ARRL 10 Meter Contest 2012 Results

by Scott Tuthill, K7ZO

"You just never know what 10 meters is going to serve up!" – Jim WX3B!"

The 40th annual ARRL 10 Meter Contest was held on December 8-9th, 2012. After an amazing 2011 the faithful worldwide were awaiting a repeat. As late as December 1st, NOAA's Space Weather Prediction Center flux forecasts were in the 130 range for the contest period which would lead to outstanding propagation. Right in line with 2011! The Sun had other plans, though, and conditions took a sudden, unexpected dive the week before the contest. In the days leading up to the contest, flux was in the high 90's and just barely climbed above 100 over the contest weekend. Sadly, those hoping for a repeat were left wanting. In particular, inter-continental east-west propagation paths were severely depressed compared to 2011. Still, participation was high with 3,050 operators submitting logs. Those that did get on the air found plenty of folks to work, proving once again that the ARRL 10 Meter Contest is just plain fun!

Activity

Part of the fun of 10 meters is that low power and small antennas generate contacts far and wide. Whether operating for competition or fun when 10 meters is open it is a great place to hang out. And, during 2012 10 meters was still a good place to make intra-continental contacts as well as look for DX on north-south paths. Figure 1 compares 2011 with 2012. These are 10 meter QSO maps from EA6VQ's DXMAPS web site (www.dxmaps.com). Each map shows reported QSOs from 16:40 to 17:00 UTC during the contest on Saturday. The 2011 map shows a mass of lines between North America and Europe indicating the wide open path. That was fun wasn't it? On the 2012 map these are largely missing however there was a great deal of activity between North and South America and within North America itself.

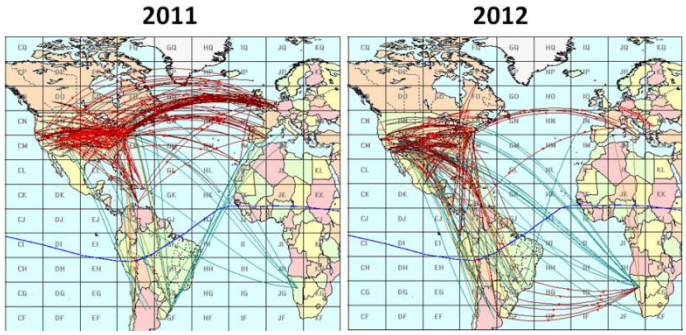

Figure 1 - DXMAPS 28 MHz real time QSO maps from 16:40 to 17:00 UTC Saturday. Maps courtesy of Gabriel EA6VQ. (**www.dxmaps.com**)

And though the usual DX short paths were not cooperating, many lucky operators caught some amazing long path openings. On both Saturday and Sunday morning long path openings erupted from the eastern US to Asia. Just another type of fun! As Ken, WM5R related in his post contest soapbox comment:

"I experienced something that never fails to thrill me just a little. On both mornings, I managed to work other amateur radio stations in southeast Asia by pointing my antennas to my southeast. In our morning most of the planet between Texas and southeast Asia on the short path is in darkness. The long path, on the other hand, was mostly in sunlight at that time and for a brief moment, conditions are just right. I made contact with other radio stations over a distance more than halfway around the planet. No wires, no networks - just two radios with some aluminum stuck high up in the sky, enjoying one of the fleeting wonders of nature."

The 2012 edition still proved to be quite popular though not quite like last year when 5,361 logs were submitted. The 3,050 logs entered for the 2012 contest was good enough for third all-time, just behind the 3,119 submitted at the peak of the last cycle in 2002. For further comparison, the 2012 ARRL DX Phone contest set its all-time mark with

3,527 logs submitted. The 10 Meter Contest, as a single-band contest, was right in that same range of submitted logs. Continuing the comparison, all the logs submitted for the 2012 ARRL DX Phone contest contained 1.48 million QSOs across all six bands. Submitted 10 Meter Contest logs contained 573,000 QSOs as a single-band contest! Of course in the 10 Meter Contest you can make contacts in both CW and Phone, but still, a lot of people had a lot of fun over the weekend. The average log contained 181 QSOs this year compared to 363 QSOs last year and 153 in 2010.

Logs submitted from W/VE/XE stations numbered 1,747 and 1,303 were submitted from DX locations. These counts represent 35% and 52% reductions respectively from 2011. Yet, they still are some of the highest totals ever. In W/VE/XE, only 2011 and 2002 saw higher totals. And for DX, 2012 represented the second highest number of logs ever submitted. Well done, everyone!

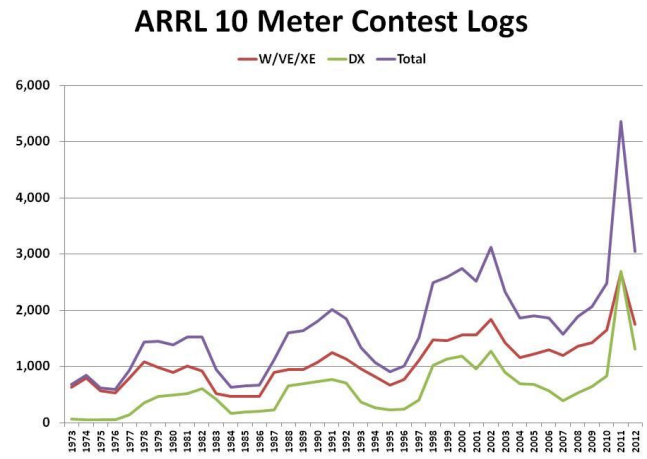

Figure 2 – Number of logs submitted by year.

As far as operating categories the Single-Operator, Low Power categories continue to be the most popular, making up just under half of all log submissions. This is followed by Multioperator and Single-Op, High Power with 23% and 22% of the entries respectively. The QRP enthusiasts made up 7% of the logs submitted. CW-only categories were most popular followed by Phone-only, Multiop and then Mixed mode. In two of the last three years CW-only has been the top category after capturing its first lead back in 2010.

In 2011 the big category news was the creation of the Multioperator, Low Power (MOLP) category. Filling dual roles as both a true Multioperator category as well as a Single-Operator Unlimited, Mixed category it continues to be quite popular with 287 logs submitted worldwide. Overall growth in the Multioperator category has been quite dramatic over the past several years. In 2005 and 2006 Multioperator entries made up only 8% of logs submitted. They now make up 23% of logs submitted and for the second year in a row outnumbered Single-Operator, Mixed entries. It looks like this trend is here to stay.

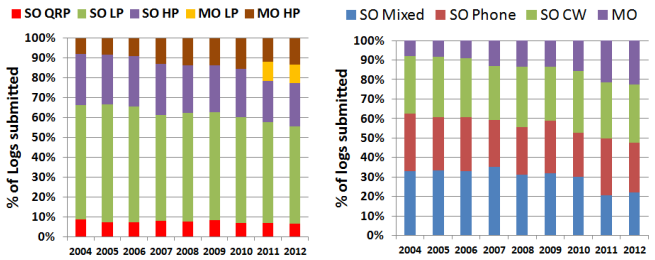

Figure 3 – ARRL 10 Meter Contest operating category trends.

Looking around the world, logs were received from more than 221 different DXCC entities and W/VE/XE sections, only a slight reduction from the 230 in 2011. The ARRL 10 Meter Contest remains a truly a global event. More logs were received once again from those quintessential contesters in Japan, with 165, than any other location. They were closely followed by Brazil with 123 logs and European Russia with 95 logs. Last year's second-place holder, Germany, dropped well down the list as the number of logs dropped almost 80% from 242 to 51. Total logs submitted from Europe fell 65% in 2012 from 2011. Perhaps the lack of strong band openings to Asia and North America had something to do with it. And maybe Europe did see the worst of the propagation. As Darrell GØHVQ said in his post contest write-up: "I wondered if I'd overslept by several years and woke up at solar minimum!"

Looking for the most active W/VE/XE sections, honors goes to Ohio with 67 logs received followed by Minnesota with 64. It is notable that Minnesota has less than half the ham population of Ohio so they were out in force. If you live in Minnesota and it's the second weekend in December it must be a good time to be on the radio! Continuing this perspective, the US states with the highest fraction

of the licensed hams submitting a log were: New Hampshire, Minnesota, Rhode Island, Massachusetts, and Delaware. All of them are in relatively cold and wintery locations. They also are in areas where contest clubs are very active in getting their members on the air. In Canada, top honors goes to Northwest Territories followed by Saskatchewan.

Activity in Asia held up fairly well. Overall logs submitted fell 42% from 550 in 2011 to 317 in 2012 which was just slightly less than the overall drop of 43%. After Japan the most active countries were Asiatic Russia with 68 logs submitted and China with 28. Though logs from China dropped, it was in line with overall submissions and they remain a solid participant in the contest. The number of logs from China exceeds that from many stalwart European countries such as France, Sweden, England, and Portugal.

And, who were the most energetic and active contesters? Which operators sit down, keep their butts in the chair and make a large number of contacts? Looking at those entities with five or more logs submitted, 2012 honors go to Uruguay. The seven logs submitted from Uruguay averaged 1,160 QSOs each: A great effort from CV5K, CW5W, CX1DX, CX2BR, CX4SS, CX5BW, and CX5TR! In second place were the 57 logs from Argentina which averaged 511 QSOs followed by the 10 logs from the Canary Islands with averaged 457 QSOs each and the 21 logs from Chile that averaged 427 QSOs each. You can really see the impacts of the relatively strong north-south propagation this year. In the northern hemisphere were thousands of DX-hungry operators. In the southern hemisphere were far fewer operators, but when they got on the air had solid propagation and attracted a great deal of attention. All they had to do was just stay on the air and they filled their logs.

All in all, the 2012 edition of the contest was a whole bunch of fun.

Hard-Earned New Records

Some of us contest for the fun, some of us for the competition. The real Type A personalities target setting a new all-time record. What this says is not only do they want to compete against everyone in this year's contest but they want to take on everyone in all the years back to when this contest started in 1973. Coming off an amazing 2011 in which almost 1 in every 12 logs contained a record score and 1 in every 5 DXCC and W/VE/XE section records were set, this was certainly tougher in 2012. The record opportunities created from the 32 new XE multipliers and new MOLP category have largely been taken advantage of. Yet, even with the overall poorer conditions than 2011, hard-working operators managed to set 88 new records in 2012. Fifty-one of these were DXCC entity and thirty-seven were W/VE/XE section level records. Additionally, 21 first-time, and thus all-time, records were set by operators in the newly split Ontario sections in Canada (GTA, ONE, ONN, and ONS). Thanks to the efforts of Ken, WM5R a full set of all-time ARRL 10 Meter Contest records are available at **www.arrl.org/contests**.

Of these 88 records, there were 18 High Power records, 61 Low Power records (34 of these being in the still relatively new MOLP category) and 9 QRP records. In W/VE, 15 of the 18 records set in 2012 were in the MOLP category and the other 3 were QRP. No new Single Operator, Low Power or High Power section records were set in W/VE in 2012, other than the first-time records in the new Ontario sections. This also means no one successfully knocked off either of the two section records still existing from the 1970s, now the oldest ones on the books in W/VE/XE. Who will take the challenge next year and set new records for: Northern Territories, Single-Op, High Power, Mixed set by VE8AW in 1978, and Idaho's Single-Op, High Power, Mixed set by K7LR in 1979? 2013 and 2014 may be the last chance during this solar cycle. [*How about the author? Ed.]*

Mexican operators continue to set new records with relative ease and 19 new XE all-time records were set in 2012 from the 30 operations that submitted logs. If you want your name in the record books, XE is the place to go to. Of the 352 possible all-time records in the 32 XE states there are still 270 of them without any records. Which means "You operate, you get your call in the record books!"

TOP TEN – U.S.

MIXED MODE, QRP

K9OM	139,568
NA4CW	126,594
WA6FGV	101,340
N1CC	48,828
KCØMO (KØOU, op)	47,302
N6MA	44,756
KT8K	34,736
N2XP	34,720
WB2AMU	28,160
N9JR	26,962

MIXED MODE, LOW POWER

K6AM	502,016
KTØK	371,178
WD5K	362,202
K2PS	342,166
N7LOX	337,040
W9XT	328,098
KØTT	244,378
N6ZFO	230,454
ACØW	215,424
K7SS	187,916

MIXED MODE, HIGH POWER

N8OO	1,067,844
W6YX (N7MH, op)	948,192
N8II	917,670
K6LL	777,920
NQ4I (K4BAI, op)	777,096
KØEJ	737,104
WB9Z	621,300
WR9D (KB9UWU, op)	541,748
AA6PW	462,534
N2NC	461,472

PHONE ONLY, QRP

KE2OI	49,528
W6QU (W8QZA, op)	28,900
N8MWK	16,836
KB5KYJ	9,450
WWØWB	8,184
N8XA	7,896
AA4JI	7,396
N9FRY	6,536
NDØC	6,474
KKØQ	4,200

PHONE ONLY, LOW POWER

W3PAW	120,048
AC5O	99,138
N7XS	92,950
W4GKF	84,870
W2TF	54,612
N7CKJ	51,260
W1TJL	50,688
N6KP	48,112
K4DMR	44,352
WA8QYJ	38,700

PHONE ONLY, HIGH POWER

K4XS	455,576
W5PR	342,240
NR5M	336,232
K5TR (WM5R, op)	277,992
K4NV	257,260
W3EP	202,160
WA5OYU	121,030
K1KNQ	115,830
N7UQ	113,848
K6HNZ	113,174

CW ONLY, QRP

K3RR	98,272
W6JTI	94,916
NØUR	93,984
N7OU	74,256
KØLUZ	50,952
K3TW	43,264
KS4YX	39,984
AA1CA	35,960
N4DSP	35,828
K4CIA	35,700

CW ONLY, LOW POWER

N4WW (N4KM, op)	322,400
K7QQ	276,696
N4TB	240,720
W3BGN	226,204
N4IJ	223,584
WB4TDH	170,868
KU8E	169,376
WD4AHZ	161,920
K9QVB	156,240
W2EG	150,804

CW ONLY, HIGH POWER

W5KFT (K5PI, op)	597,640
KN5O	554,496
KD4D	548,640
K1TO	545,020
NY3A	446,656
K2SSS	439,456
N2MM	401,288
W6PH	312,480
K6NR	295,560
N9RV	289,428

MULTIOPERATOR, HIGH POWER

K1WHS	1,312,722
NX5M	1,119,472
K1LZ	1,035,440
N6DZ	926,640
K9CT	890,358
AA1JD	860,274
W4UH	842,490
WX3B	798,720
K4FJ	788,322
AA2A	776,058

MULTIOPERATOR, LOW POWER

K4ZGB	208,610
K2DFC	205,936
NØHJZ	168,392
K7XC	168,036
W3ZGD	165,792
K8WW	141,456
WA1F	125,832
W8KA	109,460
AA4R	99,216
N9CM	90,816

TOP TEN - Canada

MIXED MODE, QRP

VA3KRM	1,408

MIXED MODE, LOW POWER

VE6BMX	139,958
VE5ZX	121,152
VE5KS	77,700
VE3TW	57,038
VE3FH	32,262
VY2LI	31,248
VE2EBK	27,504
VA3AR	24,752
VE9ML	18,400
VE3VSM	10,360

MIXED MODE, HIGH POWER

VE3KZ	446,708
VY2TT (K6LA, op)	407,550
VE5UF	160,888
VE3CX	131,516
VE4VT	33,744
VE1JS	17,812
VA5LF	12,150
VE3JM	5,984
VE3AAQ	1,680

PHONE ONLY, QRP

VE1ZA	13,072

PHONE ONLY, LOW POWER

VE8GER	46,864
VA3MTT	17,992
VA7IR	10,320
VE6EC	6,474
VE2HIT	6,336
VE7EMI	5,040
VE7VAW	5,040
VA7AM	4,048
VA3WU	2,684
VE6KAD	1,470

PHONE ONLY, HIGH POWER

VA6UK	31,482
VA6NJK	31,440
VA3PC	8,600

CW ONLY, QRP

VY2OX	36,300
VE3MGY	1,548
VE3FAL	1,196
VE2KOT	24

CW ONLY, LOW POWER

VE1RGB	119,132
VE3FGU	61,248
VA2WA (VA2WDQ, op)	58,240
VE7CV	54,288
VE7JKZ	50,940
VE3OM	47,628
VE3IAE	34,600
VA7MM	29,376
VA3KAI	13,860
VA3EC	7,168

CW ONLY, HIGH POWER

VY2ZM	601,392
VE7JH	394,200
VE7XF	284,488
VE9AA	261,508
VE9HF	171,720
VO1TA	157,440
VA7ST	76,896
VE2EZD	20,468
VE7WO	17,248
VE3EY	15,600

MULTIOPERATOR, HIGH POWER

VE3MMQ	327,564
VE6WQ	217,728
VE1OP	216,300
VE3YAA	204,724
VE3EJ	201,488
VE3AD	138,840
VE6AO	129,420
VE7SQ	59,388
VE3XAT	48,640
VE7IO	41,412

MULTIOPERATOR, LOW POWER

VA7BEC	245,436
VA7DZ	162,330
VE6AX	21,576
VA7XB	18,352
VE2AXO	14,168
VE3/KD2HE	1,672

TOP TEN - MEXICO

MIXED MODE, QRP

No entrant

MIXED MODE, LOW POWER

XE2AU	130,536
XE1FRF	64,780
XE2O	16,744
XE2ML	2,496

MIXED MODE, HIGH POWER

XE1GRR	63,190
XE1J	44,220
XE2CQ	37,320

PHONE ONLY, QRP

No entrant

PHONE ONLY, LOW POWER

XE2AA	36,816
XE1ZTW	7,980
XE2JA	7,252
XE1E	6,728
XE2JUM	3,240

PHONE ONLY, HIGH POWER

XE1B	205,478
XE2HUQ	78,520
XE1EE	8,584

CW ONLY, QRP

No entrant

CW ONLY, LOW POWER

XE2HQI	88,200
XE1CT	31,360
XE2YWH	6,076
XE3WMA	792

MULTIOPERATOR, HIGH POWER

XE2B	472,926
XE1OGG	40,960
XE2X	33,696
XE2ST	1,932

MULTIOPERATOR, LOW POWER

XE1HG	69,440
XE2FGC	20,868
XE1RCQ	11,088
XE1AJ	7,826
XE3N	2,736

TOP TEN - DX

MIXED MODE, QRP

PY2NY	40,606
JR3RWB	26,700
EI4II	22,344
RT4W	10,880
JH7UJU	7,820
7K1CPT	7,592
JR1UJX	6,804
DL8LR	5,742
PY7AHA	4,522
JK1TCV	3,300

MIXED MODE, LOW POWER

LU8EOT	1,024,716
ZS6WN	472,940
PY9MM	436,272
HQ2N (JA6WFM, op)	254,320
LW3DG	154,880
JG1AVO	131,840
PY2MC	91,176
CX5TR	79,310
ZS2NF	77,812
CX2AQ	63,990

MIXED MODE, HIGH POWER

HK1R	1,805,320
P4ØCX	1,381,632
XQ1KZ	693,056
EA7KW	626,232
ZS1EL	562,380
EF5Y (EA5GTQ, op)	462,726
OM2VL	173,862
RT4RO	159,790
DH8BQA	129,360
RX4W	102,700

PHONE ONLY, QRP

TG9ANF	61,452
LU7VCH	14,592
VK4ATH	3,720
R7NA	2,856
PY2BI	1,462
PU5UAI	896
JA2MWV	672
PU2EBR	352
ON3TO	340
PY2BN	270

PHONE ONLY, LOW POWER

PU5FJR	467,520
EA8AH	311,454
EA8MT	269,312
FY8DK	258,656
YY4DNN	224,976
LW7DUC	202,320
ZZ2T (PY2MNL, op)	181,608
PU2LEP	164,016
LR1F (LU5FD, op)	123,336
ZV2K (PY2SHF, op)	118,332

PHONE ONLY, HIGH POWER

PP5JD	579,672
LP1H	552,000
CE3CT	393,262
YN5ZO (K7ZO, op)	326,976
LS6VI	198,440
PT9ZE	165,648
CR6K (CT1CJJ, op)	159,238
CE1TT	151,940
OA4SS	141,174
LU3DW	137,124

CW ONLY, QRP

LU7HZ	208,832
CX4SS	172,272
RV9DC	20,000
JA1YNE (JR1NKN, op)	19,840
VR2ZQZ	18,720
PP5BZ	11,616
US5VX	5,304
DJ2RG	5,152
JH6QIL	4,704
Z39A	3,956

CW ONLY, LOW POWER

PY3OZ	804,992
V51YJ	513,400
PY2WC	399,600
L33M (LU3MAM, op)	398,736
LW8DQ	301,416
NP3A	254,208
HSØZIA	241,696
LW5HR	227,220
ZL3TE	211,344
5C5W (CN8KD, op)	206,928

CW ONLY, HIGH POWER

CE1/K7CA	786,420
EA6SX	324,104
KP3W	269,848
JA5FBZ	241,500
XR3A (CE3DNP, op)	236,684
IT9VDQ	202,860
JG1ILF	195,456
EA4ZK	160,160
JE1CKA	133,668
PV8ADI	130,220

MULTIOPERATOR, HIGH POWER

CW5W	3,535,974
D4C	3,118,892
LS1D	2,664,256
CX5BW	2,609,068
LU5FB	2,440,482
PY2NDX	2,178,474
PT5T	1,798,728
PJ2T	1,695,456
PS2T	1,271,806
PX2B	1,204,344

MULTIOPERATOR, LOW POWER

PY1GQ	996,030
LU5DX	988,500
VK4WIL	593,206
LU3DAT	473,744
VP2VGG	293,454
LU1UM	247,040
HC2UA	244,494
PJ4NX	244,470
C6AKQ	232,064
LU2EE	201,984

CONTINENTAL LEADERS

AFRICA

MIX	LP	ZS6WN	472,940
MIX	HP	ZS1EL	562,380
PH	LP	EA8AH	311,454
PH	HP	ZS5NK	3,944
CW	LP	V51YJ	513,400
CW	HP	D3AA	55,744
MO	HP	D4C	3,118,892
MO	LP	ZR6DX	9,120

ASIA

MIX	QRP	JR3RWB	26,700
MIX	LP	JG1AVO	131,840
MIX	HP	JH1GBZ (JH5GHM, op)	95,418
PH	QRP	JA2MWV	672
PH	LP	VU3DMP	10,764
PH	HP	JH6AUS	87,120
CW	QRP	RV9DC	20,000
CW	LP	HSØZIA	241,696
CW	HP	JA5FBZ	241,500
MO	HP	XV1X	277,250
MO	LP	E21YDP	27,456

EUROPE

MIX	QRP	EI4II	22,344
MIX	LP	RW4WA	49,790
MIX	HP	EA7KW	626,232
PH	QRP	R7NA	2,856
PH	LP	CT1FDB	21,580
PH	HP	CR6K (CT1CJJ, op)	159,238
CW	QRP	US5VX	5,304
CW	LP	EA7RM	102,060
CW	HP	EA6SX	324,104
MO	HP	TM6M	584,648
MO	LP	ED1B	99,940

NORTH AMERICA

MIX	LP	HQ2N (JA6WFM, op)	254,320
PH	QRP	TG9ANF	61,452
PH	HP	YN5ZO (K7ZO, op)	326,976
CW	LP	NP3A	254,208
CW	HP	KP3W	269,848
MO	HP	TI5/N2BA	1,130,370
MO	LP	VP2VGG	293,454

OCEANIA

MIX	QRP	VK3GK	832
MIX	LP	ZL1TM	10,260
MIX	HP	VK2GWK	28,420
PH	QRP	VK4ATH	3,720
PH	LP	VK4LAT	116,000
PH	HP	ZM1G (ZL2HAM, op)	62,812
CW	LP	ZL3TE	211,344
CW	HP	NH2DX (KG6DX, op)	68,800
MO	HP	AHØBT	566,588
MO	LP	VK4WIL	593,206

SOUTH AMERICA

MIX	QRP	PY2NY	40,606
MIX	LP	LU8EOT	1,024,716
MIX	HP	HK1R	1,805,320
PH	QRP	LU7VCH	14,592
PH	LP	PU5FJR	467,520
PH	HP	PP5JD	579,672
CW	QRP	LU7HZ	208,832
CW	LP	PY3OZ	804,992
CW	HP	CE1/K7CA	786,420
MO	HP	CW5W	3,535,974
MO	LP	PY1GQ	996,030

Within W/VE/XE a total of 5 new division records were set in 2012, down from 50 in 2011. In the MOLP category, new records were set by K8WW in Great Lakes, W8KA in Southwestern, and N5DO in West Gulf. Additionally, XE2AU's Single-Op, Low Power , Mixed and XE2B's Multiop, High Power operations set new all-time Mexican records.

On the DX front, 2 new continental records were set, down from 15 in 2011. ZR6DX turned in the first ever MOLP entry from Africa and found themselves in the record book. VK4WIL ground it out and just managed to knock off V63QQ's existing

Oceania MOLP record and will also find their call in the all-time record list.

Unfortunately, the tough conditions in 2012 meant that no new all-time category world records were set. But, there were still some great operations and great stories out there. We will hear about some of them next.

The people behind the numbers

Of course any contest like the ARRL 10 Meter contest is really the result of operators worldwide making the effort to turn on their station and get on the air. It is the people that make the contest. The Sun and the ionosphere just provide a pathway for everyone's journey. In any contest there are full-bore operations meant to place first in their category, there are operations just about having some fun, maybe along with some friends and family, and there are operators who go make extra special efforts just to get on the air. Here are stories from a few notable operations.

One perennial story line is the battle for the top spot among DX Multioperator, High Power stations. In 2011 D4C managed to beat out 2008, 2009, and 2010 victor CW5W and set a new all-time record in the process. CW5W team leader Jorge CX6VM certainly noticed this and was committed to regaining their top spot in 2012. As Jorge says their drive to be #1 "...is a commitment that grows each year..." How was this commitment demonstrated? Here are some excerpts from Jorge's story:

"We knew the competition would be very tough, with many good stations competing in the MS category such as PJ2T, PT5T, PY2NDX, LU5FB, LS1D and of course D4C which had won the previous year with a new world record.

"...two weeks before the contest I was working on the Uruguayan border with Argentina (west) when I live on the border with Brazil (east). Then I arrived at home on Saturday at 3:00 a.m. and at 6:00 a.m. the tower man showed up to bring down and repair three 10m antennas to be repaired and re-installed.

"On Saturday we started early at 08:30 UTC, looking for the elusive multipliers: ZL, VK, FK, BX, ZC4, 5X1, 9K2, A65, T6 and quickly they were in the log together with some African stations.

"We worked many QRP, including K4KSR with 0.7 watts and an attic dipole that emailed to congratulate us for having heard him."

Jorge also reminded us all of those people who, while not operators, none the less are important to the team success. In his case: "Special mention to my dear and patient wife Carolina, who has supported all these follies and my crazy schedule with little time at home prior to the contest, and this year things were even more challenging because she was eight months pregnant!"

Oh yes, CW5W was successful and reclaimed their crown atop the DX Multioperator, High Power category. That makes it four out of the last five for Jorge and his team – a dynasty in the making?

Figure 4 – A happy CW5W team. From left to right: CX3AL, CX7CO, CX2DK, CX5CBA, and CX6VM. (Photo - CX6VM)

Similarly in the US, several traditional heavyweights battled for the top Multioperator, High Power spot, but it was the team led by Dave, K1HWS, an energetic newcomer to HF contesting, that pulled out the win. Dave relates the secret to their success:

"Being a VHFer and unfamiliar with HF contests, I didn't even know what the good directions were! I joined the Yankee Clipper Contest Club and started picking various contester's brains, trying to glean as much information as I could. I wanted to get on ten meters to learn about propagation in hopes that it would help me on deciphering 50 MHz DX.

"My ham shack is remote out behind my house about 1500 feet away, sitting on a rocky ridge top with good drop offs in every direction except Europe. It is a good VHF location. I worked with the HFTA terrain program trying to find a good combination of 10 M antennas that gave a good account of themselves at each of the important headings. I ended up with three homebrew five element yagis stacked at 70, 50, and 30 ft. I built up that antenna on a new Rohn 45 70 ft tower in the Fall of 2011. The antennas were fixed on Europe, but the top one could rotate. I also had a pair of these yagis aimed at South America. The VHFer in me is always trying to wring out that last few tenths of a dB in my system."

The K1WHS team was one of the ones to catch the long path openings to Asia on Sunday which resulted in some great multipliers. "We had the rig on at 12:00 Sunday morning, and worked our first EU station then, fully an hour earlier than on Saturday. That was EI2CN followed by four EA stations in a row on CW. Then Dennis W1UE got the surprise of the weekend when JG1ILF called him on CW. Dennis had the beam at 90 degrees for working Europe on a skewed path. We turned the beams almost due South and started working a number of long path QSOs. He worked seven JAs, plus VR2CB, BD7LMD, XV1X, BU2AV, HS0ZIA, and 9V1YC. Our last long path QSO was at 15:41 with 9V1YC in Singapore. That path had started at 12:58, and lasted almost three hours!

"We were all pretty happy with the results when 00:00 UT rolled around. Both Art and Dennis were smiling. I was busy thinking about what went wrong and where we could do better. Congrats to the K1LZ crew on a good score. Looks like we got you this year!"

Figure 5 - Part of the antenna farm at K1WHS. This is the rotating 5/5/5 stack. (Photo - K1WHS)

Figure 6 - K1BX operating while K1WHS supervises and performs logging quality control. (Photo - K1WHS)

At the other end of the spectrum from the Multioperator, High Power stations are those hardy QRP operators. One such operator is Pedro LU7HZ who was #1 DX QRP CW-only. Pedro relates what it is like to be a QRP operator:

"I'm a QRP (and QRPp) enthusiast since my beginning as a ham radio operator, some 40 years ago. However I become interested in contesting only 3 years ago; have learned CW (re-learned to be

accurate) from scratch to achieve high speed with that purpose."

"My competition SO2R arrangement is a FT840 as rig1 (primary) and a FT890 as rig2 (secondary); both modified to operate down to 1W if necessary. In my shack you can see my all-time love the Argonaut 509 that I still use (not for competition though). Obviously the FLDX 2000 is turned off during competitions <lol>."

"I do always say that QRP contacts are made only in half by us, the other half is the terrific operators that pulled us out of the noise which I do admire."

"There are many many tips and techniques that I can share on how to compete in QRP, including the demolition of the myth that QRP means only S&P; or how you can "run" and dance with elephants that buries you while coming back to you."

"The funniest QSO on ARRL 10M was China as 9:30am local time (12:30Z); China shortest path for us is to dig thru the Earth, so it's kind of curious to get him thru the long path while I was having a terrible time to hear anybody else; actually I was able to work him while it last (for about 15 minutes or so)."

Figure 7 – Pedro LU7HZ hard at work. (Photo - LU7HZ)

Beyond competition, the 10 Meter Contest is always a good contest to share with family and friends and give operators a chance to try contesting for the first time. Signals are usually loud and clear which make the QSO effort easier than say the QRM on 40 meter phone in ARRL DX.

Rich NØHJZ took an opportunity during the contest to introduce his 12-year-old nephew David to Amateur Radio and contesting. That, and a fresh 9 inches of snow in his home state of Minnesota meant spending the weekend inside was not a bad idea. As Rich relates, "He'd call and I'd log. He'd even push the buttons on the keyer. He loves the radio contesting and all the countries he can talk to. He's got a license manual under the Christmas tree!" What a great way to introduce someone to the hobby and then follow up on their interest.

Figure 8 – Rich NØHJZ's 12 year old nephew David being introduced to contesting. (Photo - NØHJZ)

Likewise the group at K4WP used the weekend to create a "hands-on" contest training session for members of their local radio club. Sponsored by both Bill, K4WP and Jere, KT4ZB, they exposed nine operators to the contesting experience.

Figure 9A – One of the ops at the K4WP Contest Training session. Here Paul KC2NYU takes his turn. (Photo - KT4ZB)

Bill and Jere created a pretty robust training environment that began with pre-contest homework.

Their lesson plan included topics such as "Read the rules" and "Learn about the logging program," which are probably good lessons for even the most experienced contesters. Once on-site during the contest the operators were well supported and well coached leading to "plenty of shouts of joy as new DX and stateside folks were logged."

Figure 9B - John KK4MTO (age 12) hard at work, with father, Ken W4JKG looking on. (Photo – KT4ZB)

Operators were also well fed as Bill provided endless quantities of barley soup and cookies. To top things off they even arranged for a VE session for one of the attendees resulting in Ann, KK4CIS becoming KK4ICS/AE. Well done, Bill and Jere!

Figure 9C - The K4WP team: (L-R) Peter KJ4FAW, Jere KT4ZB, Charles KJ4SMZ, Bill K4WP, Charles N4KKD, Ken W4JKG, and son John, KK4MTO. Not pictured, Sue W4SWJ, Bill KG4SZS, Paul KC2NYU and Dwight K4YPM. (Photo – KT4ZB)

There are always a few operators who, without a permanent fixed station to use, have to make special effort just to get on the air. They know they are not going to win any awards or for that matter even make very many QSOs, but the challenge and the fun of just getting on the air provides the motivation. Getting a chance to exercise some of the famous ham ingenuity can be quite rewarding.

David, WX7G operated in his car with a TS-480 into a Tarheel 40A screwdriver antenna. Being creative and wanting a low takeoff angle he parked at the Great Salt Lake in Utah. Only in a very few places in the world can you get saltwater-assisted takeoff angles and be more than 500 miles from the nearest ocean! The Great Salt Lake is also not the most comfortable place to be the first weekend in December. As they say: "The only thing between there and the North Pole is some barbed wire".

Figure 10 - David WX7G's mobile setup at the Great Salt Lake (Photo - WX7G)

John, K9JK likewise operated in his car, converting his VHF "CoROVERolla" to a 10 Meter Contest setup for the weekend. He stayed a little closer to home though and didn't get any further afield than his driveway.

Club Competition

Like in many other contests, the Affiliated Club Competition continues to be popular and fun. It is kind of like a wide-area Multioperator effort where you can operate from your home QTH but be part of a larger team competing with others. Seventy-one clubs submitted logs for the 2012 10 Meter Contest, slightly up from the 70 last year. Even with the overall drop-off in contest participation from 2011, contest clubs provided the energy and motivation for operators to get on the air. These 71 clubs submitted a combined 899 entries meaning 52% of W/VE operators were also part of a club entry!

In some states club participation was stunning. The 58 entries from the Florida Contest Group represented 67% of all the entries from Florida: And their club boundary can't even include the whole

state! The 56 entries from the Minnesota Wireless Association represented 84% of the total entries from Minnesota. To top even that, 86% of the entrants from Connecticut indicated they were part of one of the four contest clubs active in that state. Way to go, club organizers!

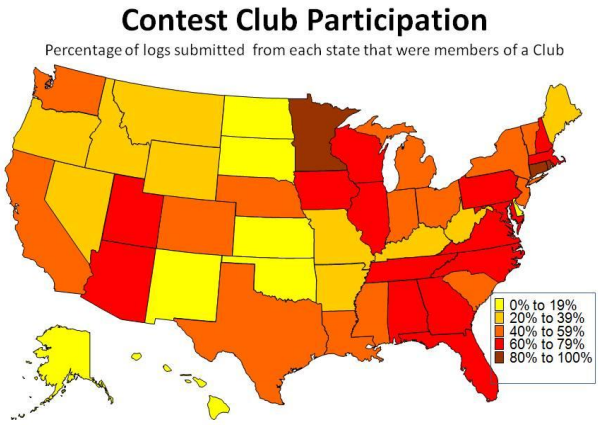

Figure 11 – Contest Club Participation by State

In the Local category, the Iowa DX and Contest Club took top honors among the 30 clubs in this category. Their 4 members combined for more than 1 million points, the only Local Category club to do so. They beat out the 2011 winner, the Central Virginia Contest Club who seemed to be hit hard by the poorer propagation this year. In the popular Medium category, 37 clubs fought a hard pitched battle with the clear advantage in 2012 going to clubs on the West Coast. In the end the 49 members of the Northern California Contest Club (SCCC) overpowered the 24 members from the Southern California Contest Club (NCCC) for a solid win. Even though the SCCC had a higher average score per member they could not overcome the NCCC's participation advantage. The 2011 Medium Category winner, Frankfort Radio Club, fell back to 5th. In the "big boys" Unlimited category only four entries were received in 2012 down from six in 2011. Coming out on top again for the second year were the 84 members of the Potomac Valley Radio Club (PVRC) who bested second place Florida Contest Group by a wide margin. The PVRC not only repeated their 2011 formula for success by overwhelming their competition with sheer number of members, they also had higher average scores per member. That should win a competition just about every time. Congratulations to all the clubs and their organizers.

Affiliated Club Competition

	Score	*Entries*
Unlimited Category		
Potomac Valley Radio Club	9,125,998	84
Florida Contest Group	5,736,078	58
Yankee Clipper Contest Club	5,635,480	65
Minnesota Wireless Assn	4,247,762	56
Medium Category		
Araucaria DX Group	10,237,722	33
Northern California Contest Club	4,625,828	49
Southern California Contest Club	3,887,018	24
Society of Midwest Contesters	3,606,330	41
Arizona Outlaws Contest Club	3,465,884	30
Frankford Radio Club	2,671,234	26
Western Washington DX Club	2,021,048	16
Contest Club Ontario	1,852,496	24
Carolina DX Association	1,736,694	18
Alabama Contest Group	1,608,428	19
Central Texas DX and Contest Club	1,454,322	10
Maritime Contest Club	1,453,882	11
Tennessee Contest Group	1,410,054	27
Georgia Contest Group	1,187,746	12
Grand Mesa Contesters of Colorado	990,312	12
DFW Contest Group	971,434	15
ORCA DX And Contest Club	723,816	7
Mad River Radio Club	683,582	14
Willamette Valley DX Club	668,432	8
Northern Rockies DX Association	636,006	4
South East Contest Club	619,592	14
Louisiana Contest Club	591,708	7
Order of Boiled Owls of New York	568,648	7
Hudson Valley Contesters and DXers	499,384	11
Texas DX Society	485,534	4
North Texas Contest Club	478,896	4
CTRI Contest Group	475,486	7
Hampden County Radio Assn	466,188	11
Mississippi Valley DX/Contest Club	395,630	3
North Coast Contesters	343,728	10
Western New York DX Assn	324,024	6
Saskatchewan Contest Club	311,132	4
Utah DX Assn	275,456	7
Rochester (NY) DX Assn	269,878	8
Contest Group Du Quebec	133,324	7
Radio Club of Redmond	117,518	4
Six Meter Club of Chicago	37,474	7
Local Category		
Iowa DX and Contest Club	1,094,660	4
Central Virginia Contest Club	896,864	6
Mother Lode DX/Contest Club	798,808	8
Redwood Empire DX Assn	729,644	9
Lincoln ARC	395,278	3
Spokane DX Association	370,848	7
Bristol (TN) ARC	222,574	9
Midland ARC	214,976	4
Hilltop Transmitting Assn	176,352	4
Madison DX Club	154,908	3
599 DX Association	148,008	6
West Allis RAC	144,168	8
Low Country Contest Club	132,062	4
Granite State ARA	125,330	9
Delara Contest Team	121,728	6
Contoocook Valley Radio Club	115,292	3
Fort Wayne Radio Club	112,878	3
Bergen ARA	92,346	3
Badger Contesters	89,702	9
Hazel Park ARC	80,168	3
Kansas City Contest Club	77,668	4

Athens County ARA	71,934	3
West Park Radiops	43,510	3
QSY Society	37,602	5
Sterling Park ARC	35,466	3
Central Michigan Amateur Radio Club	18,236	3
Portage County Amateur Radio Service	14,212	4
Milford (OH) ARC	8,646	4
Pueblo West Amateur Radio Club	7,450	5
Falmouth ARA	7,204	3

A Skimmer View of the Contest

In the 2011 contest write-up I took a look at what skimmer data can tell us about a contest. (CW Skimmer information can be found online at **www.dxatlas.com/cwskimmer**) Continuing that examination here for 2012, I'll try some new and different studies. What can we learn about the contest and propagation from CW Skimmer data? I also encourage the analytic and inquisitive types out there to try some of this themselves and see what other discoveries can be made.

Repeating my caveat from last year: Skimmers of course are an imperfect technology for comparison. The data is CW only and the 10 Meter Contest uses both Phone and CW. Different skimmers have different antennas. Different skimmers use different receivers. Different skimmers may be on the air for different lengths of time. The skimmer network is not uniformly distributed around the world. But, for its faults the data is incredibly valuable and we can learn a lot from it.

To begin this process one goes out to the amazing Reverse Beacon Network (RBN) website (**www.reversebeacon.net**) and downloads the spot data from the contest period, then filters for just the 10 meter spots. This year there were 103,997 10 meter spots during the contest. This compares to 551,186 in 2011. To be sure the skimmer networks were different between the two years but the fact that total spots dropped 81% from 2011 to 2012 is telling. What sort of other things can be seen and studied?

Reading all the write-ups and soapbox stories from the contest it seemed like Sunday had better propagation and more activity than Saturday. Over the years we have learned that especially for the 10 Meter Contest these two factors – propagation and activity – are closely tied. With great propagation more operators get on the air and because of the great propagation they can make more QSOs. So, we end up with almost an exponential relationship between propagation and total QSO numbers. What can we see in the skimmer data?

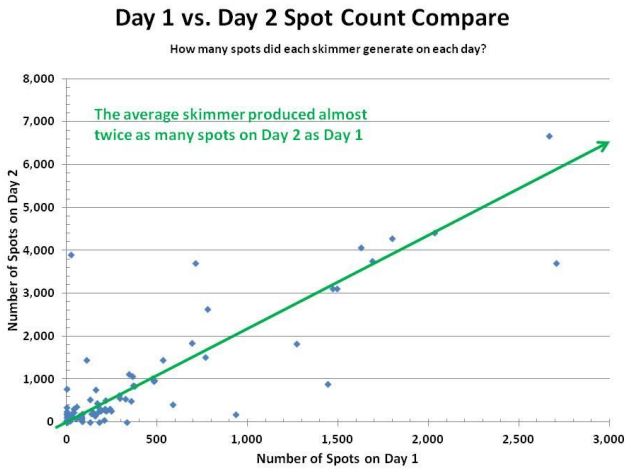

Figure 12 – Skimmer spots Day 1 versus Day 2

Sure enough the skimmer data shows Sunday was almost a factor of two better than Saturday. The average skimmer produced almost twice as many spots during the contest Sunday as they did on Saturday. As another view we can look at the number of spots of European stations from skimmers in North America.

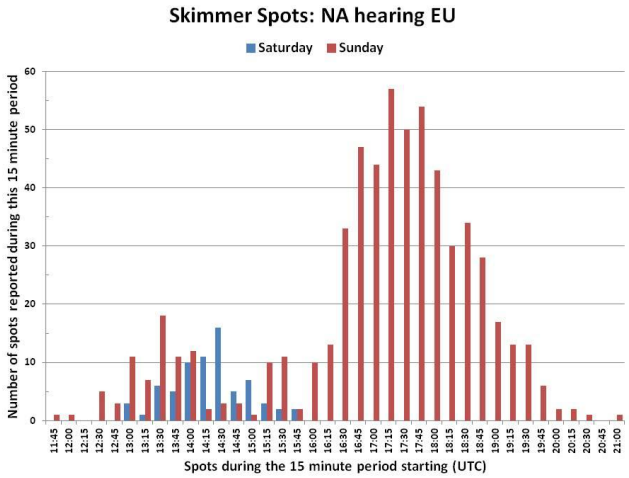

Figure 13 – North America spots of European Stations over time

Again, it is easy to see how different the two days were. On Saturday the North America to Europe path was almost non-existent. In total, there were only 71 spots for the whole day and they were spread out during a three-hour period relatively early in the morning. Sunday began much the same way but around 16:30 UTC the band "opened" and

over the next 3-1/2 hours the path was available, at least for big gun stations. Compared to Saturday, on Sunday there were 599 spots from the skimmer network, an eightfold increase. However, before celebrating how great Sunday seemed, in 2011 there were over 65,000 spots from Skimmers in North America of Europe stations. Sunday this year was, as they say, "The best of a bad situation". Overall spots of Europe stations from North America Skimmers fell by 99% from 2011 to 2012.

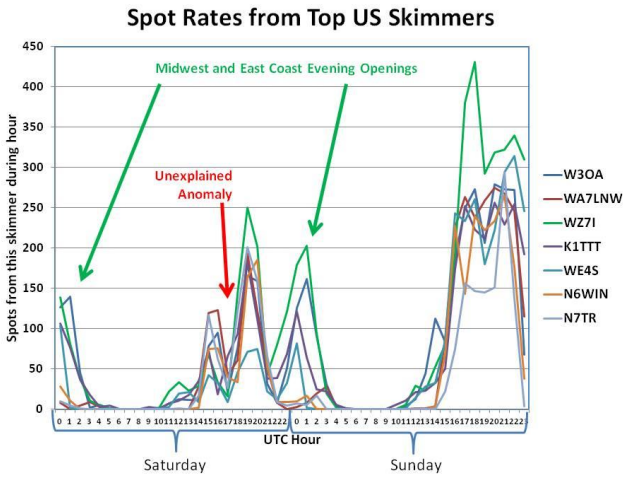

Figure 14 – Spot rates from top US skimmers

Other insights can be seen by charting spots made per hour by the top US skimmers. The first thing is that there were pretty good post-sunset openings Friday and Saturday night for those in the Midwest and Eastern states that stayed on the air. As K1WHS mentioned in his write-up: "That was fun! Friday night netted a little over 200 Qs; it was like you drew a line from ND to TX, and virtually every state east of that was worked and, outside NM, nothing west of that was worked!" Second, this chart also shows how much better things were on Sunday then on Saturday. Finally something happened during the 1700 UTC hour on Saturday that depressed spot counts. Nothing strange appears in the solar charts during that time. So, who know what was going on? Perhaps there were some hiccups in the Reverse Beacon Network itself?

Finally, to close out this section a few words are in order on using skimmer spots in a contest. To prepare these studies there is actually a large amount of "cleaning" of the spot data required, especially in 2012 where the total spot counts for some of the studies is fairly small. Busted spots, broken calls, and noise in the system had a much bigger impact on 2012 data than in 2011. In effect the skimmer signal-to-noise ratio in 2012 was much lower than in 2011. One major insight was the quality of unique spots. In looking at unique spots of European stations heard in North America, I discovered that at least 2/3rds of them were busted. – 50 out of 74. So be careful jumping on a RBN spot from a station that is showing up for the first time. At least during the 10 Meter Contest most of the skimmer spots are going to come from relatively few stations as can be seen in the following chart of W/VE calls spotted by skimmers in North America. During the contest there were 1,693 different W/VE calls spotted. Of those, 50% were only spotted once or twice. It is highly likely that the majority of these are broken and busted calls.

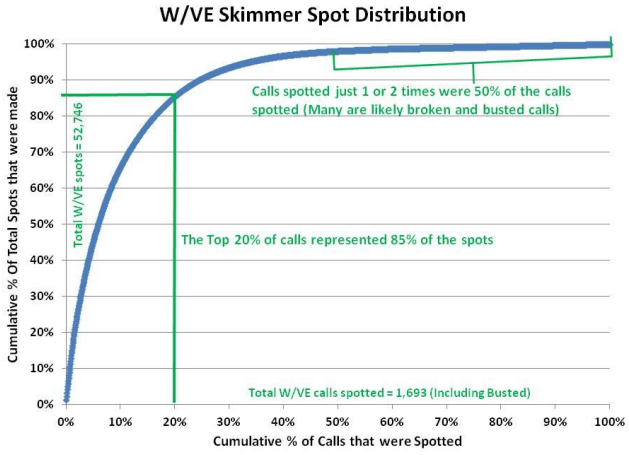

Figure 15 – Distribution of spotted call signs from W/VE Skimmers

Also be careful in that "not all skimmers are created equal". I could see several skimmers with one of the following two problems. The first was there were situations where a skimmer was at a station that was also operating in the contest. The home station's call sign or elements of "CQ TEST" would variously show up and bust the call signs of stations being heard by the skimmer. The second problem is that some skimmers would not adequately determine that a station being spotted is, in fact, CQing on that frequency. Typically, this would show up as irregular but frequent frequency swings from the louder stations. It was likely that the spotted station was operating interlocked radios and grabbing a new station or multiplier on the MULT radio while the RUN radio stands by. Some overeager skimmers

will decode and spot the call of the station while they are working the station away from their RUN frequency. It is also possible they were dual-CQing but if that was true, more skimmers would have seen the calling station on the two different frequencies.

So, as is often the case, it is "Buyer Beware" when using Skimmer data and especially the spot feeds from the aggregated networks. You might be better off choosing a skimmer or two located near to you for which you understand the spot behavior and quality.

Contest Planning Insights

There is a great deal of contest planning insight to be gained by reviewing past results. In last year's write-up (**www.arrl.org/contest-results-articles**) I examined questions such as "For mixed mode stations what mix of Phone and CW QSOs should you target?" and "What scores do you need to get into a Top 10 box?" Additional questions that any contester should ask are: "Where are all my QSOs going to come from?" and "What multipliers should I really be on the lookout for?" That way you can configure your station and plan your operating strategy accordingly. As an example, K1WHS started with these questions and ended up winning the W/VE/XE Multioperator, High Power category this year. Let's look into the 2012 data to see what guidance it can offer. Obviously some of this data is tied to the 2012 contest conditions specifically, but some of this data should apply in any year.

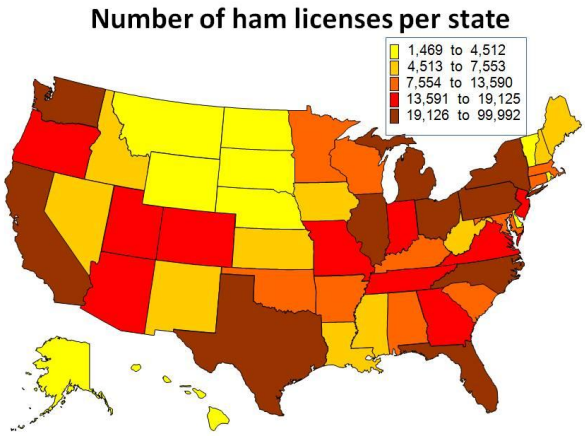

Figure 16 – Ham licenses by state

The obvious place to start is to look at a map of ham licenses in each state. The story here is pretty much as expected. The most populous states also have the largest ham populations.

This map and, the others in this section, are created by breaking the 50 states up into five groups of 10 states representing the 10 biggest to the 10 smallest on whatever variable is being studied. This view helps show the relative dispersion of the states. However, this view does not present as clear a view of how much bigger the biggest state is than the smallest. For that insight make sure to check out the scaling of the data in each map. For instance in the ham population map the state with the highest number of hams, California with 99,992, is 68 times bigger than the state with the smallest number of hams, North Dakota with 1,469.

Behind the straight number of licensed hams there are actually wide variations in the percentage of each state's population that are licensed. For instance, the more sparsely populated western and northeastern states have the highest percent of the state population licensed. But in the end, the total state population tends to overcome these differences and the most populous states end up having the most hams.

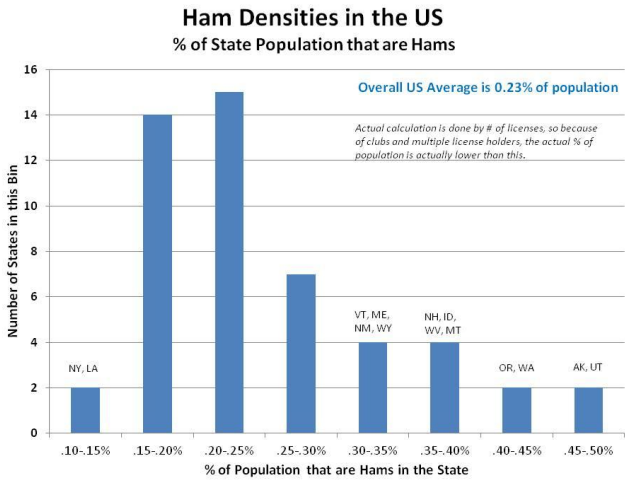

Figure 17 – Ham density by state

Now that we know where the hams are the next question becomes: "Which ones are active in the 10 Meter Contest?" Based on logs submitted as a surrogate for hams active in the contest the map looks like as follows.

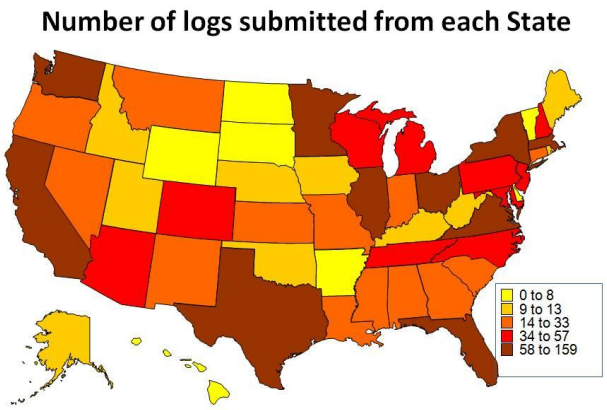

Figure 18 – 2012 contest logs from each state

In this view some contest specific views are starting to emerge. For instance, notice the concentration in Minnesota. Their log count is well in excess of their ham population, likely driven by a strong and active contest club in the state. This map also confirms that, yes, the Dakotas and Wyoming can be tough catches but who would have thought that Arkansas was also relatively rare? Again, behind this data there are actually wide variations in the percentage of each state's ham population that submitted logs for the 10 Meter Contest.

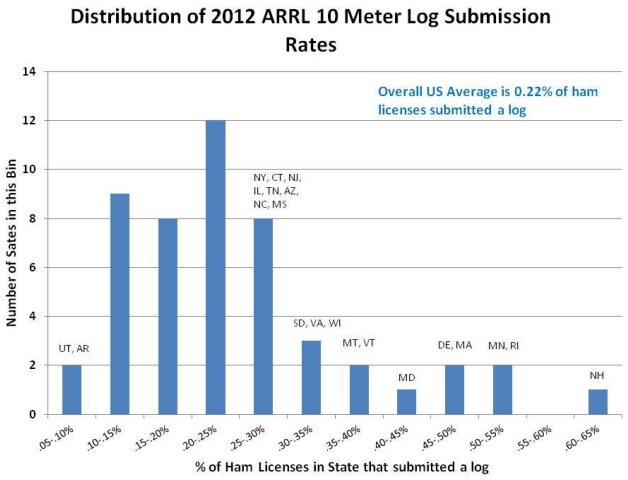

Figure 19 – 2012 contest log submission rates by state

This view is distinctly different than the previous bar chart. The states with the highest percentage of hams submitting a log are located in states where there are strong and active contest clubs. This is evidence that contest clubs do make a real difference in motivating contest participation and contesting in general.

As one final planning perspective beyond asking "Where are the contest active hams?" it might also be helpful to know how active they are. The more active the hams who got on the air in the contest the better a chance you have of working them, and thus a chance for a QSO. First, looking at a map of the average number of QSOs per log from each state shows that some of the biggest average log sizes came from states you might not initially think of. For instance, Iowa and West Virginia operators submitted the largest average logs with states such as Idaho, Nevada, and Arizona not far behind. On the other end of the scale, North Dakota and Wyoming had the smallest average logs along with states such as Kentucky, New Mexico, Delaware and Kansas. This also explains why North Dakota was so hard to get in this contest. There are not that many hams there, they tended to not get on the air in the contest, and when they did they didn't make many QSOs.

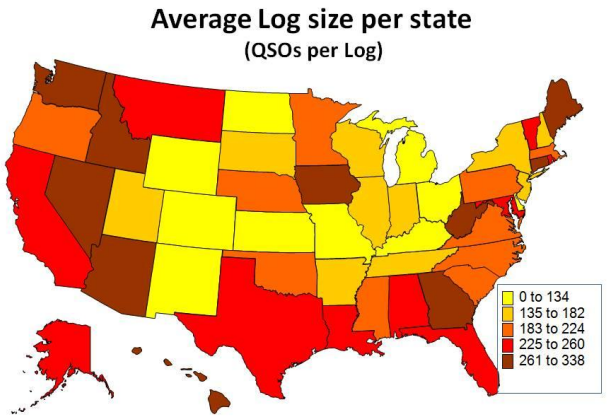

Figure 20 – Average 2012 contest log size by state.

Finally, putting all this together is a map of total reported QSOs from each state. Some of the potential surprises here are: expect more QSOs than you think from Arizona, Minnesota, Massachusetts and Maryland. Also, work hard to make sure you get Kentucky, Arkansas, New Mexico, Nebraska, and Kansas in your log.

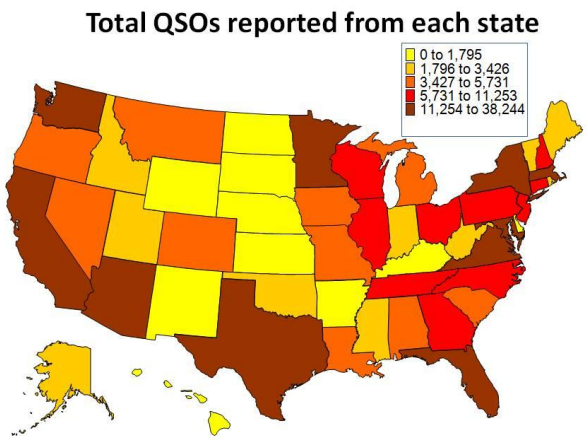

Figure 21 – Total 2012 contest QSOs by state

Predictions for 2013

The 41st annual ARRL 10 Meter contest will be held December 14th and 15th. So, what might we expect this year? If there is one main lesson about how an ARRL 10 Meter contest will go, it has to do with propagation and thus the Sun. Good propagation brings out more operators. Good propagation means each participant can make more QSOs more easily. These two factors build on themselves in almost an exponential way driving overall QSO counts up dramatically and thus scores.

So, we start with the Sun. Cycle 24 has certainly not been up to the hopes and expectations of hams worldwide. Very early forecasts suggested it could be the cycle of all cycles but alas it has proven out to be the weakest of all since the ARRL 10 Meter Contest began in 1973. Not since Cycle 20 which peaked in the late 1960's have we seen such a weak sunspot cycle. However, Cycle 24 is not quite done yet, not by a long shot. The April 2013 forecast by NOAA's Space Weather Prediction Center for December 2013 flux levels are in the 130 to 148 range with a single predicted flux level of 139. In fact December looks like it might be just one to two months after the predicted Cycle 24 second peak in October or November. So the 2013 edition looks like "your last big chance" during Cycle 24. Long-term forecast have flux levels dropping about 16 points a year in 2014 and beyond, to around 126 in 2014, 108 in 2015, and 90 in 2016. Based on this, my advice is, ***if you enjoy 10 meters, plan a major effort for December 14th and 15th in 2013***. This is very likely the last really good year for 10 meters during this cycle.

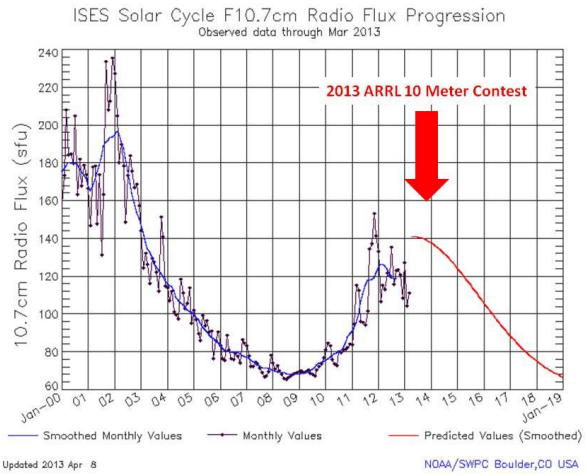

Figure 22 – April 2013 Solar Forecast and 10 Meter Contest predicted flux level

The next question becomes, with this level of solar activity what should you expect during the contest? From a participation standpoint, overall there has been a growth in contesting worldwide. This means increasing numbers of hams will enter contests. Additionally, history clearly shows that in the ARRL 10 Meter Contest, better propagation drives more hams to get on the air. Also, with the worldwide spread of the Internet, computer logging programs, log file format standards, and electronic log submission, it is easier than ever to submit a log, so higher percentages of operators active in contests submit logs. This all came together in 2011 when an incredible 5,361 logs were received. With a flux level of 139 it is very likely this number will be met or exceeded and I predict 5,500 logs will be received for the 2013 contest.

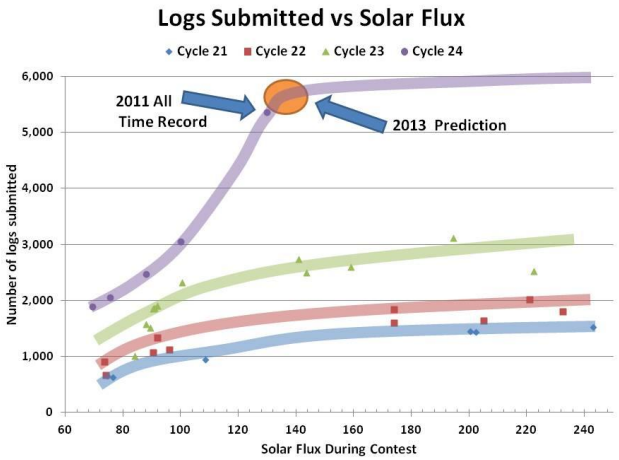

Figure 23 – 10 Meter Contest logs submitted versus flux level.

Continuing the inquisition [No one expects the 10 Meter Inquisition! Ed.], the next question is "What score might it take to get into a Top 10 box?" This is also positively correlated with solar flux, meaning the higher the flux, the higher the score you need. I have studied this for the High Power categories for the US and DX and the results can be seen in the following two charts. (I apologize to those in VE and XE, and those operating in Low Power and QRP Categories for not preparing similar charts for you. Putting these together is very data and time intensive and I have just not had enough of the latter to complete them. All the data you need is in the ARRL searchable database.)

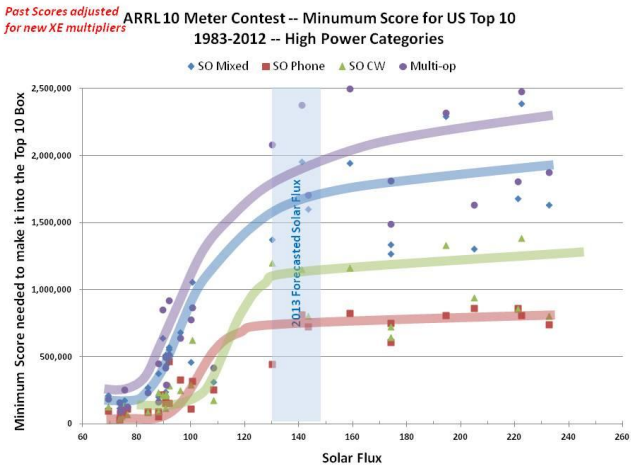

Figure 24 – Historical minimum US High Power scores for Top 10 Box

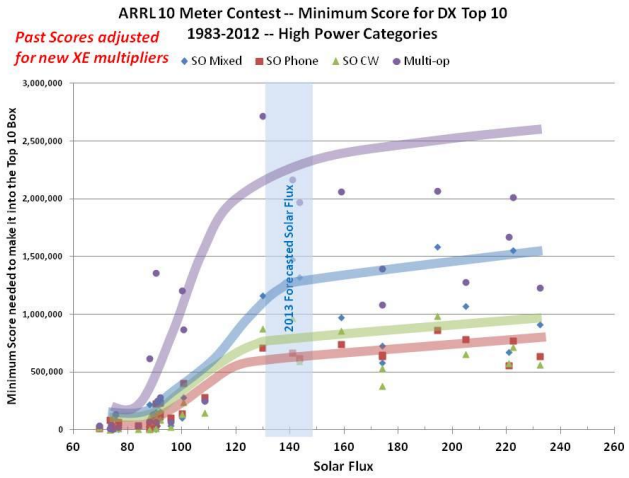

Figure 25 – Historical minimum DX High Power scores for Top 10 Box

Based on these two charts and applying some "windage" to the recent 2011 results for which the flux level was 130, my predictions for the minimum score it will take to get into a High Power Top 10 box in the US and DX during the 2013 edition are in the following figure:

2013 Predictions

Minimum Score for a Top 10 Place
High-Power Categories

	SO Mixed	SO Phone	SO CW	Multi-op
US	1,600,000	700,000	1,200,000	2,100,000
DX	1,250,000	700,000	800,000	2,500,000

Figure 26 – Predicted minimum 2013 Scores for High Power Top 10 Box

If you are so inclined, take these goals, choose your category, and figure out what sort of QSO and multiplier total it will take to reach your goal. Write these down in big bold letters on a piece of paper and post it in clear sight at your operating position. Then sit down, get on the air, and don't get up until you have exceeded your goals! Even if you are not so inclined, make sure to sit down and get on the air – the 2013 contest looks like it could be a fun one.

Regional Leaders

Category: Mix = Mixed Mode, Ph = Phone only, CW = CW only, MO = Multioperator

Northeast Region

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

N2XP	34,720	Mix	QRP
WB2AMU	28,160	Mix	QRP
W1FMR	4,488	Mix	QRP
W1OH	2,652	Mix	QRP
KB8NUF	1,184	Mix	QRP
K2PS	342,166	Mix	LP
K2GV	168,084	Mix	LP
KØDI	133,272	Mix	LP
N2JJ	111,302	Mix	LP
WA2FGK (K2LNS, op)	101,380	Mix	LP
N2NC	461,472	Mix	HP
VY2TT (K6LA, op)	407,550	Mix	HP
NU1O	192,256	Mix	HP
NN1N	187,920	Mix	HP
N2UN	153,738	Mix	HP
KE2OI	49,528	Ph	QRP
VE1ZA	13,072	Ph	QRP
W1CEK	912	Ph	QRP
KB1HNZ	418	Ph	QRP
AB1HD	2	Ph	QRP
W3PAW	120,048	Ph	LP
W2TF	54,612	Ph	LP
W1TJL	50,688	Ph	LP
W1KBN (KB1REQ, op)	30,634	Ph	LP
WB2KLD	18,328	Ph	LP
W3EP	202,160	Ph	HP
AF1T	110,916	Ph	HP
WA8UEG	94,320	Ph	HP
W1SJ	90,020	Ph	HP
KA1ZD	58,646	Ph	HP
K3RR	98,272	CW	QRP
VY2OX	36,300	CW	QRP
AA1CA	35,960	CW	QRP
K2SM	32,524	CW	QRP
W1TW	26,460	CW	QRP
W3BGN	226,204	CW	LP
W2EG	150,804	CW	LP
VE1RGB	119,132	CW	LP
W1WBB	107,016	CW	LP
W1CCE	93,152	CW	LP
VY2ZM	601,392	CW	HP
KD4D	548,640	CW	HP
NY3A	446,656	CW	HP
K2SSS	439,456	CW	HP
N2MM	401,288	CW	HP
K1WHS	1,312,722	MO	HP
K1LZ	1,035,440	MO	HP
AA1JD	860,274	MO	HP
WX3B	798,720	MO	HP
AA2A	776,058	MO	HP
KD2RD	496,164	MO	LP
K2DFC	205,936	MO	LP
W3ZGD	165,792	MO	LP
W2MF	86,304	MO	LP
K2DFC	363,636	MO	LP

Southeast Region

Delta, Roanoke and Southeastern Divisions

K9OM	139,568	Mix	QRP
NA4CW	126,594	Mix	QRP
W5NZ	22,816	Mix	QRP
K2FF	12,324	Mix	QRP
N4OO	7,500	Mix	QRP
AA4NC	146,322	Mix	LP
WQ5L	99,138	Mix	LP
N4VA	88,464	Mix	LP
K4DJ	79,520	Mix	LP
N4KH	73,788	Mix	LP
N8OO	1,067,844	Mix	HP
N8II	917,670	Mix	HP
NQ4I (K4BAI, op)	777,096	Mix	HP
KØEJ	737,104	Mix	HP
N4OX	422,016	Mix	HP
AA4JI	7,396	Ph	QRP
KE5SNJ	3,712	Ph	QRP
KS4GW	3,480	Ph	QRP
KD4OFG	2,112	Ph	QRP
N4RP	1,728	Ph	QRP
AC5O	99,138	Ph	LP
W4GKF	84,870	Ph	LP
K4DMR	44,352	Ph	LP
WA8QYJ	38,700	Ph	LP
K4PZC	38,350	Ph	LP
K4XS	455,576	Ph	HP
K4NV	257,260	Ph	HP
WA5OYU	121,030	Ph	HP
K1KNQ	115,830	Ph	HP
WK4P	72,576	Ph	HP
KØLUZ	50,952	CW	QRP
K3TW	43,264	CW	QRP
KS4YX	39,984	CW	QRP
N4DSP	35,828	CW	QRP
K4CIA	35,700	CW	QRP
N4WW (N4KM, op)	322,400	CW	LP
N4TB	240,720	CW	LP
WB4TDH	170,868	CW	LP
KU8E	169,376	CW	LP
WD4AHZ	161,920	CW	LP
KN5O	554,496	CW	HP
K1TO	545,020	CW	HP
KR4F	172,368	CW	HP
K9FY	171,948	CW	HP
N4CW	121,500	CW	HP
W4UH	842,490	MO	HP
K4FJ	788,322	MO	HP
N4PN	639,166	MO	HP
K5KG	576,768	MO	HP
W4ML	547,212	MO	HP
K4ZGB	208,610	MO	LP
WA1F	125,832	MO	LP
AA4R	99,216	MO	LP
N9CM	90,816	MO	LP
W4UAL	84,584	MO	LP

Central Region

Central and Great Lakes Divisions; Ontario Section

KT8K	34,736	Mix	QRP
N9JR	26,962	Mix	QRP
KU4A	18,400	Mix	QRP
K8MR	9,102	Mix	QRP
AF9J	5,340	Mix	QRP
W9XT	328,098	Mix	LP
W9GT	109,080	Mix	LP
N8VV	101,760	Mix	LP
WD8S	69,920	Mix	LP
VE3TW	57,038	Mix	LP
WB9Z	621,300	Mix	HP
WR9D (KB9UWU, op)	541,748	Mix	HP
VE3KZ	446,708	Mix	HP
KE9I	438,504	Mix	HP
VE3CX	131,516	Mix	HP
N8MWK	16,836	Ph	QRP
N8XA	7,896	Ph	QRP
N9FRY	6,536	Ph	QRP
WB9FOL	784	Ph	QRP
KC9AMM	160	Ph	QRP
N9TGR	33,390	Ph	LP
KF9US	30,744	Ph	LP
WB9PUB	30,672	Ph	LP
KE8KT	28,006	Ph	LP
KC9QPM	23,426	Ph	LP
W8JUZ	104,380	Ph	HP
N9LB	42,502	Ph	HP
K8DJR	22,774	Ph	HP
VA3PC	8,600	Ph	HP
WA8FRE	6,812	Ph	HP
W8VK	25,168	CW	QRP
WA8RJF	24,108	CW	QRP
N8AP	18,432	CW	QRP
WA8REI	16,500	CW	QRP
N8XX	10,292	CW	QRP
K9QVB	156,240	CW	LP
W9PN	110,400	CW	LP
WA8RCN	98,548	CW	LP
WB8JUI	91,396	CW	LP
K4FT	73,216	CW	LP
K1TN	87,492	CW	HP
NS9I	83,520	CW	HP
W9RE	82,896	CW	HP
N8BJQ	68,796	CW	HP
W9SE	52,224	CW	HP
K9CT	890,358	MO	HP
WØAIH	763,938	MO	HP
VE3MMQ	327,564	MO	HP
W8AV	287,920	MO	HP
VE3YAA	204,724	MO	HP
K8WW	141,456	MO	LP
WW8OH	75,894	MO	LP
N9CDX	69,336	MO	LP
KD4SN	54,240	MO	LP
W9WLX	44,252	MO	LP

Midwest Region

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

N1CC	48,828	Mix	QRP
KCØMO (KØOU, op)	47,302	Mix	QRP
N7RP	10,578	Mix	QRP
KTØK	371,178	Mix	LP
WD5K	362,202	Mix	LP
KØTT	244,378	Mix	LP
ACØW	215,424	Mix	LP
N5JR	140,868	Mix	LP
WØVX	285,902	Mix	HP
KBØEO	265,482	Mix	HP
WØJPL (KØJPL, op)	245,430	Mix	HP
WAØMHJ	233,020	Mix	HP
KØMD	189,882	Mix	HP
KB5KYJ	9,450	Ph	QRP
WWØWB	8,184	Ph	QRP
NDØC	6,474	Ph	QRP
KKØQ	4,200	Ph	QRP
WD5FGZ	1,140	Ph	QRP
KE5FXE	25,074	Ph	LP
KEØL	19,040	Ph	LP
NW5Q	15,730	Ph	LP
N3BUO	15,040	Ph	LP
K5LAD	14,784	Ph	LP
W5PR	342,240	Ph	HP
NR5M	336,232	Ph	HP
K5TR (WM5R, op)	277,992	Ph	HP
NA5TR	78,732	Ph	HP
KØDAS	75,482	Ph	HP
NØUR	93,984	CW	QRP
KSØMO	12,008	CW	QRP
KEØG	5,900	CW	QRP
W5ESE	4,896	CW	QRP
KØTI	4,876	CW	QRP
N4IJ	223,584	CW	LP
W2UP	124,248	CW	LP
KNØV	116,440	CW	LP
AE5GT	112,728	CW	LP
N5KWN	99,680	CW	LP
W5KFT (K5PI, op)	597,640	CW	HP
WØEWD	265,004	CW	HP
W7UT	199,440	CW	HP
NN7ZZ (N5LZ, op)	197,500	CW	HP
N5RZ	118,272	CW	HP
NX5M	1,119,472	MO	HP
NØNI	631,584	MO	HP
NØAT	486,542	MO	HP
KØDU	424,764	MO	HP
K5KC	277,344	MO	HP
N5DO	249,426	MO	LP
NØHJZ	168,392	MO	LP
AA7XT	46,084	MO	LP
KØRI	25,272	MO	LP
W5TMC	23,836	MO	LP

West Coast Region

Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NWT Sections

WA6FGV	101,340	Mix	QRP
N6MA	44,756	Mix	QRP
K6XX	12,110	Mix	QRP
WD6DX	9,440	Mix	QRP
W7CD	6,930	Mix	QRP
K6AM	502,016	Mix	LP
N7LOX	337,040	Mix	LP
N6ZFO	230,454	Mix	LP
K7SS	187,916	Mix	LP
WW7D	154,200	Mix	LP
W6YX (N7MH, op)	948,192	Mix	HP
K6LL	777,920	Mix	HP
AA6PW	462,534	Mix	HP
K9YC	430,050	Mix	HP
K7RL	381,444	Mix	HP
W6QU (W8QZA, op)	28,900	Ph	QRP
AA7DK	2,142	Ph	QRP
NT7S	1,044	Ph	QRP
KK7VL	416	Ph	QRP
WN7Y	96	Ph	QRP
N7XS	92,950	Ph	LP
N7CKJ	51,260	Ph	LP
N6KP	48,112	Ph	LP
VE8GER	46,864	Ph	LP
ND7M	38,400	Ph	LP
N7UQ	113,848	Ph	HP
K6HNZ	113,174	Ph	HP
KI7M	93,800	Ph	HP
W7WW	65,490	Ph	HP
W2RD	60,192	Ph	HP
W6JTI	94,916	CW	QRP
N7OU	74,256	CW	QRP
KM9R	12,096	CW	QRP
NU7T	4,872	CW	QRP
K6ZY	4,600	CW	QRP
K7QQ	276,696	CW	LP
KM6Z	117,216	CW	LP
KA7T	104,580	CW	LP
KL8DX	93,744	CW	LP
WN6K	82,712	CW	LP
VE7JH	394,200	CW	HP
W6PH	312,480	CW	HP
K6NR	295,560	CW	HP
N9RV	289,428	CW	HP
VE7XF	284,488	CW	HP
N6DZ	926,640	MO	HP
KH7Y	747,620	MO	HP
NX6T	640,152	MO	HP
N7AT	512,298	MO	HP
N6ED	367,948	MO	HP
W7TVC	457,588	MO	LP
VA7BEC	245,436	MO	LP
K7XC	168,036	MO	LP
VA7DZ	162,330	MO	LP
W8KA	109,460	MO	LP

Division Winners

MIXED MODE

Atlantic	KB8NUF	1,184	QRP
Central	N9JR	26,962	QRP
Delta	K2FF	12,324	QRP
Great Lakes	KT8K	34,736	QRP
Hudson	N2XP	34,720	QRP
Midwest	KCØMO (KØOU, op)	47,302	QRP
New England	W1FMR	4,488	QRP
Northwestern	W7CD	6,930	QRP
Pacific	K6XX	12,110	QRP
Roanoke	WX4RM	1,350	QRP
Rocky Mountain	N7RP	10,578	QRP
Southeastern	K9OM	139,568	QRP
Southwestern	WA6FGV	101,340	QRP
West Gulf	N1CC	48,828	QRP
Canada	VA3RKM	1,408	QRP
Atlantic	K2PS	342,166	LP
Central	W9XT	328,098	LP
Dakota	KØTT	244,378	LP
Delta	WQ5L	99,138	LP
Great Lakes	N8VV	101,760	LP
Hudson	K2GV	168,084	LP
Mexico	XE2AU	130,536	LP
Midwest	KTØK	371,178	LP
New England	W3SM	100,282	LP
Northwestern	N7LOX	337,040	LP
Pacific	N6ZFO	230,454	LP
Roanoke	AA4NC	146,322	LP
Rocky Mountain	WØETT	90,486	LP
Southeastern	N4KH	73,788	LP
Southwestern	K6AM	502,016	LP
West Gulf	WD5K	362,202	LP
Canada	VE6BMX	139,958	LP
Atlantic	K3ATO	126,856	HP
Central	WB9Z	621,300	HP
Dakota	KBØEO	265,482	HP
Delta	N8OO	1,067,844	HP
Great Lakes	NS8O	61,770	HP
Hudson	N2NC	461,472	HP
Mexico	XE1GRR	63,190	HP
Midwest	WØJPL (KØJPL, op)	245,430	HP
New England	NU1O	192,256	HP
Northwestern	K7RL	381,444	HP
Pacific	W6YX (N7MH, op)	948,192	HP
Roanoke	N8II	917,670	HP
Rocky Mountain	AA5B	47,576	HP
Southeastern	NQ4I (K4BAI, op)	777,096	HP
Southwestern	K6LL	777,920	HP
West Gulf	WØVX	285,902	HP
Canada	VE3KZ	446,708	HP

PHONE ONLY

Atlantic	KE2OI	49,528	QRP
Central	N9FRY	6,536	QRP
Dakota	NDØC	6,474	QRP
Delta	AA4JI	7,396	QRP
Great Lakes	N8MWK	16,836	QRP
New England	W1CEK	912	QRP
Northwestern	NT7S	1,044	QRP
Roanoke	KD4OFG	2,112	QRP
Rocky Mountain	WWØWB	8,184	QRP
Southeastern	KS4GW	3,480	QRP
Southwestern	W6QU (W8QZA, op)	28,900	QRP
West Gulf	KB5KYJ	9,450	QRP
Canada	VE1ZA	13,072	QRP
Atlantic	W3PAW	120,048	LP
Central	N9TGR	33,390	LP
Dakota	KEØL	19,040	LP
Delta	AC5O	99,138	LP
Great Lakes	KE8KT	28,006	LP
Hudson	N2HMM	7,752	LP
Mexico	XE2AA	36,816	LP
Midwest	AGØM	12,240	LP
New England	W1TJL	50,688	LP
Northwestern	N7XS	92,950	LP
Pacific	N6KP	48,112	LP
Roanoke	K4DMR	44,352	LP
Rocky Mountain	KTØDX	3,408	LP
Southeastern	W4GKF	84,870	LP
Southwestern	W6AFA	29,868	LP
West Gulf	KE5FXE	25,074	LP
Canada	VE8GER	46,864	LP
Atlantic	WA8UEG	94,320	HP
Central	N9LB	42,502	HP
Dakota	NXØX	73,656	HP
Delta	WA5OYU	121,030	HP
Great Lakes	W8JUZ	104,380	HP
Hudson	W2JTM	48,506	HP
Mexico	XE1B	205,478	HP
Midwest	KØDAS	75,482	HP
New England	W3EP	202,160	HP
Northwestern	KI7M	93,800	HP
Pacific	K6HNZ	113,174	HP
Roanoke	WK4P	72,576	HP
Southeastern	K4XS	455,576	HP
Southwestern	N7UQ	113,848	HP
West Gulf	W5PR	342,240	HP
Canada	VA6UK	31,482	HP

CW ONLY

Atlantic	K3RR	98,272	QRP
Central	AI9K	8,760	QRP
Dakota	NØUR	93,984	QRP
Delta	K1DW	9,936	QRP
Great Lakes	W8VK	25,168	QRP
Hudson	NQ2W	23,760	QRP
Midwest	KSØMO	12,008	QRP
New England	AA1CA	35,960	QRP
Northwestern	N7OU	74,256	QRP
Pacific	W6JTI	94,916	QRP
Roanoke	KS4YX	39,984	QRP
Rocky Mountain	WAØVDM	100	QRP
Southeastern	KØLUZ	50,952	QRP
Southwestern	AA4Q	800	QRP
West Gulf	W5ESE	4,896	QRP
Canada	VY2OX	36,300	QRP
Atlantic	W3BGN	226,204	LP
Central	K9QVB	156,240	LP
Dakota	KNØV	116,440	LP
Delta	K1GU	126,096	LP
Great Lakes	WA8RCN	98,548	LP
Hudson	W2EG	150,804	LP
Mexico	XE2HQI	88,200	LP
Midwest	WØGN	35,840	LP
New England	W1WBB	107,016	LP
Northwestern	K7QQ	276,696	LP
Pacific	W6RFF	21,244	LP
Roanoke	KR4V	99,484	LP
Rocky Mountain	W2UP	124,248	LP
Southeastern	N4WW (N4KM, op)	322,400	LP
Southwestern	KM6Z	117,216	LP
West Gulf	N4IJ	223,584	LP
Canada	VE1RGB	119,132	LP
Atlantic	KD4D	548,640	HP
Central	K1TN	87,492	HP
Dakota	NEØU	101,432	HP
Delta	KN5O	554,496	HP
Great Lakes	N8BJQ	68,796	HP
Hudson	K2UF	171,644	HP
Mexico	XE1MM	181,116	HP
Midwest	WØEWD	265,004	HP
New England	K1BG	250,880	HP
Northwestern	N9RV	289,428	HP
Pacific	N6TV	234,688	HP
Roanoke	N4CW	121,500	HP
Rocky Mountain	W7UT	199,440	HP
Southeastern	K1TO	545,020	HP
Southwestern	W6PH	312,480	HP
West Gulf	W5KFT (K5PI, op)	597,640	HP
Canada	VY2ZM	601,392	HP

MULTIOPERATOR, HIGH POWER			
Atlantic	WX3B	798,720	HP
Central	K9CT	890,358	HP
Dakota	NØAT	486,542	HP
Delta	AA4DD	87,032	HP
Great Lakes	W8AV	287,920	HP
Hudson	AB2DE	73,910	HP
Mexico	XE2B	472,926	HP
Midwest	NØNI	631,584	HP
New England	K1WHS	1,312,722	HP
Northwestern	W7PU	314,800	HP
Pacific	N6DZ	926,640	HP
Roanoke	K4FJ	788,322	HP
Rocky Mountain	KØDU	424,764	HP
Southeastern	W4UH	842,490	HP
Southwestern	NX6T	640,152	HP
West Gulf	NX5M	1,119,472	HP
Canada	VE3MMQ	327,564	HP
MULTIOPERATOR, LOW POWER			
Atlantic	W3ZGD	165,792	LP
Central	N9CDX	69,336	LP
Dakota	NØHJZ	168,392	LP
Delta	W5KDA	52,640	LP
Great Lakes	K8WW	141,456	LP
Hudson	KD2RD	496,164	LP
Mexico	XE1HG	69,440	LP
Midwest	WAØIYY	15,048	LP
New England	K1VW	82,800	LP
Northwestern	W7TVC	457,588	LP
Pacific	K7XC	168,036	LP
Roanoke	AA4R	99,216	LP
Rocky Mountain	AA7XT	46,084	LP
Southeastern	K4ZGB	208,610	LP
Southwestern	W8KA	109,460	LP
West Gulf	N5DO	249,426	LP
Canada	VA7BEC	245,436	LP