



# ARRL RTTY Roundup

## 2018 Results

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### Should there be a plaque for QSOs on 10-meters?

In 2017 one frustrated participant was seen to exclaim “Worse! Conditions! Ever!” That same operator did not share his observations in 2018, but I believe the table below sums it up pretty well.

#### Yearly QSO Totals by Band

Band	2014	2015	2016	2017	2018
80	76,006	67,015	65,133	83,832	91,966
40	131,653	125,537	146,679	132,277	150,648
20	169,502	145,994	191,328	204,593	210,821
15	175,681	160,868	153,983	62,229	36,233
10	70,580	95,436	31,850	5,364	50
Total	623,422	595,971	588,973	488,295	489,718

Looking at the posted score breakdowns at [3830scores.com](http://3830scores.com) (thanks as always to Bruce, WA7BNM for this great resource!) the number of stations that actually logged a QSO on 10-meters were few and far between. I suspect most of them were sheer luck. However, Charles, W2ORC wins the prize for scoring an amazing 4 QSOs on 10-meters! Someone should definitely sponsor a plaque for this.

### Conditions...or the Lack Thereof

Speaking of [3830scores.com](http://3830scores.com), the post-Roundup chatter is usually about the dismal conditions, both the weather and propagation. This year, though, it seemed most everyone decided to take it in stride. If conditions were mentioned at all, it was to note them and move on. For instance, the day before the Roundup, Jeff, ACØC was outside in 15 degree F temps “attaching hardline connectors,” and was just happy that “nothing broke, fell down or exploded!” during the contest. W8AT operating at NW8U simply noted “We didn’t experience any technical difficulties this year other than the cold, Sunday morning was -7 degrees F.” On the other hand, we have Phil GUØSUP: “Limited operation time due to rather heavy storms passing through. The first 12 hours or so were out of the question due to torrential rain and storm Force 12 (!) winds.”

Regarding propagation, Dave, K6LL: “For near the bottom of the sunspot cycle, I thought conditions were pretty good. Solar flux started at 69, the K index was zero, and A index was single digits. There was no Europe or Asia on 15, but there was a very good opening to Europe on 20. It only lasted for about 90 minutes though.” On the other hand, Ed WØYK at P49X in Aruba experienced a

“...dismal Sunday. Saturday was pretty typical of recent years, but Sunday reminded me of Sweepstakes Sunday... There wasn’t enough off-time in the rules to cover the extended period Sunday morning before 15m opened up after 40m closed. Moreover, 40m was slow even before it closed and 20m was just marginally open. 10m never opened at all and had very high band noise, despite a short, modest opening each day the week before RU. A 33-QSO clock-hour Sunday morning from Aruba highlights a serious problem.”

### David Collingham, K3LP

The weekend of the 2018 RTTY Roundup was the same weekend that we lost a very well-liked and well-known contester and DXpeditioner, David Collingham, K3LP. Many participants noted his passing in their remarks and quite a few dedicated their efforts to his memory. Some found the motivation to participate this year “because that would’ve been what he wanted everyone to do,” said Bill, K3HW. Marty, KC1CWF (operating as KR1DX) said, “About 20 minutes into the contest I received the devastating news that my dear friend K3LP had passed away. David had a big impact on me, and I am sure he is a hero for DXers all over. David was a true gentleman, always taking care of others before himself, always willing to help those in need.”

### Setup Trials and Tribulations

One refrain that runs through many of the post contest remarks is “I spent [large amount of time] chasing an issue in [piece of hardware or software I don’t always use] and it turned out [something was misconfigured].”

Even the most hard-core RTTY contester only makes a serious contest effort a few times a year, so most of the time that RTTY specific hardware sits fallow. At the same time, there are shared resources - how do you PTT? - that may need to be reconfigured for RTTY.

Since I guest-op at another station several hours from my home, I often show up with limited time before the starting bell. The station could be in just about any configuration left by the previous user. In order to make the best use of my time, I keep a detailed checklist of the entire station configuration and any special setup steps.

These steps include:

- Reconfiguring and installing displays and keyboards and mice
- Checking all sound card settings, including that pesky Advanced setting for channels and bandwidth
- Radio control and amplifier connections - are they on the same COM port?
- FSK cables connected and working
- Radio filter and other settings like AGC
- If you use a station controller via a serial or USB connection, chances are you can save different setups. Even though I have my saved setup, I still double-check it
- Modem software setting (*MMTTY*, *2tone*, etc.) check all tabs and settings
- Set and test all message buffers
- Tuners - that tuner set for 75-meter phone is not necessarily set right for 80-meter RTTY. Walk through all bands and make sure you're good on the lower bands before sunset
- And of course, make sure all of your good luck charms, totems, etc. are properly in their places! (Mine is a rubber chicken.)

Also, think about the state you want to leave the station in after the contest. Since I use a station also used by others, the other ops really appreciate me not leaving it in RTTY mode when I leave, so I note on my checklist which steps to undo. (This is excellent wisdom for all of us, single- or multiop – *Ed.*)

Obviously this sounds like a huge task but if you start out with what you can jot down now without thinking, and then fill it in as you find things to include, you'll end up with a useful tool that will generally save you precious contesting time.

### Affiliated Club Competition

Last year, the Northern California Contest Club (NCCC) was a little asleep at the keyboard and allowed the Potomac Valley Radio Club (PVRC) to slip by and take the Unlimited Club gavel away by a handful of points and logs. So in 2018 the NCCC woke up and made a proper effort, taking the title by a hefty margin and continuing their position as the RTTY powerhouse. Next year's competition could be pretty interesting — a glance at the historical table shows that the Minnesota Wireless Assn (MWA) seems to wake up every four years to kick everyone's behind for the Unlimited gavel. Will 2019 continue the trend?

In the Medium Club category, the Society of Midwest Contesters (SMC) managed to coax more points per butt-in-chair to take the title by a respectable margin over the MWA. Looking at the top three, one cannot help but notice that the Arizona Outlaws also achieved a fine score on a fairly modest number of logs.

And in the Local Club, it's clear that the Orleans County ARC owns the category, though this time they needed the full ten logs to do it. However, if the New Mexico Big River Contesters had scared up just three more contributors maybe they would have usurped the perennial Local gavel champs for the first time in seven years. Maybe 2019 could be the Year of the Southwest?

### Affiliated Club Competition

Club	Score	Entries
<b>Unlimited</b>		
Northern California Contest Club	3,389,517	69
Potomac Valley Radio Club	2,125,573	67
<b>Medium</b>		
Society of Midwest Contesters	1,667,376	40
Minnesota Wireless Assn	1,200,422	48
Arizona Outlaws Contest Club	1,076,458	20
Frankford Radio Club	997,528	22
Contest Club Ontario	565,636	21
Yankee Clipper Contest Club	562,297	23
Western Washington DX Club	362,593	8
Grand Mesa Contesters of Colorado	346,913	5
Tennessee Contest Group	338,309	6
Florida Contest Group	305,584	7
Alabama Contest Group	303,188	9
Central Texas DX and Contest Club	300,034	6
Kentucky Contest Group	297,481	7
Mad River Radio Club	283,651	12
Swamp Fox Contest Group	281,574	7
Georgia Contest Group	257,247	3
DFW Contest Group	217,546	10
Southern California Contest Club	212,805	8
South East Contest Club	212,396	8
Willamette Valley DX Club	207,493	10
Carolina DX Association	183,347	4
Skyview Radio Society	166,835	4
Texas DX Society	119,273	4
Hudson Valley Contesters and DXers	112,309	3
North Coast Contesters	62,877	4
Spokane DX Association	58,799	5
Order of Boiled Owls of New York	48,891	4
Northeast Maryland Amateur Radio Contest Society	44,049	4
Rochester (NY) DX Assn	31,032	3
<b>Local</b>		
Orleans County Amateur Radio Club	421,886	8
New Mexico Big River Contesters	231,716	3
Bristol (TN) ARC	85,631	5
Metro DX Club	81,665	4
Niagara Frontier Radiosport	76,597	4
XRX AMATEUR RADIO CLUB	29,602	4

## Affiliated Club Gavel Winners, 2004 to present

### Unlimited

Year	Club	Logs	Score
2018	NCCC	74	3,486,901
2017	PVRC	62	1,929,695
2016	NCCC	67	3,809,079
2015	Minnesota Wireless Assn	56	1,891,478
2014	NCCC	65	3,202,878
2013	NCCC*	71	4,044,558
2012	NCCC	73	3,715,609
2011	Minnesota Wireless Assn	64	2,183,630
2010	NCCC	60	2,502,251
2009	NCCC	86	3,307,797
2008	no winner		
2007	no winner		
2006	no winner		
2005	no winner		
2004	no winner		

### Medium

2018	SMC	47	1,811,579
2017	NCCC	43	1,879,145
2016	Frankford RC	19	1,178,489
2015	PVRC	47	2,406,478
2014	SMC	28	1,524,519
2013	Minnesota Wireless Assn	43	1,607,832
2012	PVRC*	49	2,500,870
2011	PVRC	37	1,833,820
2010	PVRC	40	1,813,567
2009	PVRC	37	1,778,086
2008	PVRC	35	1,440,226
2007	PVRC	37	1,966,378
2006	PVRC	28	1,355,040
2005	NCCC	31	1,231,336
2004	NCCC	35	1,439,443

### Local

2018	Orleans County ARC	10	455,258
2017	Orleans County ARC	6	475,347
2016	Orleans County ARC	7	748,161
2015	Orleans County ARC	6	533,555
2014	Orleans County ARC	10	655,255
2013	Orleans County ARC*	10	1,065,283
2012	Orleans County ARC	10	936,547
2011	Dominion DX Group	10	639,851
2010	Orleans County ARC	6	449,103
2009	Orleans County ARC	4	294,392
2008	Maritime Contest Club	4	297,018
2007	Alabama Contest Group	7	453,854
2006	Maritime Contest Club	5	262,279
2005	Spokane DX Assn	3	131,022
2004	Dauberville DX Assn	3	125,534

\* Record score

## Category Choice

You can see from the table below a general downward tick in total logs, with the biggest chunk a decline in SOLP (Single-Op, Low Power) entries. There is an old saw that “life is too short for low power RTTY” and perhaps we are seeing the effect of poor high-band propagation. On the other hand there is also a nice uptick in the number of multi-op entries, which I hope indicates more new ops getting exposed to RTTY contesting!

MSHP = Multioperator, Single Transmitter, High Power  
 MSLP = Multioperator, Single Transmitter, Low Power  
 SOHP = Single Operator, High Power  
 SOLP = Single Operator, Low Power  
 SOUHP = Single Operator Unlimited, High Power  
 SOULP = Single Operator Unlimited, Low Power

### 2014 to 2017 Category Choice (W/VE and DX)

Category	2014	2015	2016	2017	2018
SOLP	843	921	828	857	762
SOULP	225	229	275	241	233
SOHP	331	296	295	293	277
SOUHP	254	258	290	273	269
MSLP	29	28	25	24	35
MSHP	40	48	44	45	44
Total entries	1722	1780	1757	1733	1620

## Plaques

Thanks to the generous support of numerous clubs and individuals, we are pleased to list the winners of the Sponsored RTTY Roundup plaques at the conclusion of this writeup. Remember, you too can be a plaque sponsor, and you can sponsor any available outcome. For more information on plaque sponsorship or to order a duplicate plaque, contact ARRL Contest Branch Manager Bart Jahnke, W9JJ, at 860-594-0232 or w9jj@arrl.org. Plaques cost \$75, which includes all shipping charges.

Sponsored Plaque Winners		
Winner	Plaque Category	Sponsor
<b>ACØC</b>	W/VE Single Operator, High Power	Preston Radio Club, W7PRC
<b>W4AAA (KK9A, op)</b>	W/VE Single Operator, Low Power	Robert E Darlington III, N3XKB
<b>NØNI</b>	W/VE Multioperator, High Power	John Lockhart, WØDC
<b>AB5EB</b>	W/VE Multioperator, Low Power	Dan Karg, KØTI
<b>P49X (WØYK, op)</b>	DX Single Operator, High Power	John Lockhart, WØDC
<b>HI3T</b>	DX Single Operator, Low Power	Rich Cady, N1IXF
<b>R7AB</b>	DX Multioperator, High Power	Paolo Cortese, I2UIY, Memorial by WØYK

<b>9A7T</b>	<b>DX Multioperator, Low Power</b>	<b>Jeff Stai, WK6I</b>
<b>VE3CX</b>	Canada Single Operator, Unlimited High Power	Tom Haavisto, VE3CX
<b>N2WK</b>	Atlantic Division Single Operator, Low Power	Michael Jacoby, N3MA
<b>KØJJR</b>	Dakota Division Single Operator, High Power	Minnesota Wireless Association
<b>KØAD</b>	Dakota Division Single Operator, Low Power	Minnesota Wireless Association
<b>KØCN</b>	Dakota Division Single Operator, Unlimited High Power	Minnesota Wireless Association
<b>AAØAW</b>	Dakota Division Single Operator, Unlimited Low Power	Minnesota Wireless Association
<b>N7QT</b>	Northwestern Division Single Operator, High Power	Hank/KR7X
<b>W7YAQ</b>	Northwestern Division Single Operator, Low Power	Brian Moran, N9ADG
<b>KA6BIM</b>	Northwestern Division Single Operator, Unlimited High Power	Brian Moran, N9ADG
<b>K7TQ</b>	Northwestern Division Single Operator, Unlimited Low Power	Brian Moran, N9ADG
<b>K7BTW</b>	Northwestern Division Multioperator, High Power	Robert Fanfant, N7QT
<b>KR7LD</b>	Northwestern Division Multioperator, Low Power	Robert Fanfant, N7QT
<b>W7RN (WK6I, op)</b>	Pacific Division Single Operator, High Power	Northern California Contest Club
<b>N6ZFO</b>	Pacific Division Single Operator, Low Power	Dick Wilson, K6LRN & Carolyn Wilson K6TKD
<b>N6WM</b>	Pacific Division Single Operator Unlimited, High Power	Northern California Contest Club
<b>N2TU</b>	Roanoke Division Single Operator Unlimited, High Power	Mark Sihlanick, N2QT
<b>W6IHG</b>	Roanoke Division Multioperator, Low Power	Sheila Blackley, K4WNW
<b>WA3FRP</b>	Heavy-Metal Overlay	Dave Tumey, W5DT

### Heavy Metal

Call	Score
WA3FRP	14850
W9DKB	3045
KB1FDW	345

Congratulations to WA3FRP for winning the first ever Heavy Metal overlay award! Here’s what he had to say about the effort:

*“What a great contest! My biggest challenge was trying to find an open spot to call CQ when I had finished going up the band doing search & pounce. I did have to shut down my M28ASR a couple of times as I think that there is a problem with a clutch on the mainshaft that is hanging up. Letting things settle down and cool off temporarily solved the problem but I will have to pull the LP to see what I can find.*”

*“Thanks to Wray, AB4SF for his comment, “...RRR MACHINE SOUNDS GOOD !!...” on Sunday afternoon. I also worked Ramon, PZ5RA which was special. I first worked Ramon in the late 1960s on RTTY and it was great to see that he is still contesting. The last fun fact was getting called by Barry, ZS2EZ from South Africa on 40M.”*



From Heavy Metal Master WA3FRP — *“I am still working to convert my roll of paper into something electronic, so I don't know my totals but I do know that I was able to get 5 of the 6 continents, missed Asia, during this test.”* (Photo credit Russell Miller, WA3FRP)

### Heavy Metal

The turnout for this year’s Heavy Metal overlay was not quite what we had hoped it would be, probably because the task of completing even one QSO with chattering carriages and paper tape loops can be daunting. As proof, check out this [great video](#) of a real live 2018 RTTY Roundup Heavy Metal contact. Dale, W9DKB takes you through all of the steps from start to finish.

## Regional Highlights

Regional participation was fairly flat compared to last year, except for the West Coast reclaiming the top spot back from the Southeast. (Regional Leaders are listed in the table at the end of this writeup along with a table of participation from each ARRL Section – *Ed.*)

In my personal recollection we have not yet seen 100% section participation in the RTTY Roundup (unlike Sweepstakes which regularly enjoys it). What do we need to do to help our friends in the Northwest Territories to get on RTTY? And it was nice to see our friends down in Puerto Rico and the US Virgin Islands able to get on for the event.

Like the regional stats, the top section participation remained with more or less the usual suspects — however the Santa Clara Valley woke up along with the rest of the NCCC to surge into the top ten for the first time in recent memory.

<i>Region Definitions</i>	
<b>Northeast</b>	New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections
<b>Southeast</b>	Delta, Roanoke and Southeastern Divisions
<b>Central</b>	Central and Great Lakes Divisions; Ontario North, Ontario East, Ontario South, Greater Toronto Area Sections
<b>Midwest</b>	Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections
<b>West Coast</b>	Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NT Sections (Yukon, Northwestern Territory, and Nunavut)

### Domestic Participation, Logs Received by Region

<i>Region</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>
Southeast	190	167	226	201
Northeast	222	221	216	213
West Coast	216	243	210	228
Midwest	202	214	194	197
Central	156	194	174	171
Total	986	1039	1020	1010

### 2018 Domestic Participation, by ARRL Section

<i>Section</i>	<i>Logs received</i>	<i>2017 Rank</i>	<i>2017 logs</i>
VA	52	1st	59
MN	48	3rd	49
IL	44	2nd	55
MDC	35	9th	28
NC	31	4th	39
OH	31	7th	32
EPA	30	6th	32
SCV	27		19
WNY	27	8th	31
AZ	24	5th	32
MI	23		
SV	23		
WWA	23		
NTX	22		
TN	22	10th	25
STX	21		

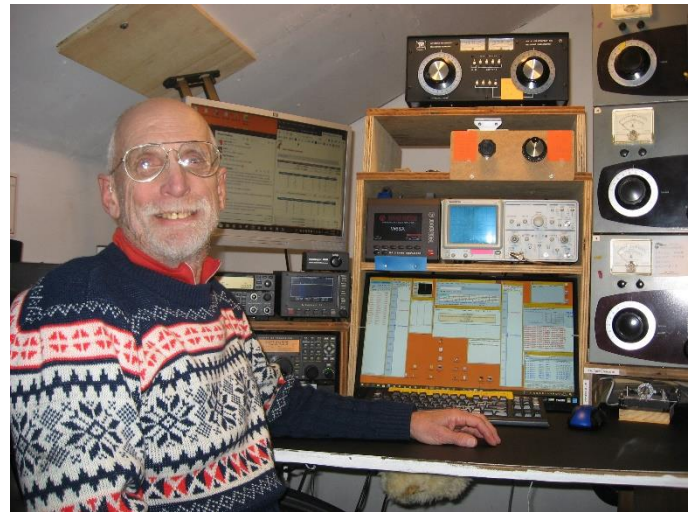
IN	20
CO	19
OR	18
AL	16
MO	15
NNJ	15
WI	14
WPA	14
CT	13
EWA	13
NFL	13
ONS	13
SC	13
SJV	13
BC	12
EB	12
EMA	12
GA	12
IA	12
ID	12
WCF	12
ENY	11
OK	11
WMA	11
GTA	10
KS	10
NV	10
SDG	10
SFL	10
QC	9
KY	8
SF	8
UT	8
PAC*	8
LA	7
NLI	7
ONE	7
SNJ	7
NE	6
NH	6
NM	6
ORG	6
SK	6
LAX	5
SB	5
WV	5
AK*	5
AB	4
AR	4
ME	4
MS	4
SD	4
VT	4
WTX	4
MAR	3
MT	3
PR*	3
DE	2
ND	2
WY	2
MB	1
NL	1
NNY	1
ONN	1
RI	1
VI*	1
NT	0

\* DX Section

## West Coast Region

Call	Cat	Score	QSOs	Mults	Operators
W7RN	SOHP	238,596	2031	118	WK6I
K8IA	SOHP	183,229	1700	109	
K6MR	SOHP	180,405	1924	95	
WC6H	SOHP	127,490	1360	95	
N7QT	SOHP	108,489	1267	87	
KI6RRN	SOLP	114,204	1241	93	
N6ZFO	SOLP	68,112	789	88	
W7YAQ	SOLP	52,614	671	79	
W7LD	SOLP	47,196	638	76	
WN6K	SOLP	47,168	719	67	
K6LL	SOUHP	212,280	1838	116	
N6WM	SOUHP	203,520	1951	106	
KO7SS	SOUHP	183,122	1514	122	
N6IE	SOUHP	168,720	1501	114	
K9YC	SOUHP	120,204	1122	108	
W7ZR	SOULP	82,880	742	112	
VA7KO	SOULP	59,585	728	85	
K7TQ	SOULP	37,740	561	68	
W7OM	SOULP	36,038	498	74	
VE6BBP	SOULP	31,725	424	75	
K6SU	MSHP	167,088	1433	118	W6LD N6DE
W6YX	MSHP	154,014	1360	114	N7MH K6TJ
NW6P	MSHP	116,424	1228	98	KG6DQL W9KKN WX5S
K7BTW	MSHP	113,680	1179	98	K7BTW N9ADG K7EDX K7VAP K7MO
W1RH	MSHP	106,656	1077	101	W1RH K6TLR
WØPC/7	MSLP	31,144	470	68	WØPC/7 N6EVG ACØNF KF7STT KI7OXS
KR7LD	MSLP	27,300	400	70	KR7LD N7HUG
N6AJS	MSLP	15,871	273	59	N6AJS AI6YN
W6VMW	MSLP	2,640	82	33	W6VMW

As always reading from left to right, we begin with the West Coast. Yours truly was able to ascend the mountain to operate W7RN to the top West Coast SOHP slot, and third overall. The west pretty much owned the overall SOHP results, also taking 4<sup>th</sup>, 5<sup>th</sup>, 8<sup>th</sup>, and 10<sup>th</sup>. In SOLP, KI6RRN took over the tops in the west with a 7<sup>th</sup>-place overall performance. In 2<sup>nd</sup>, N6ZFO in northern CA moved to the SOLP category, and yet he experienced the rare thrill of an actual 10-meter contact: “Just for kicks I sent a 10m CQ early in the contest, and was floored when a station came back. Of course it was Sacramento, but a contact is a contact! Thanks, Stefan, AF6SA.”



W6SX made 1140 QSOs using a wire antenna 46 feet high and a festive sweater! (Photo credit, Hank Garretson, III)

On the Unlimited side there was similar ownership of the top ten by the West Coast, taking 1<sup>st</sup>, 3<sup>rd</sup>, 7<sup>th</sup>, and 10<sup>th</sup>. The top three SOHP slots were even closer together before log checking than after, and all three ops had respectable error rates, but K6LL submitted a nearly Golden Log to take first place. He got lucky in at least one other way: “Something went goofy in the 40M antenna on Saturday night, but it fixed itself after 30 minutes of unscheduled off time and it never recurred. SWR was 3.5:1 across the band, and people couldn’t hear me... A few weeks later, I took a look at the 40M antenna, and found that there had been a fire in the driven element center insulator, and one of the element halves was intermittently shorting to a grounded U-Bolt.”



Why is this a lucky break for K6LL? A short from boom to U-bolt through the burned insulator turned out to be intermittent and Dave was able to finish the contest before discovering the extent of the problem. (Photo credit, Dave Hachadorian, K6LL)

“In retrospect, I know what caused the fire, and it happened about five years ago. I feed the tower as a radiator on 80 and 160, and high voltage RF jumped across the insulator to the 40M driven element, making it part of the 80 Meter antenna! This problem could have totally knocked me out of the Roundup, but I got lucky.” In his comments, Dick, W7ZR mused about the wisdom of sending “...” or “---” before the call. But he still had fun and finished 7th overall in MSLP.

As they occasionally do, Stanford University station W6YX ran THREE separate Multi-Single, High Power operations as K6SU, W6YX, and N6DB. Each operation had its own Elecraft K3 with amplifier and W6YX has enough antennas that all three could be on 20 at the same time! Interference much? Mike N7MH writes: “We had varying degrees of interference between high-power stations on the same band. We had two stations on 40 and 20 for much of the time we were on those bands and we even had 3 stations on 20 for a brief period. We tried two transmitters on 80 and 15 but not for long as the interference was too great.” Their collective efforts were good enough for two top ten slots, with N6DB missing it by a nose. Meanwhile, WØPC took the West Coast in MSLP.



Just a part of the extensive W6YX antenna farm, high in the hills above Stanford University, that supported a trio of MSHP operations, sometimes all operating on 20 meters! The view — both RF and optical — is majestic! (Photo credit, Mike Heideman, N7MH)

## Midwest Region

Call	Cat	Score	QSOs	Mults	Operators
ACØC	SOHP	276,208	2297	122	
K5DU	SOHP	179,280	1681	108	
AD5XD	SOHP	73,458	965	77	
WD5K	SOHP	69,948	813	87	
KØJJR	SOHP	65,193	708	93	
VE4VT	SOLP	125,240	1257	101	VE4EAR
KØAD	SOLP	86,152	989	89	

KE5OG	SOLP	47,120	638	76	
NØAT	SOLP	45,582	649	71	
KFØUR	SOLP	43,239	619	71	
WØLSD	SOUHP	204,376	1761	118	
W7RY	SOUHP	181,716	1626	114	
W5AP	SOUHP	131,652	1247	108	
N5HC	SOUHP	124,443	1272	99	
KØCN	SOUHP	91,300	840	110	
KI6DY	SOULP	117,600	1233	96	
WB5TUF	SOULP	96,900	964	102	
AAØAW	SOULP	34,200	454	76	
AD1C	SOULP	32,000	400	80	
NØUR	SOULP	31,824	471	68	
NØNI	MSHP	222,035	1875	121	NØXR NØNI NØAC KØKD
WØSD	MSHP	188,784	1681	114	WØSD
AA5B	MSHP	107,270	1277	85	AA5B KK6MC
AB5EB	MSLP	118,776	1196	101	AB5EB AD5A WQ5C
WØFRC	MSLP	29,460	507	60	KØGIE KØSU KØKMK KCØLNO
WSØZ	MSLP	15,189	262	61	WSØZ KDØWAB
N5ZT	MSLP	13,623	246	57	N5ZT WF5E
AD7KI	MSLP	5,600	147	40	AD7KI KI7PGJ

2018 finds ACØC once again on the top of the pile in SOHP. Jeff writes: “Thanks to everyone for the patience and my apologies to those who had to wait on me as I struggled with some combination of operator and logger problem that I could not quite nail down the cause for. One guy was so frustrated he took the time to add ‘finally’ in his comment; sorry buddy.” K5DU was 6<sup>th</sup> overall. My personal bane in the RTTY Roundup is that I work every VE province available but for some reason VE4 eludes me. So it is nice to see VE4EAR (at VE4VT) make a strong effort this year that was good enough for 4<sup>th</sup> overall in SOLP (and I actually had VE4 in my log more than once!)

As noted above, WØLSD achieved 2<sup>nd</sup> place overall in SOUHP after log checking. Bob, KI6DY also made 2<sup>nd</sup> overall in his SOULP category, noting, “I’ve always said this is my favorite contest and this year did not disappoint. Don’t think you could ask for more activity given the crappy band conditions.”

There was a dearth of MSHP entries from the Midwest, but they only needed one to make it to the top spot in the category. And WØSD’s score was good enough for 3<sup>rd</sup> place. And a similar story in SOLP, where AB5EB took first, and it’s easy to see why: “This was the first contest from my new station setup at AB5EB. The station consists of: a 4-stack of JK midsize tribanders, a 2-stack of JK 2 Ele 40m beams (the top at 170 feet), and a full wave 80m dipole at 80ft.” Boom!

## Central Region

Call	Cat	Score	QSOs	Mults	Operators
AC9KW	SOHP	83,142	909	93	
WA8KHP	SOHP	63,555	676	95	
W8JWN	SOHP	48,048	544	91	
VE3TW	SOHP	44,850	613	75	
N9OK	SOHP	44,400	604	74	
WE9V	SOLP	175,218	1544	114	
N9CK	SOLP	123,228	1153	108	
K9WX	SOLP	103,684	1071	98	
ND9G	SOLP	86,010	923	94	
K3DMG	SOLP	46,460	512	92	
VE3CX	SOUHP	184,128	1662	112	
AI9T	SOUHP	159,152	1381	116	
W9IU	SOUHP	132,090	1203	111	
K4WW	SOUHP	96,356	891	109	
KØTG	SOUHP	85,100	861	100	
VA3DF	SOULP	101,343	916	111	
WT9U	SOULP	53,144	734	73	
W4LC	SOULP	51,000	513	100	
K9DJT	SOULP	48,503	543	91	
VE3JI	SOULP	39,176	486	83	
KB8O	MSHP	130,032	1219	108	KB8O AB8M
WS9V	MSHP	108,992	1072	104	WS9V KD9GKL
WZ8P	MSHP	64,125	715	95	WZ8P
N2BJ	MSHP	62,370	640	99	N2BJ K2PAC
K9NR	MSLP	81,081	922	91	K9NR
K4FT	MSLP	71,780	747	97	K4FT W5MX
KOØZ	MSLP	34,050	475	75	KOØZ KC9ULA
KE4YVD	MSLP	15,075	256	67	AJ4A KJ4RPY KI4NEC KK4N2T KY4OZ K4BLP JIM W. KK4NZI KJ4YLR KE4ISW
KEØL	MSLP	14,795	272	55	KEØL

It seems like everyone in the Central Region eschewed the use of amplifiers this time, at least in the Single-Op categories; however, AC9KW didn't mind dimming the lights and took the top regional SOHP spot. His score might have been higher, he writes: "I could grumble about a great run on 40m that was dashed by the local constable investigating a burglary in the neighborhood, but I am glad they are watching out for us." In SOLP, WE9V had fun making enough to take 2<sup>nd</sup> overall, noting, "All the bands went quite long, quite early. Surprised at some of the huuuuge scores, despite 'poor' conditions. One of these days (especially during these low sunspot years), I'll have to do this one high power again. But it was still quite fun with low power."

In SOUHP, VE3CX made it to 4<sup>th</sup> overall, while antenna woes caused AI9T to just miss a Top Ten finish. And in SOUHP, VA3DF also made it to 4<sup>th</sup>, observing simply, "As usual, it's a jungle out there..."

KB8O managed to achieve 9<sup>th</sup> place in MSHP with a little outside help: "Enjoyed watching the live contest score server throughout - felt like we were in a knife fight with NW6P to the bitter end. Special thanks to those guys and to everyone who uploads scores real time." K9NR noted that they were "Down from last year" but they still managed 3<sup>rd</sup> overall in MSLP. And K4FT made it 4<sup>th</sup> overall despite distractions, "One good thing about RTTY, we got to catch up and laugh at YouTube stuff."

## Southeast Region

Call	Cat	Score	QSOs	Mults	Operators
AB4GG	SOHP	140,504	1358	104	
W4GO	SOHP	119,020	1094	110	
K5XH	SOHP	90,234	1134	81	
NU4Y	SOHP	89,965	961	95	
AG4W	SOHP	89,880	845	107	
W4AAA	SOLP	215,500	1736	125	KK9A
KA4RRU	SOLP	136,296	1287	108	
WB4YDL	SOLP	83,160	1011	84	
KU4V	SOLP	74,493	842	89	
K8ARY	SOLP	71,040	747	96	
N8OO	SOUHP	173,936	1577	112	
N2TU	SOUHP	125,580	1101	115	
N4IQ	SOUHP	120,377	1268	97	
W4MYA	SOUHP	88,253	786	113	
K4WI	SOUHP	73,600	646	115	
AA5AU	SOULP	199,506	1642	123	
K4GMH	SOULP	112,959	1168	99	
AB4SF	SOULP	44,792	516	88	
KF4FC	SOULP	39,130	466	86	
N6DW	SOULP	29,016	379	78	
W9SN	MSHP	202,120	1659	124	K1ZZI AA4CF W9SN WW4LL NN9DD
W4RM	MSHP	161,414	1369	121	W4RM W7IY K5OF
W8AT	MSHP	103,400	1136	94	W8AT NW8U
W9IL	MSHP	76,659	769	101	W9IL K4KGG N2NYR W4AEQ
W4MLB	MSHP	48,638	600	83	KK4ZWC WA2IEC K4FIT WB5ZGA
W4TA	MSLP	84,099	885	97	N2ESP KP2N NY4I W4CU KR4U N4GD



					KA4IOX WA4EEZ W4TSP N4BUA N4RI KB8ESY KX4HL
<b>W6IHG</b>	MSLP	54,080	531	104	W4AAW W6IHG KU1CW
<b>N5RN</b>	MSLP	46,437	682	69	N5RN
<b>WN1G</b>	MSLP	36,972	486	78	WN1G KY4F
<b>WA1F</b>	MSLP	20,550	280	75	WA1F WA1S

Meanwhile, down South, AB4GG and W4GO made it into the top ten in SOHP at 7<sup>th</sup> and 9<sup>th</sup>. Unlike the big middle of the continent, W4GO: “Running high power for the first time in a contest. What a difference. Going forward, I will need to adjust my strategy a bit to make the most of HP. More running, less S&P. With HP, it seems the mults have a greater tendency to find you. It happened quite a few times that I would pick up a semi-rare mult when doing S&P, only to work the mult again later when running.” In SOLP, KK9A operating W4AAA mertilized the competition, running up a big score despite: “The only issue occurred on Sunday, the power went out very briefly about six different times over a six-hour period. This became quite annoying, especially since the Elecraft K3Ss do not like being shut down this way and they lose their recent settings... I kept thinking that the power would remain off and I envisioned using my final time off dropping an extension cord out the window and starting up my small Honda generator but luckily that never occurred.”

N8OO made it to 9<sup>th</sup> place overall in SOUHP in the region, whilst N2TU was 2<sup>nd</sup>, noting: “Fun time! Absolutely zero 10 Meter propagation here in EM95NN. Few Caribbean stations QRV and even fewer SA. The normal JA piles ups were also absent. Thanks goodness for the zillions of CA stations QRV...and a great EU opening.” And RTTY-Guru-To-Us-All, Don, AA5AU assumed his usual SOLP top spot. Don had, “Almost identical amount of contacts as last year but 13 more DX multipliers certainly helped. Conditions were not good but participation was.”

Multi-Single saw the Southeast taking the bridesmaid’s position in both categories. W9SN made a great showing taking 2<sup>nd</sup> in SOHP, where they had a “Fun time again with the Georgia group. Had some computer/hardware issues, but we overcame them. Fun contest!” And W4TA took 2<sup>nd</sup> in the Low-Power pack, with the Southeast also taking 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup>.

## Northeast Region

Call	Cat	Score	QSOs	Mults	Operators
<b>AA3B</b>	SOHP	254,526	2170	118	
<b>K2XA</b>	SOHP	97,732	933	106	
<b>K3PP</b>	SOHP	81,328	787	104	
<b>K5ZD</b>	SOHP	77,096	848	92	
<b>N2YB</b>	SOHP	47,628	581	84	
<b>N2WK</b>	SOLP	119,038	1133	106	
<b>W3RGA</b>	SOLP	63,624	725	88	
<b>VE2BVV</b>	SOLP	50,196	572	89	
<b>KB3AAY</b>	SOLP	44,737	547	83	
<b>N2HMM</b>	SOLP	38,847	572	69	
<b>W3LL</b>	SOUHP	184,098	1542	122	
<b>N3QE</b>	SOUHP	184,041	1534	121	
<b>K3WW</b>	SOUHP	133,029	1162	117	
<b>AB3CV</b>	SOUHP	113,826	940	122	
<b>NR2C</b>	SOUHP	110,778	1014	111	
<b>W3FIZ</b>	SOULP	98,209	913	109	
<b>K3ZU</b>	SOULP	52,682	501	106	
<b>K2DFC</b>	SOULP	35,773	435	83	
<b>KD2EFR</b>	SOULP	29,463	436	69	
<b>N1EN</b>	SOULP	26,187	302	87	
<b>VY2/W5 AJ</b>	MSHP	148,350	1310	115	W5AJ
<b>K3MJW</b>	MSHP	132,704	1162	116	KG4MSB K3RWN WC3O W3VYK KB3SVJ WA3HGW WA3KFS W3BUW AJ3O
<b>K3AJ</b>	MSHP	111,398	1036	109	ND3D W3GXP KB3VQC K3AJ
<b>WA3EKL</b>	MSHP	61,388	616	103	WA3EKL KG4USN KB3VQC W3UL
<b>W1QA</b>	MSHP	58,272	620	96	W1QA WN1E
<b>N1UZ</b>	MSP	67,260	729	95	W1PFZ N1UZ KF4GAF
<b>W1QK</b>	MSP	60,750	690	90	W1QK NG1R
<b>NJ1F</b>	MSP	19,778	330	62	NJ1F KD2MYR

AA3B found himself relegated to 2<sup>nd</sup> overall in SOHP behind Jeff, ACØC; it seems these two are always slugging it out at the top of whatever category they choose. In SOLP, N2WK managed a 6<sup>th</sup>-place showing, despite taking 3 hours off to not miss the Buffalo Bills first postseason game in 17 years. (I guess we all have priorities.)

Speaking of football, contesting can also be a game of inches. W3LL nudged past N3QE by a mere 57 points; they took SOUHP 5<sup>th</sup> and 6<sup>th</sup> overall. N3QE also finds

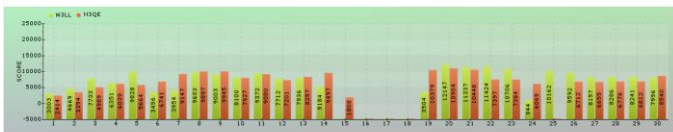
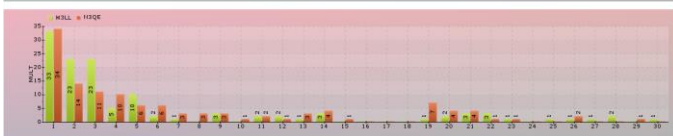
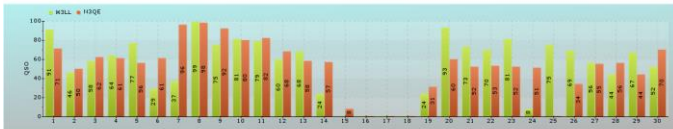
online scoring to be a motivator: “I like to use the online scoreboards to keep my BIC (Buttocks In Chair) by picking a local competitor who is also on the scoreboard, that I try to keep up with. You can see in the graphs below W3LL getting an early jump on me Saturday afternoon, then I catch up to him Saturday night, and I succeed through much of Sunday morning at staying ahead of him, before I took some required offtime and he took the lead for good Sunday afternoon. This was superb motivation for me to keep my BIC!”



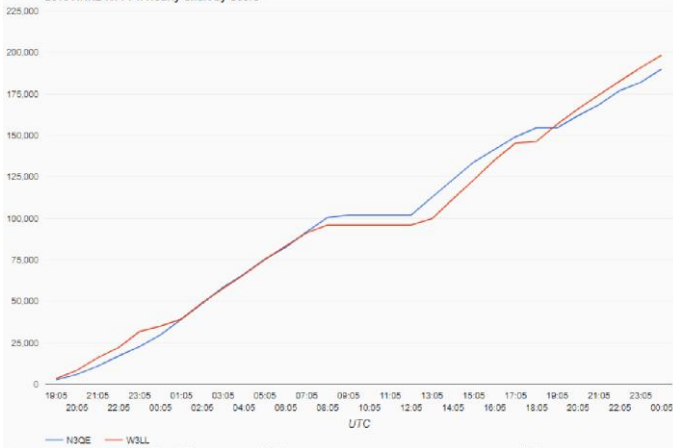
It looks like the CAT interface at NR2C was operating purr-fectly! (Photo credit Chuck Baker, NR2C)

Contest Online Score Board : ARRL RTTY Roundup

05 Jan 2018 00:01 UTC (Refreshes every hour)



2018 ARRL-RTTY :: Hourly Chart by Score



The horse race between N3QE and W3LL was close all weekend. This is why staying in the operating chair is so important! (Graphic credit Tim Shoppa, N3QE)

NR2C placed 5<sup>th</sup> in the region SOUHP, but questioned his eligibility: “The 8 yr old granddaughter watched for a while but the biggest ‘helper’ was the kitten we adopted a couple of months ago. My question is: Does a feline observer disqualify me from SOHP Unlimited class?” In SOULP, W3FIZ made it into 5<sup>th</sup> overall, whilst K3ZU held on for 10<sup>th</sup>.

VY2/W5AJ was kind enough to activate PEI for all of us, and achieved 7th overall MSHP. That VY2 prefix was probably good for at least an S-unit, but operator Robert found that the complicated call really slowed things down. And that’s not all: “A few days before leaving to PEI, a water leak was discovered in kitchen and the basement had about foot of water in it. The electrician that was there to work on wall mounted heater, turned off water to house & got sump pump running to clear the basement. Bottom line at this point was no showers, down one heater, and no water for flushing toilets! On arrival, there were LOTS of fans drying things out. Got the bedroom warm and hit the hay. Next day, ... down into the basement. The basement is dirt floor by the way and it’s all business down there. The water well pressure tank was froze, put auto lamp under it and by that afternoon was able to take a hot shower and had flushing toilets!” And in MSLP, N1UZ and W1QK placed a respectable 5<sup>th</sup> and 6<sup>th</sup> overall.

## Golden Logs

A Golden Log is arbitrarily defined as a log with no errors and with at least 100 QSOs. The top logs have always had around 400 QSOs and this year was no exception. Congratulations to this year's top Golden Log, submitted by Jim, AD1C with exactly 400 QSOs and a respectable 32,000 points - and once again logging as copied in a Single-Op Unlimited (SOU) category.

### Golden Logs

#### 100 or more QSOs, no errors

Call	Category	QSOs	Score
AD1C	SOULP	400	32,000
W2LE	SOHP	380	33,731
KIØJ	SOLP	377	25,636
VE3RCN	SOLP	350	23,100
WUØB	SOULP	308	19,630
WB8BZK	SOLP	307	19,341
OH2LU	SOLP	247	15,498
VE6QO	SOLP	222	10,434
WB4YDY	SOHP	180	10,080
J35X	SOLP	178	9,434
N3KN	SOHP	170	8,670
W6SFI	SOLP	135	5,805
LX1NO	SOLP	133	6,517

KE2D	SOULP	130	6500	WB5TUF	96,900
KA2AEY	SOHP	127	6096	W7ZR	82,880
KA9O	SOLP	125	6125	VA7KO	59,585
K9NW	SOULP	125	6125	WT9U	53,144
WQ9T	SOLP	118	5074	K3ZU	52,682
W9BGX	SOLP	112	4256		
K8MR	SOLP	112	3920	Multioperator, Single Transmitter, High Power	
KØJPL	SOLP	110	4620	NØNI	222,035
WBØULX	SOLP	109	5014	W9SN	202,120
VA3IK	SOLP	103	4532	WØSD	188,784
N9LQ	SOUHP	101	4949	K6SU	167,088
K3WYC	SOULP	101	5555	W4RM	161,414
AJ4UQ	SOLP	100	4600	W6YX	154,014
K8QH	SOLP	100	4600	VY2/W5AJ	148,350
WA7BME	SOLP	100	3700	K3MJW	132,704
				KB8O	130,032
				NW6P	116,424

## W/VE Top Tens and Records

### Top Ten – United States and Canada

#### Single Operator, High Power

ACØC	276,208
AA3B	254,526
W7RN (WK6I, op)	238,596
K8IA	183,229
K6MR	180,405
K5DU	179,280
AB4GG	140,504
WC6H	127,490
W4GO	119,020
N7QT	108,489

#### Single Operator, Low Power

W4AAA (KK9A, op)	215,500
WE9V	175,218
KA4RRU	136,296
VE4VT (VE4EAR, op)	125,240
N9CK	123,228
N2WK	119,038
KI6RRN	114,204
K9WX	103,684
KØAD	86,152
ND9G	86,010

#### Single Operator Unlimited, High Power

K6LL	212,280
WØLSD	204,376
N6WM	203,520
VE3CX	184,128
W3LL	184,098
N3QE	184,041
KO7SS	183,122
W7RY	181,716
N8OO	173,936
N6IE	168,720

#### Single Operator Unlimited, Low Power

AA5AU	199,506
KI6DY	117,600
K4GMH	112,959
VA3DF	101,343
W3FIZ	98,209

#### Multioperator, Single Transmitter, Low Power

AB5EB	118,776
W4TA	84,099
K9NR	81,081
K4FT	71,780
N1UZ	67,260
W1QK	60,750
W6IHG	54,080
N5RN	46,437
WN1G	36,972
KOØZ	34,050

Once again, despite the slings and arrow of outrageous propagation, we have some new Division records, and also a Continental record. And even more strange, and using one less available band, we even have a new SOHP record and a new SOLP record. Will wonders never cease?

### New W/VE Division Records

Call	Division	Region	Cat	Score	QSOs	Mults
KCØN	Dakota	Midwest	SOUHP	91300	840	110
ACØC	Midwest	Midwest	SOHP	276208	2297	122
W7RY	Midwest	Midwest	SOUHP	181716	1626	114
KI6DY	Midwest	Midwest	SOLP	117600	1233	96
W4AAA	Roanoke	South-east	SOLP	215500	1736	125
	South-western					
W7ZR	western	West Coast	SOLP	82880	742	112

### New DX Records

Call	Continent	Cat	Score	QSOs	Mults
4M1K	South America	SOUHP	191919	1770	111

## DX Highlights

### Top Ten DX

#### Single Operator, High Power

P49X (WØYK, op)	328,944
9A5W	165,292
EMØI (UT2IZ, op)	139,200
LY7Z	135,837
WP2B	109,816
PZ5RA	95,545
HP3SS	77,330
UA6CE	74,800
KH6ZM	68,400

YO3RU	50,700
Single Operator, Low Power	
HI3T (HI3TEJ, op)	102,912
EA8AH	88,540
TG9ANF	61,360
UT5EPP	57,000
SP4TXI	55,352
H2X (5B4ALX, op)	47,593
YV5AAX	41,735
DL3SYA	40,052
USØHZ	39,606
SP6OJK	36,192
Single Operator Unlimited, High Power	
SN7Q	195,125
4M1K	191,919
UW1M	177,568
LZ8E (LZ2BE, op)	157,200
S53M	131,241
UR7GO	117,407
9A7Z	107,968
UT4U (UT5UJO, op)	100,198
IK4DCX	95,260
OH8A (OH8WW, op)	95,188
Single Operator Unlimited, Low Power	
IT9RGY/I4	109,021
F5BEG	89,880
PY2MNL	83,692
IK3TTP	72,870
UX1UX	67,968
DF2F (DF2SD, op)	63,204
EI3JE	52,546
LZ1ZM	52,407
IW3RUA	47,600
LZ2YO	47,393
Multioperator, Single Transmitter, High Power	
R7AB	177,156
OL7M	164,208
S58K	117,000
PX2A	110,635
S5ØXX	100,210
DQ1IGRY	100,118
UZ2I	91,675
LZ7A	78,030
LY5W	48,840
RK3DXW	30,418
Multioperator, Single Transmitter, Low Power	
9A7T	70,092
IQ2CU	20,128
OK2RVM	18,984
EA3RCB	14,994
9A7B	14,750
LQ7E	11,935
RK3PWR	6,912
DF4WC	4,687
DX3H	2,760
JK2VOC	570

After falling off last year it is nice to European participation rebound. However, the number of logs

submitted by Asia was way off from last year. I know 10-meters can't be entirely to blame... I would urge everyone to get on for the JARTS contest in October to remind our friends across the Pacific that we value their QSOs.

#### DX Participation, by Continent

Continent	2015	2016	2017	2018
AF	7	8	5	5
AS	133	134	146	117
EU	569	522	474	490
NA (non W/VE)	33	31	30	22
OC	21	21	30	33
SA	31	21	23	26
Total logs	794	737	708	693

Other than the top spot permanently homesteaded by P49X (WØYK, op) there's not as much carry over from last year's SOHP results. And even though P49X was down almost 100K points due to the challenging Sunday noted above, the next several slots outperformed last year, with 9A5W (ditching assistance this time), EMØI, and LY7Z all exceeded EA1DR's second place in 2017. KH6ZM also defected from SOE, YO3RU and HP3SS also scored higher than last year despite conditions, and it's nice to see WP2B in there swinging.

In SOLP, HI3T (Ted, HI3TEJ, op) also held on to his top spot, despite dropping almost 40K points compared to last year. And again, on the other hand, top-tenners UT5EPP and DL3SYA bested their results from last year. The rest of the table features calls not seen in last year's results; it's nice to see long-time RTTY stalwarts EA8AH, TG9ANF, and YV4AAX back in the fray.

On the SOU side of life, SN7Q went from 5<sup>th</sup> last year to 1<sup>st</sup> this year, edging out 2017's top SOUHP, 4M1K, by a relative handful of points. UW1M again placed 3<sup>rd</sup>. In general, all scores in this list reflected an improvement in scores over last year. It was the same story for SOULP, with all scores a big leap over last year's results — IT9RGY/4 took the top slot with almost 40K more points scored than 2017's S56A.

In the Multi-ops, 2017 winner OL7M outdid last year by 15K points, but R7AB found even more points and took away the top spot in MSHP (Multi-single, High Power). Similarly 9A7T showed and took the top spot with a dominating score.

#### Continental Winners

##### Africa

Single Operator, High Power	EA8PT	26,752
Single Operator, Low Power	EA8AH	88,540
Single Operator Unlimited, High Power	ZS2EZ	12,805
Single Operator Unlimited, Low Power	D41CV (IK2NCJ, op)	6,148

## Asia

Single Operator, High Power	JA1OVD	27,576
Single Operator, Low Power	H2X (5B4ALX, op)	47,593
Single Operator Unlimited, High Power	JM1XCW	20,636
Single Operator Unlimited, Low Power	JP1QDH	12,042
Multioperator, Single Transmitter, Low Power	JK2VOC	570

## Europe

Single Operator, High Power	9A5W	165,292
Single Operator, Low Power	UT5EPP	57,000
Single Operator Unlimited, High Power	SN7Q	195,125
Single Operator Unlimited, Low Power	IT9RGY/I4	109,021
Multioperator, Single Transmitter, High Power	R7AB	177,156
Multioperator, Single Transmitter, Low Power	9A7T	70,092

## North America

Single Operator, High Power	WP2B	109,816
Single Operator, Low Power	HI3T (HI3TEJ, op)	102,912
Single Operator Unlimited, High Power	KL7SB	72,732
Single Operator Unlimited, Low Power	TG9IIN	30,956

## Oceania

Single Operator, High Power	KH6ZM	68,400
Single Operator, Low Power	KH6CJJ	22,950
Single Operator Unlimited, High Power	KH6TU (AD6E, op)	20,862
Single Operator Unlimited, Low Power	VK5GR	5,929
Multioperator, Single Transmitter, Low Power	DX3H	2,760

## South America

Single Operator, High Power	P49X (WØYK, op)	328,944
Single Operator, Low Power	YV5AAX	41,735
Single Operator Unlimited, High Power	4M1K	191,919
Single Operator Unlimited, Low Power	PY2MNL	83,692
Multioperator, Single Transmitter, High Power	PX2A	110,635
Multioperator, Single Transmitter, Low Power	LQ7E	11,935

## Last Print - That Perfect Transmitted RTTY Signal

Good decoding in a contest results in a higher score. If a station tuning past your signal can't decode you right away, there is a chance they will just go on to the next signal. So it behooves one to reduce the chances of that occurring.

A jitter-free signal with no nasty sidebands is the goal. How you choose to achieve this depends heavily on your operating conditions - transceiver capabilities etc. - and your personal preferences. Using a modern software modem such as *2Tone* by David, G3YYD for AFSK is one straightforward solution.

However, if your situation calls for FSK operation, you have more to think about. Many modern radios (the Elecraft K3 is one example) properly manage the FSK signal for a clean output; older radios may or may not do so. But there is still the issue of jitter.

Jitter is simply the effect of imperfect timing in creating the Baudot data stream that leaves your radio. A pure hardware solution should have no jitter and create perfectly timed bit and character spacing every time. However, if your timing is based on e.g. Windows software routines, the overall demands of the operating system can cause bits to be stretched or shrunk by small or large amounts. Every time this happens it increases the chances that your CQ will not decode properly.

A few years ago, Andy, KØSM, came up with a little widget he called TinyFSK. Based on an Arduino Nano, it speaks to your PC via USB and spits out FSK and PTT signals that you can interface to your transceiver using the appropriate connector. The circuit, which you can source, build, and package yourself - was [published online](#).

More recently, TinyFSK has been rediscovered by the RTTY contesting community. Popular contest loggers like *NIMM+* and *Writelog* now support TinyFSK directly. It is finally available as a kit called "[Mortty](#)" from Larry, K8UT, that includes all of the parts needed (except the connector to your transceiver) and the enclosure. As a bonus it can double as a CW keyer. If you are interested in learning more, be sure check out the article by Ed, WØYK in the May/June 2017 issue of *NCJ* for all of the gory technical details.

## Heavy Metal by Dale W9DKB

by Dale, W9DKB

This year I operated the RTTY Roundup contest using heavy metal — in this case, a Teletype Model 19 teleprinter. The terminal unit was a Hal ST-6. I went through many feet of paper!

I've operated a Model 19 for the past 25 years, but my Teletype story is literally as old as I am. My Dad serviced Model 15 Teletypes for RCA Service Corporation back in the 1960s. They had a contract to service the teleprinters used by United Press International (UPI). As a boy I distinctly remember the smell of Lestoil used to clean the machines, the grease, the oil, and the ink from the ribbons.

UPI provided wire service right to our house for testing the machines. We'd let the "test machine" run once in awhile. At times we'd hear five bells in a row, meaning breaking news. Often it had something to do with the civil rights movement or the Viet Nam war.

Fast forward to 1977 when my Dad and I got our Novice tickets at the same time and had consecutive call signs: WD9GWG (Dad) and WD9GWH (me). After we gained our general class licenses, Dad hunted up a Model 15 Teletype and built his own ST-5 type terminal unit. We used a Drake 2B for receiving and a Heathkit Apache for transmitting. FSK was achieved with a shift-pot keying circuit attached to the cathode of the VFO. We worked many, many RTTY stations in the late 1970s.

Teletype was in my blood, and except for a few years in college in the early 1980s, I've owned Teletype equipment ever since. I have been able to service most of my own problems, but sometimes I had to call in the expert (Dad) who would fix the machine as if he were 30 years old again. Sadly, Dad became a Silent Key in 2015. He would have loved watching me work the RTTY contest with the Model 19.

During the contest itself, I had to change the roll of paper once and I had to fix the ribbon once. Otherwise, the page printer and the tape equipment worked flawlessly. I wired up the contacts on the SEND-RECEIVE-BREAK key to simultaneously key the transceiver and place the ST-6 in stand by. What a time saver!

My ambition is to do more vintage RTTY on the HF bands in the coming years. Perhaps you and I will work each other on 20-meters some day.

## Single-Op Unlimited, Low Power Report

by Wray, AB4SF (3<sup>rd</sup> place Southeastern Region)

RR is one of my favorite contests. According to certificates on my wall I've played in it on and off since the '90 run. Over the past year I have been moving to a new QTH that has salt water within several miles in all directions; the Chesapeake Bay is about three miles to my east. My tower is not up yet so I am making do on the HF bands with a non-resonant twin-lead fed dipole and my trusty Orion running barefoot. I thought I'd give RR a try this year.

Of course, Mr. Murphy was not far away. On Thursday the UPS that handles the ham radio operations computer threw a bad battery alarm. Knowing that the battery is "hot-swappable" I pulled the battery so I could figure out what it is and order one - not many places within a couple of hours of here stock UPS batteries. I figured that without

a battery I would at least have an expensive surge protector. HA.....

On Friday while I was in my shop rebuilding a rotator there were several rather hefty power bumps. A little later I walked into my shack and found the UPS and computer down. I ran an extension cord to another UPS and held my breath when I turned the computer back on because this one is balky about getting through BIOS. It did get through this time but Windows was mad, not a surprise because it shut down hard, probably bumped down. Windows wanted to "repair" so I said OK. 12 hours later (now Saturday morning) it was still "repairing". Oh-oh...or words to that effect... Long story short, I did get Windows back on its feet, *NIMM+* and the radio were happy together again and I was in the contest for the first minute.

Given my antenna situation I mostly stayed in S&P All in all, things were going well. Then on Sunday afternoon I heard from the gremlins again. At one point I hit transmit to call a station and the Orion shut down, then came back on with a full reboot. After I got the radio connected to *NIMM+* again I looked around: All connections tight, there was no excessive VSWR that would cause excessive dc mains current draw...????? A couple of minutes later, same thing. Then the radio did it again, twice in a row, but did not come back on this time before I heard a popping sound from behind the radio and quickly hit the power switch. On closer inspection, I found the plug-in mini-ATC fuse was dark on the bottom side. When I removed the fuse, even though the link inside was good, one side of the fuse and one pin was blackened, typical of a loose connection under current. I got a flashlight and carefully inspected the fuse socket. Other than signs of arcing in one spot it looked good so I located a new fuse and carefully put that in, making sure it was fully seated. I turned the radio back on, got *NIMM* happy, then hit transmit. All looked good and I finished the contest with no further appearances from Murphy or any of his gremlin friends.

My last QSO in the contest, in the last minute, was also exciting. I worked a DF8 on 80, especially fun because he lives in a small town that I've visited a number of times — a friend of mine grew up there. I have not met the gentleman yet but the next time I get to Rietberg, Germany I want to look him up. After all, he's in my log 28 times over the years.

I ended up with 45 states plus AK and HI, 8 provinces, and 36 DXCC. Not bad for 100 watts and a wire. One of the states I missed was Rhode Island (go figure). Late on Sunday afternoon I knew there was a RI station lurking on 80 so I found an clear frequency and started calling CQ. I

had a nice run, small pileup at times. At one point I saw the RI station call me. *NIMM+* put him second in the stack. When I went "Now..." and his call, he never came back. Oh well, with under 30 minutes to go in the contest, that's the breaks.

Thanks to everyone for all of the QSOs I did make this year. By next year I should have the tower up with a Yagi on it, have my amplifier on line, and maybe even a new Flex in place of the Orion.