except for the last two sections. Early Sunday morning I went out looking for VY1AAA and found him for a QSO and my 82th section. Then, a little later, I started looking for VO1HP and got him for the last section. —K5NA, SOUHP

#### From the DX Side—

Remote operation from Berkeley, CA. The first night of the contest had much better conditions towards W0/7 but band closed early. Second morning lacked W7 condition and only very few Øs were logged, but band was open until about 20 min after sunrise. —DG1CMZ, SOUHP

Remote operating from Montana into the Signal Point station on Curacao. The first night was very good, but night two was a real slog with the constant tropical QRN. —PJ2T (KB7Q, op), SOUHP

Great night [Saturday]! Very nice conditions. Couldn't be on Friday night. Arrived at the station at 02 UTC, connected antennas in the dark, then scanned the band. Was nice to see so many stations, the band was quiet. — CW5W (CX6VM op), SOUHP

Ended 1st night with 200 qsos! Did 0 to 25 QSO (max per hour) second night! Crazy!! Best moment more than an hour after my SR be called by VE7, OR, MB! My worst score in this contest! But I love so far this crazy game! —TM6M (F1AKK), SOHP

Hard work, low cndx and small signals. but fun... — OU2V (OZ1FJB), SOUHP

First time from HP, using 37m long wire hanging out of window on 24th floor of apt. Interesting that loud stations would CQ in my face whereas barely readable guys would get my call correct the first time and complete the Q. —HP1XT, SOUHP

Conditions absolutely awful. Last year had twice as many contacts. —GW5R (GW3YDX op), MSHP

									onal Le										
		SOQ	RP/I	LP/HP = S	ingle-Op;	SOUQ/LP/	/HI	<sup>&gt;</sup> = Single	-Op Unlim	nited; MS	L/N	<mark>ISH = Mul</mark> t	tioperator	, Single T	<b>r</b> a	nsmitter			
West Coast Region Midwest Region							Central Region					Sout	heast Re	gion		Northeast Region			
Southwe Alberta;	Pacific, Northwestern, and Southwestern ARRL Divisions; Alberta; British Columbia, and NT RAC Sections			Mountain Divisio	a, Midwest, F and West G ons; Manitob newan RAC S	ulf ARRL a and		Divisions; ( Ontario Ea	d Great Lak Greater Toro st, Ontario N South RAC S	onto Area, North, and		a, Roanoke, tern ARRL I			New England ARRL Divi Quebe	me and			
Call	Score	Cat		Call	Score	Cat		Call	Score	Cat		Call	Score	Cat		Call	Score	Cat	
WJ9B VE6BBP	197,120 151,745	SOHP SOHP		WØSD (WØDB, op) NØTT K5KC (W5TM,	409,717 375,921	SOHP SOHP		K1LT W5MX	414,401 278,160	SOHP SOHP		K3ZM N8OO NP2X (K9VV,	532,092 359,652	SOHP SOHP		NO3M VY2ZM	485,364 443,256	SOHP SOHP	
K7TJR	146,880	SOHP		op)	263,327	SOHP		VE3PN	223,500	SOHP		op) WD5R (N5ECT,	313,344	SOHP		AA1K	430,375	SOHP	
N9RV W7YAQ	143,028 117,900	SOHP SOHP		KØIDX KØTT	222,200 206,998	SOHP SOHP		W9RE VE3CX	220,290 191,786	SOHP SOHP		op) WX4G	256,944 250,440	SOHP SOHP		K1KI W3BGN	370,148 332,367	SOHP SOHP	
K7QA	110,241	SOLP		WØUO	160,552	SOLP		WE9V	228,192	SOLP		WA1FCN NP2J	111,760	SOLP		W2ID	155,820	SOLP	
N6RK VE7SL AI7H AC7A	83,448 67,230 57,600 51,750	SOLP SOLP SOLP SOLP		ACØW KØPK WAØBJR WØCGH	125,460 118,503 114,696 82,650	SOLP SOLP SOLP SOLP		K9IG K8FH K8NVR WB8JUI	220,230 197,682 186,964 171,720	SOLP SOLP SOLP SOLP		(K8RF, op) N8II K4ORD W4DAN	110,772 94,960 90,374 81,863	SOLP SOLP SOLP SOLP		W1QK NJ3K K2ZR N3BUD	100,793 95,338 90,667 70,245	SOLP SOLP SOLP SOLP	
N7IR	51,825	SOQ		W5/ MMØLID WBØCF	35,721	SOQ		K9TF	53,399	SOQ		N3CZ	49,595	SOQ		W3TS	76,568	SOQ	
K6EI K6MI	19,482 14,404	SOQ SOQ		F N5OE WTØA (KE5RX,	31,806 30,267	SOQ SOQ		K9AY W9CC	40,158 20,644	SOQ SOQ		K5LG AA4GA	27,104 23,426	SOQ SOQ		KA1J W1TW	72,562 15,980	SOQ SOQ	
W6MZ VE6EX	5,676 3,250	SOQ SOQ		op) K9JWV	23,912 3,248	SOQ SOQ		N8BB VE3DQN	18,894 12,814	SOQ SOQ		K3TW KI4FW	21,780 18,336	SOQ SOQ		K2QO KN1H	15,252 11,285	SOQ SOQ	
N6SS VE6JY	302,170	SOUHP		K5NA	408,456	SOUHP		VE3EJ WØAIH	481,144	SOUHP		K2AV	326,337	SOUHP		KD4D	431,053	SOUHP	
(VE6WQ , op) W7RN (W6UQZ	198,265	SOUHP		KVØQ	371,583	SOUHP		(KØTG, op)	332,843	SOUHP		N4RV	239,568	SOUHP		NN3W (@N3HBX)	401,448	SOUHP	
, op) KA6BIM K4XU	174,988 163,709 128,674	SOUHP SOUHP SOUHP		KØRF K5ZO KØKX	330,636 216,090 195,471	SOUHP SOUHP SOUHP		K9CT W8MJ VE3RZ	318,325 294,591 286,491	SOUHP SOUHP SOUHP		K9OM N4HB K4SO	208,432 182,770 176,637	SOUHP SOUHP SOUHP		VA2WA N2KW K3WW	378,322 373,504 346,846	SOUHP SOUHP SOUHP	
KG7CW	104,835	SOULP		K7CA	244,316	SOULP		VE3MGY	178,002	SOULP		N3UA	93,756	SOULP		K3MD K1VR	141,120	SOULP	
VE7KW K7TM K7SS KN7K	60,000 48,057 39,639 24,957	SOULP SOULP SOULP SOULP		KØTI AA5AM KIØI NØAT	167,320 137,547 104,232 94,350	SOULP SOULP SOULP SOULP		K8BL N9CK KK9V AB9YC	159,014 111,520 88,530 72,216	SOULP SOULP SOULP SOULP		K3IE AB5OR N4ZZ N4ARO	92,400 87,399 74,763 53,428	SOULP SOULP SOULP SOULP		(K1VR (K1EP, op) KE2D N1GN K1PTF	118,736 79,281 65,775 62,106	SOULP SOULP SOULP SOULP	

K9YC K2GMY	5,032 168	SOUQ SOUQ	WØGJ WØMB NØUR KIØII W5GZ	152,910 18,666 15,600 8,692 1,494	SOUQ SOUQ SOUQ SOUQ SOUQ	N9SE N9LQ N9TF VE3YT K8ZT	99,176 68,250 29,646 14,874 13,488	SOUQ SOUQ SOUQ SOUQ SOUQ	K1FR	1,178	SOUQ	NK8Q W1WBB W2DPT	50,875 27,945 16,121	SOUQ SOUQ SOUQ
NA7TB VE7NY N7IP KH6LC K6SAL	411,628 198,352 181,722 104,130 54,740	MSHP MSHP MSHP MSHP MSHP	NØNI AA5B KØLIR W5XD W7DXX	483,588 169,020 146,943 69,760 29,238	MSHP MSHP MSHP MSHP MSHP	K9NR VE3JM VE3MIS AD8P VE3FAS	442,468 176,978 154,880 140,220 49,815	MSHP MSHP MSHP MSHP MSHP	NR4M N1LN N2CEI W4ML KN5O	398,895 373,164 367,375 239,820 216,247	MSHP MSHP MSHP MSHP MSHP	W2GD VE2OJ N3EB K3MJW W1TJL	504,708 258,752 240,750 226,085 144,530	MSHP MSHP MSHP MSHP MSHP
			K7TD KK6MC VE5ZX W5WTM N5EM	154,700 95,004 42,624 36,792 20,634	MSLP MSLP MSLP MSLP MSLP	KM4FRM N8ZA KA9VVQ N9MT	103,680 60,768 24,592 9,534	MSLP MSLP MSLP MSLP	NA5NI WQ4R	- , -	MSLP MSLP	VE9ML W3KWH W1FM	74,418 28,662 16,842	MSLP MSLP MSLP