2010 ARRL DX Phone — Was That a *Sunspot*?

Contests make conditions! — *PAØM*

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One might say that the weekend of March 6-7 was a "busy" one on the HF bands as the ARRL International DX Phone contest pushed PTT switches and pulled final amplifier current. "Busy," though, doesn't hardly come close to the experience of trying to wedge a signal in edgewise, particularly on 20 or 40 meters! Activity was intense — and the trend of big increases in participation started last year just kept on rolling!

Log submissions hit an all-time record of 3188 — up by 24% over 2009 — with 1697 from W-VE contesters and 1491 from DX stations. Not only were there more logs submitted, but they were fatter than last year's:
QSOs in DX logs: 695,243 — up by 34%
QSOs in W/VE logs: 545,754 — up by 32%

Using the DX to W-VE total, that is a rate of more than 14,000 QSOs per hour!

Another measure of participation is the maximum number of calls worked on one band by the big stations. At first blush, the 3246 QSOs on 20 meters by F6KHM (F8DBF, op) is down from last year's 3805, but look at the 3188 QSOs on 15 meters by ZX5J (PP5JR, op). The second-highest band is *much* closer than last year's 2786 as more operators were spread across both 20 and 15 meters. From here at home, the 2836 DX calls logged by the K3LR operators on 20 meters was 16% higher than last year. On every band, W-VE operators had more entities to chase — the maximum logged was 145 countries on 20 meters at K3LR. You can see the increase in activity in Figure 1. The red line showing the total number of W-VE Single Operator logs is headed through the roof and shows no sign of slowing down. More hams, making more QSOs, in more places, on more bands, means more fun!

NØAX

Finding the "sweet spot" along Seattle's Elliott Bay was a good way for your author to conclude a 27 year run of Pacific Northwest contesting.

All this is occurring, even with an SSN still vanishingly small…as leads to the topic of our title. The Propagation Indices tells the solar tale and actually the answer is, "No! That wasn't a sunspot!" But solar flux was the highest since 2005 and even in that year, the ionosphere was quite a bit more disturbed. So conditions were quite good and everyone benefited. From Figure 2 we can also see the importance of the 15 meter band to DX contest participation this year and probably in the future.

Why is 15 meters so important and not 10 or 20 meters? For contesting, 10 meters is a peak-of-the-cycle band that is certainly fun to work, but will only have the really strong openings in the few years straddling the solar maximum. Twenty meters, while a rock-solid band with world-wide openings — however brief — even during the solar minimum, gets so crowded that the smaller stations have a hard time getting through. The band may

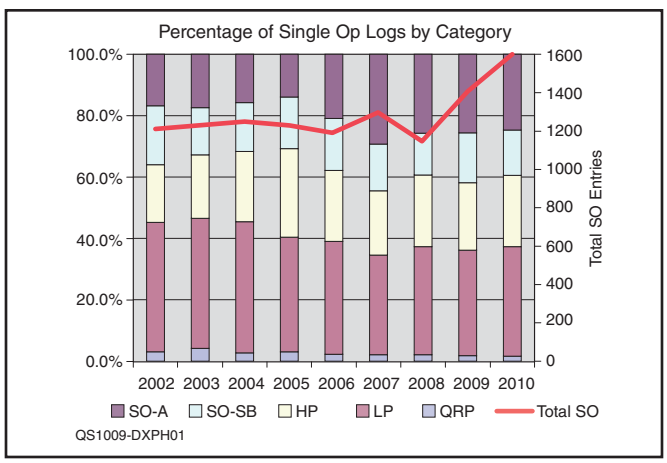


Figure 1 — Distribution of W-VE Single-Operator entries by contest category.

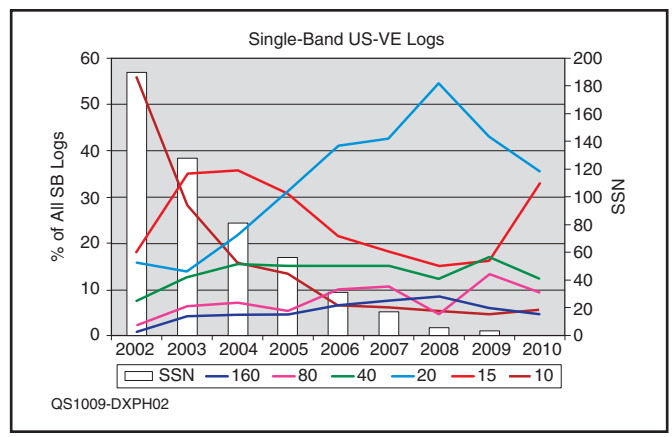


Figure 2 — Distribution of W-VE Single-Band entries by band with Smoothed Sunspot Number (SSN) for comparison. The SSN for 2010 was a hefty zero!

New Records for 2009

W-VE Records

Category	Call District	Call	New Record	Old Record	Year Set
SOAB-LP	1	N1UR	1.717M	1.596M	1992
SOAB-QRP	Canada	VA3DF	294k	168k	2003
SOSB-20	4	N4PN	447k	380k	1999
SOSB-40	6	W6YI	207,648	207,603	2004
SOSB-160	2	W2MF	25,578	22,692	2009
SOSB-160	Canada	VE2DWA	4,416	1,596	1984

DX

Category	Continent	Call	New Record	Old Record	Year Set
SOSB-40 (OH2BH, op)	EU	CR2X	469k	257k	2004
SOSB-40	NA	ZF2AH	431k	366k	2005
SOSB-40	AS	JA0JHA	198k	99k	1992
SOSB-80 (NH6V, op)	OC	KH6LC	211k	141k	1990
MS	AF	D4C	8.37M	6M	1992
MM (@KH6YY)	OC	KH7X	7.88M	6.3M	2006

Active Winning Streaks

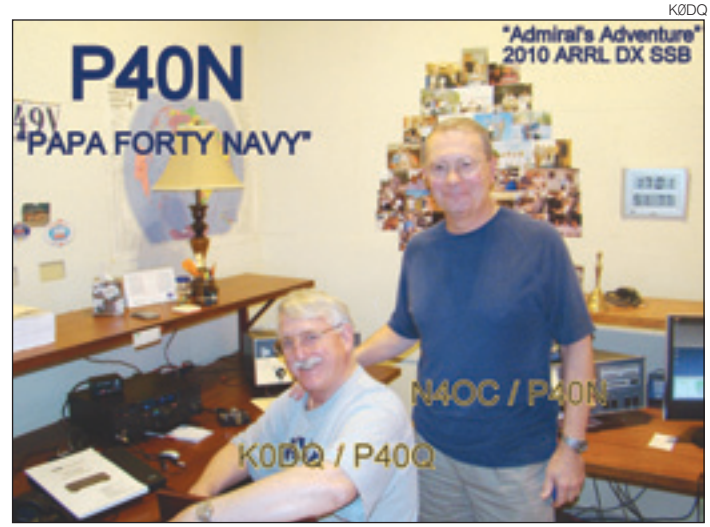
W-VE

Call (@QTH)	Number	Category
K1ZM (@VY2ZM)	8	SOAB-HP

DX

Call (@QTH)	Number	Category
KK9A (@P4)	6	SOAB-LP
LU1HF	5	SOSB-10
PP5JR (@ZX5J)	4	SOSB-15

KØDQ



I'll bet you don't call out of turn when one of these guys is running the pileup! Retired admirals Scott, KØDQ, and Ed, N4OC, navigated Papa Forty Navy (P4ØN) to the top of the MS ranks.

be "propagationally open, but behaviorally closed." Thus part-time and casual participants tend to spend less time on the air or may just find something else to do that weekend.

When 15 meters is open, as it was more this year, smaller stations gain 250 kHz of potential spectrum, lessening "band pressure" on everyone. A smaller station is more likely to be effective for DX communications on 15 meters because a tribander is 33% higher electrically than on 20 meters, lowering the angle of radiation. Signal strengths on frequencies just below the MUF tend to be stronger, as well. All three of these — more space, lower angle, better propagation — make 15 meters a "money band" for HF DX contesting.

Caveats

Every year, I remind folks to play by the rules and an easy one to overlook, particularly for a new contest participant, is the use of "spots" from the world-wide spotting networks. Most logging software is "Internet-enabled" these days and logs on auto-magically. Remember to send in your log as "Single-Operator, Assisted" if you receive *any* information from the spotting network about the operation of another contest competitor. This includes announcements, schedules, and text messages or chat room conversations, for example.

While you're thinking about the rules, if you are operating a station by remote control (that is, a "remote station"), you must identify based on the location from which you transmit, you must be fully licensed to transmit from that location and have full permission from the station owner. In addition, all receiving and transmitting antennas must be located at a single site.

Write-up Notes and Features

I'm going to try something a little different this year. I assume that everyone can read the tables of winners and Top Ten stations, so I will write about the neat stories those tables tell instead of repeating them in text. (There is considerably more detail in the online version of this article at **www.arrl.org/contests**.) I am also introducing a new "figure of merit" for logs — an accuracy index.

Look to the online extended version of these results for the following features: Once again this year, volunteers have delved the depths of data to create a Regional Analysis write-up for every Division and Continent, plus the Caribbean. Plus, look for these ongoing features:

- A set of Top Ten call signs since 2002 is available as a downloadable PDF file.
- Changes in QSOs and multipliers as a percentage of the 2002 totals
- DX entries are tracked by category from year to year
- Accuracy figures and charts
- Soapbox is presented from all electronic logs.

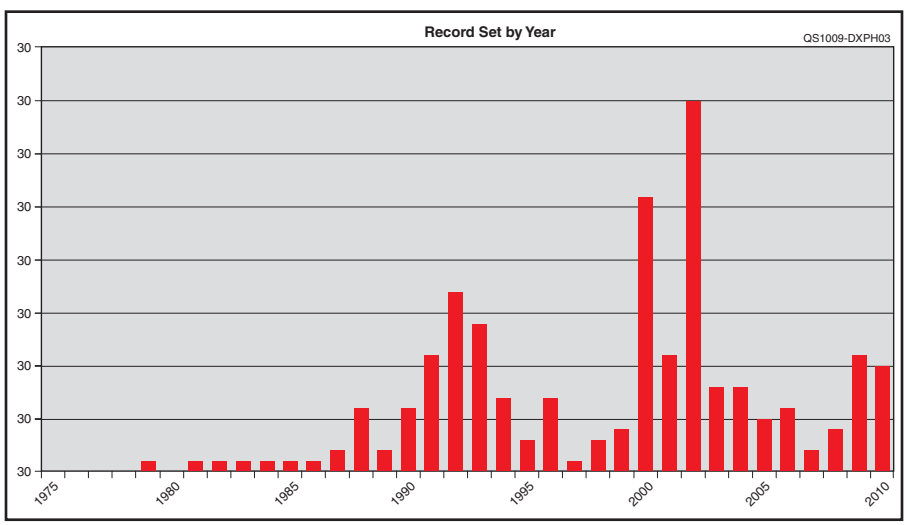


Figure 3 — Records Set By Year

Records

Great contest, especially 40 metre band, just fantastic conditions here. — VK3IO

What is a competition without records and record-keepers? A competition without a history, that's what! Records are one of the threads that stitch together the scroll, year by year, from the earliest contest in 1929 right down to 2010. New records are something we should all be proud of and strive for ourselves. Figure 3 shows the call district and continental record count by year including all the new ones from 2010. The mother lode year of 2002 remains the biggest year for records. The oldest surviving record remains the MM Methuselah established by KØRF (CO) in 1979.

While this section covers the district- and continent-level achievements, surely there are many more new records set in your section and in your club — your club *does* keep records of its members, *doesn't it*??

All-band Records

With Ol' Sol still not quite awake (Can somebody please fetch our parent star a cup of coffee…Bueller?) the all-band records are pretty much untouchable. Except that nobody told either N1UR or VA3DF! The New Records Table shows the results as N1UR set a new 1st district SOAB-LP record with 1.717M points, eclipsing the old record of 1.596M points, set in 1992. VA3DF also has the new SOAB-QRP record for Canada with 294k points. The old record was 168k points, set in 2003. In case I wasn't clear — that is Hard To Do — Well Done!

Africa has a new Multi-Single record, too, smashed to bits after the team at D4C hoisted the 1992 standard from 6M points to 8.37M. Northwest Africa has seen a run of big scores over the years and we can expect a big shoot-out between EA8, CT3, and D4 as the sunspots return. Improving on their 2006 performance, the KH7X team at KH6YY raised the altitude of Oceania's Multi-Multi record from 6.3M to a lofty 7.88M total atop Oahu's Pupukea Ridge overlooking the famous surfing Banzai Pipeline.

40 Meter Gold

At any time of the solar cycle an experienced operator can target the right band for conditions and make a run at a record. Forty meters was "gold" this year as stations took advantage of the absence of broadcasters from the 7.100-7.200 MHz allocation. Records were set by N4PN in the 4th district and W6YI in the 6th. W6YI barely made it — his 207,648 points just barely squeezed by the old 207,603 points — that's only 45 points or 15 QSOs!

On the DX side of the ledger, *three* stations broke the 2004 European 40 meter record of 257k: CR2X (OH2BH, op) with 469,944 points; CT1ILT with a score of 345,420; and EA7LL pouring it on with 279,129 points. Showing why they're called the *Grand* Caymans, the North American 40 meter record was bumped from 366k to 431k by ZF2AH, taking ZF2CF's 2005 perch. JAØJHA overwhelmed the 1992 Asian 40 meter record of 99k with a big 198k score. I'd say the long efforts of persuading the ITU to give hams some breathing room on 40 meters has paid off pretty effectively — another Well Done!

Single-Band Records

Forty meters wasn't the only band on which increased activity paid off. On 80 meters from Oceania, the new record-holder is KH6LC (NH6V, op) with 211k points, besting a 20 year old record of 141k points. In fact, I don't see another Oceania station in the Top Ten on 80 meters in any of the years since 2002 in which I've been tracking the contest! The 1990 record was the oldest to fall in 2010.

Down on Top Band, the increased awareness of this band, better equipment and antennas, fewer frequency and power restrictions for DX hams — all helped W2MF eclipse his record-setting 2nd district effort from last year on 160 meters, raising the bar from 22,692 to 25,578 points. VE2DWA picked off the 1984 1596 point Canadian 160 meter record with a new mark of 4416 points.

The Crowd Groans

VY2ZM (K1ZM, op) just missed a new Canadian SO-HP record with 5.436M points — the old record was 5.647M points. P4ØA (KK9A, op) came close to the old South American record of 5.91M points with 5.51M points of his own. KH7Y's 431,640 points on 15 meters came within a whisker of the 433k Oceania record. Likewise, AO8A (EA8AH, op) put 288,720 points on the board on 20 meters, but couldn't quite capture the 298k African record. As our JA friends say, *"Mo ichi do!"* (One more time!)

Thank you to my father PP5JR (operator of ZX5J) to give this opportunity. I'm 11 years old, my first contest alone. PU5FJR.

I shared my father's station with my brother PU5FJR, great experience I'm 13 years old. — PU5BIA

Propagation Indices

	Flux		Planetary Ap		Estimated K	
Year	Sat	Sun	Sat	Sun	Sat	Sun
2002	191	183	5	10	1.6	2.5
2003	138	147	14.5	11	2.8	2.6
2004	105	106	5	6	1.8	1.8
2005	81	84	10	36	2.5	4.3
2006	75	74	2	1	0.9	0.5
2007	73	73	2	3	0.5	0.8
2008	69	69	19	8	3.3	2.0
2009	69	69	1	8	0.3	2.6
2010	78	77	3	4	0.8	1.0

Category Abbreviations

Contest results are easier to read if you know the abbreviations for the different categories. You'll find the complete description for all of these in the contest rules:

- SO: Single Operator
- HP/LP/QRP: High Power, Low Power, QRP
- AB: All Band
- SB: Single Band
- A or U: Assisted or Unlimited (see note below)
- MO: Multioperator
- MS: Multioperator, Single-Transmitter
- M2: Multioperator, Two-Transmitter
- MM: Multioperator, Multiple Transmitters

These abbreviations are usually combined, such as SOAB-LP for a Single Operator, Low Power entry. (Sometimes the "AB" is omitted and you can assume that SO-LP is the same.) A band number will be added to a Single Operator, Single Band entry, such as SO-10 or SOSB-15.

A or U indicates that the operator made use of information from the call sign spotting networks — it doesn't refer to "assistance," meaning physical help with operating, for example.

Accuracy Leaders

W-VE

Single-Op (Non-assisted)

Call	QSOs	Error %	Index	Category
VY2ZM	4084	0.5	13.561	SO-HP
VX3AT (VE3AT, op)	3762	0.4	13.535	SO-HP
VY2TT	3591	1	13.455	SO-HP
W9RE	2710	0.3	13.403	SO-HP
K3CR (LZ4AX, op)	2890	0.7	13.391	SO-HP

Single-Op (Assisted)

Call	QSOs	Error %	Index	Category
W2RE	3404	0.9	13.442	SOA
K3WW	2517	0.9	13.311	SOA
AA3B	2024	0.9	13.216	SOA
W1GD	1566	0.6	13.135	SOA
W4MYA	1352	0.6	13.071	SOA

Multiop

Call	QSOs	Error %	Index	Category
K3LR	6968	0.7	13.773	MM
W3LPL	6521	0.8	13.734	MM
KC1XX	6475	0.9	13.721	MM
WE3C	5423	0.8	13.654	M2
K1TTT	4381	0.7	13.572	MM

DX

Single-Op (Non-assisted)

Call	QSOs	Error %	Index	Category
8P5A (W2SC, op)	8005	0.3	13.873	SO-HP
6Y9V (WE9V, op)	7520	0.3	13.846	SO-HP
KH7XS	6732	0.3	13.798	SO-HP
PJ2T (WB9Z, op)	6622	0.7	13.751	SO-HP
KP2M (N2TK, op)	5819	0.2	13.745	SO-HP

Single-Op (Assisted)

Call	QSOs	Error %	Index	Category
J7N (K3TEJ, op)	4684	0.8	13.591	SOA
LT1F (LU1FAM, op)	3847	0.4	13.545	SOA
OE3K	3613	0.7	13.488	SOA
IR4M	3463	0.6	13.479	SOA
OM3GI	3685	1	13.466	SOA

Multiop

Call	QSOs	Error %	Index	Category
KH7X	8496	0.6	13.869	MM
TI5N	8261	0.6	13.857	M2
D4C	8868	1.1	13.838	M2
V48M	7722	0.8	13.808	MM
P4ØN	7461	0.8	13.793	MS

DX

Single Operator High Power

8P5A (W2SC, op)	7,951,068
6Y9V (WE9V, op)	6,819,318
PJ2T (WB9Z, op)	6,554,676
KH7XS	6,244,950
KP2M (N2TK, op)	4,897,830
TO5A	3,886,035
CT1JLZ (OK1RF, op)	3,121,476
LX7I (LX2A, op)	2,608,290
PZ5RA	2,459,646
4O3A (YU1YV, op)	2,069,256

Single Operator Low Power

P40A (KK9A, op)	5,510,736
HI3TEJ	3,488,265
V26M (N3AD, op)	3,032,010
VP9/W6PH (W6PH, op)	2,860,164
J88DR (G3TBK, op)	2,653,224
J7Y (K1LI, op)	2,315,328
8P6EX	1,571,994
GI0KOW	767,961
HK6P	653,913
KH7T	652,344

Single Operator QRP

OK2BYW	65,286
F5BEG	51,600
CT2IOV	36,675
JR4DAH	25,872
OK1DVM	18,468
IV3AOL	16,650
IK1BBC	13,029
JE1LDU	9,999
JA2MWV	4,968
PU5ATX	4,536

Single Operator 160 Meters

M8M (G3LNP, op)	34,848
S56P	25,992
I4FYF	13,860
LU2DVI	1,248
SP5CJY	288
LY2OU	144
OK1DF	48

Single Operator 80 Meters

KH6LC (NH6V, op)	211,731
C6AWL (RA3CO, op)	199,125
GM3PPG (G4BYB, op)	193,662
CT2ITR	132,516
YV5MSG	113,190
E77DX	109,152
HK1NK	99,693
YV6BXN	85,542
UX2X (UT2XQ, op)	62,568
G8DYT	45,030

Single Operator 40 Meters

CR2X (OH2BH, op)	469,944
ZF2AH	431,100
CT1ILT	345,420
EA7LL	279,129
YT8A (YU1EA, op)	257,040
JA0JHA	198,000
HQ9R (WQ7R, op)	180,747
TM0T	166,041
RW2F (UA2FB, op)	163,611
YT0W	152,847

Single Operator 20 Meters

F6KHM (F8DBF, op)	621,696
TM5C	583,632
S50K	442,680
SN2B (SP2WKB, op)	426,006
OH8L (OH8LQ, op)	400,680
OZ7X (OZ5KF, op)	377,346
E70T	345,216
HQ2T (K2BB, op)	334,341
LN9Z (LA5KO, op)	331,962
TG9ANF	323,826

Single Operator 15 Meters

ZX5J (PP5JR, op)	588,504
LP2F (LU1FDU, op)	558,699
CR2A (OH8NC, op)	435,174
KH7Y	431,640
PY2BK	398,574
HC1HC	379,908
EF8R	359,640
AY5F	325,008
PY1KN	266,448
PY3FOX	264,261

Single Operator 10 Meters

LU1HF	255,696
LR2F	202,608
LU1UM	103,509
LU6FOV	93,330
PY2ZXU	83,556
PU5OGE	81,075
CE2WZ	74,925
PY2MTS	63,624
PU2LEP	46,242
CX4DX	39,663

Single Operator Assisted

J7N (K3TEJ, op)	4,058,577
OM3GI	2,781,300
LT1F (LU1FAM, op)	2,728,818
OE3K	2,532,360
IR4M	2,397,720
ZX2B (PY2MNL, op)	1,928,004
OK4U (OK1DIG, op)	1,875,750
S57DX	1,548,021
NP2KW	1,200,114
DK4YJ	1,195,404

Multioperator Single Transmitter

P40N	7,373,388
PJ4G	6,494,220
VP5H	5,931,945
HI3K	4,851,120
4A2S	4,698,120
TO2T	3,455,334
CW5W	3,170,976
C6ANM	3,083,841
YN2EA	2,465,280
G5W	2,026,692

Multioperator Two Transmitters

D4C	8,372,304
TI5N	7,792,560
LP1H	5,586,975
KL7RA	4,810,680
CE4CT	4,360,125
ZY7C	3,647,520
DF7ZS	2,008,818
RL3A	1,400,976
PR5D	750,060
OZ1ADL	566,406

Multioperator Multi Transmitter

KH7X	7,884,783
V48M	6,668,550
ZW5B	5,258,400
TI8M	4,388,202
DR1A	3,875,430
9A1A	3,546,630
HG1S	2,397,750
JA3YBK	2,394,948
JA1YPA	1,311,057
RX3APM	730,125

W/VE

Single Operator, High Power

VY2ZM	5,436,120
VX3AT (VE3AT, op)	4,534,959
VY2TT	4,147,332
K3CR (LZ4AX, op)	3,344,841
W9RE	3,149,784
AA1K	3,038,208
W3BGN	2,852,922
K8PO	2,716,848
K1TO	2,686,602
NC1I (K9PW, op)	2,621,949

Single Operator, Low Power

N1UR	1,717,380
N5AW	883,479
VE3BDN	775,248
VE3AD	677,424
N4XL	594,282
KT4ZB	588,612
K6AM	448,596
NA4K	439,230
KD9MS	394,605
WA2JQK	387,504

Single Operator, QRP

VA3DF	294,120
N1TM	217,005
N0KE	188,853
N5DO	186,000
ND0C	137,448
W6QU (W8QZA, op)	123,708
WF4U	88,920
KT8K	55,590
N5FPW	54,108
K3TW	51,975

Single Operator, 160 Meters

W2MF	25,578
K5RX	13,728
W3GH	11,475
VE2DWA	4,416
W2VO	4,257
K0KT	3,108
NA4W (K4WI, op)	1,725
VE3EDY	1,134
VE3CUI	624
KK4SI	495

Single Operator, 80 Meters

AA1BU	150,552
KU2M	114,075
N4QV	46,224
N0NI	39,690
VE9ZX	36,465
W4QNW	35,145
KM1R	26,724
WD5COV 20,274	
W2RR (WA2AOG, op)	18,270
WA4TII	17,655

Single Operator, 40 Meters

W6YI	207,648
KI6LZ	116,100
WD0BGZ	66,861
K4KZZ	58,500
W1AJT	42,180
W8FR	30,150
K1EY	27,966
N0UU	25,704
VA3XH	24,759
N8QAZ	21,336

Single Operator, 20 Meters

VE6WQ	809,088
KU1CW	552,123
N4PN	447,552
VE3DZ	406,929
VX3XN	369,198
VE3NE	285,120
KK1KW	205,200
WR2G	190,404
N8II	184,497
VO1KVT	148,473

Single Operator, 15 Meters

W4SVO	245,670
N3HBX	235,710
W5KFT (NA5TR, op)	185,625
KV4T	157,872
N1SV	151,923
W6AFA	125,610
N7RQ	105,702
AC5O	85,449
N4TZ	81,528
W6SR	76,734

Single Operator, 10 Meters

W5PR	16,380
K4WI	4,224
W3EP	3,942
KC4TVZ	1,980
KE5SNJ	1,518
KD4W	1,512
WA2AOG	672
KI6YYT	156
N1AIA	126
K7ULS	99

Single Operator, Assisted

W2RE	4,174,938
K3WW	3,156,300
AA3B	2,445,795
N2MM	1,916,214
N8TR	1,898,334
W1GD	1,821,687
W4MYA	1,674,216
N4ZC	1,664,388
W2IRT	1,567,500
VE3MMQ	1,533,927

Multioperator, Single Transmitter

K1LZ	5,240,760
K9RS	3,922,695
N1MM	3,216,663
W5RU	2,251,158
NK7U	2,236,761
W1ZA	2,215,020
N1FD	2,086,272
NN2W	1,925,478
W3MF	1,668,975
N2RM	1,638,270

Multioperator, Two Transmitter

WE3C	8,679,984
W4RM	4,652,967
K0TV	3,659,001
N1LN	3,321,402
K7ZSD	2,179,377
N0IJ	2,065,833
K1KP	1,917,825
W7RN	1,681,560
K2AX	1,556,640
VE3MIS	1,505,142

Multioperator, Multi Transmitter

K3LR	12,240,396
W3LPL	10,761,933
KC1XX	10,688,937
KM1W	7,031,871
K1TTT	6,574,713
W0AIH	3,515,184
NE3F	2,751,552
W6WB	2,303,160
K4VV	2,055,504
N8RA	1,529,376

Success Over Time

One of the stories rarely covered in a yearly write-up is the history of the contest, particularly of operators and stations that do well year after year. If you search through the table of Top Ten stations since 2002 available with the online article, you'll see some calls that should be mighty familiar. (Another fun place to explore is the K5TR Contest database at **www.kkn.net/~k5tr/scoredb/** — more than 400,000 published scores have been entered by volunteers!)

The active Winning Streaks table shows the active winning streaks for both W-VE and DX stations. From the W-VE scores, K1ZM has run a pretty amazing string of eight consecutive SOAB-HP wins from Prince Edward Island. It's going to be hard to get any closer to Europe than Jeff, he's a good operator, and the station is second to none. Literally! You can learn more about VY2ZM at **www.k1zm.com**, including a video taken from the 170 foot level of one of the towers. There are four other two-win active streaks by single operators: N1UR (SOAB-LP), W5PR (SOSB-10), W2MF (SOSB-160), and W2RE (SOA). In the Multioperator categories, WE3C's team has won M2 three times in a row and K1LZ is coming on strong with two MS wins in a row.

Outside the borders of W-VE, KK9A is pushing K1ZM hard with a six-pack string in SOAB-LP from his Aruba (P4) station. The top scores on 10 and 15 meters have been pretty much locked up recently by a pair of South American operators; LU1HF has a full tally of five consecutive SOSB-10 titles and PP5JR has piloted the ZX5J station to four in a row on 15 meters. Winning any category just once is hard enough, but all of these operators have been able to stay the course and do it time after time — Well Done for a third time!

The Top Ten Finishes table looks beyond the winning streaks to see how many times an operator made the Top Ten. The table shows whose calls have visited the Top Ten at least five times since 2002, with at least one being in the tough SOAB-HP or SOAB-LP category. (Not to say the Single Band or Assisted categories aren't competitive — I promise to look at those categories next year!)

AA1K and N5AW share the limelight at nine Top Tens — in other words, for every year that I've authored the results, these two call signs appeared somewhere in a Top Ten box. All of AA1K's scores have been in the SOAB-HP category, competing against some pretty stiff challengers! Right behind is W9RE with eight Top Ten's, also in the SOAB-HP category and from the so-called "Black Hole" section of Indiana, too.

Over on the DX side of the equation, KK9A's winning streak of six is supple-

W/VE Regional Leaders

Table lists list call sign, score, and power (A = QRP, B = Low Power, C = High Power).

Northeast Region
(New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)

N1TM	217,005	A
K3TW	51,975	A
W2JEK	2,028	A
N1UR	1,717,380	B
WA2JQK	387,504	B
W1JQ	370,866	B
W2JU	349,596	B
K1VSJ	289,044	B
VY2ZM	5,436,120	C
VY2TT	4,147,332	C
K3CR (LZ4AX, op)	3,344,841	C
AA1K	3,038,208	C
W3BGN	2,852,922	C

Southeast Region
(Delta, Roanoke and Southeastern Divisions)

N5FPW	54,108	A
K4XD	23,310	A
W4IM	17,808	A
N4ESS	5,130	A
N4XL	594,282	B
KT4ZB	588,612	B
NA4K	439,230	B
N4IG	333,684	B
WB4JFS	303,606	B
K1TO	2,686,602	C
KT4Q	1,095,540	C
W5WMU	1,036,431	C
K5RQ	943,572	C
KZ2I	871,995	C

Central Region
(Central and Great Lakes Divisions; Ontario Section)

VA3DF	294,120	A
KT8K	55,590	A
N9TTX	45,552	A
AI9I	14,790	A
WD9FTZ	11,016	A
VE3BDN	775,248	B
VE3AD	677,424	B
KD9MS	394,605	B
K8LY	233,874	B
K9MY	221,034	B
VX3AT (VE3AT, op)	4,534,959	C
W9RE	3,149,784	C
WO9Z	805,794	C
W8TWA	614,781	C
N8BJQ	569,646	C

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

NØKE	188,853	A
N5DO	186,000	A
NDØC	137,448	A
WF4U	88,920	A
KA5PVB	26,718	A
N5AW	883,479	B
VE5ZX	374,631	B
NØHR	304,950	B
VE5SF	270,000	B
W5GFI	225,639	B
VE4EAR	739,152	C
NN7ZZ (N5LZ, op)	694,320	C
KØVXU	511,980	C
AD5XD	425,847	C
KØOU	399,147	C

West Coast Region
(Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NWT Sections)

W6QU (W8QZA, op)	123,708	A
KFØX	1,275	A
KB1PWF	741	A
K6MI	510	A
K6AM	448,596	B
K7JE	324,768	B
N6RV	267,300	B
W7RV	218,286	B
WN6K	172,770	B
K6NA	1,213,800	C
N7TT	899,388	C
K5RR	806,508	C
K7RL	763,113	C
VE6BBP	609,525	C

mented by two more big scores that give him eight Top Ten appearances, along with "Voice Of the Virgin Islands," N2TK, and world traveler NH7A who scores well from both Guadeloupe (TO) and KH6 in the SOAB-HP category.

It would be truly interesting to do an "all time" sweep of the Top Ten scorers and the category winners. If some enterprising database delver would like to tackle this project, I'm sure the ARRL DX participants would be thrilled by such a compilation!

Neat Stuff This Year

Browsing the results, you can tell something was up — namely, solar flux. In SOAB-HP — Indiana (W9RE) and West Central Florida (K1TO) invaded SOAB-HP Top Ten. The paths taken were slightly different, but W9RE wore out 40 meters with 800 QSOs and 95 entities, the top DX entity total by a single operator. From farther south, K1TO was able to muscle up on 15 meters, logging a Top Ten-leading contact total of 738 spread over 83 entities. Last year, the entire SOAB-HP Top Ten was roughly north and east of West Virginia!

Along with the new calls in the SOAB-HP, the Top Ten for SOAB-LP was all over the map, too: Northeast, Midwest, Midwest, Central, Southeast, Southeast, West Coast, Southeast, Central, Northeast. Last year, the West Coast was nowhere to be seen! As conditions open wider, I'm sure we'll see the 10th district and other Dakota, Northwestern and Rocky Mountain Division call signs in that list.

In the "Persistence Pays Department," after five straight Top Ten finishes in SOAB-QRP, VA3DF finally grabbed the brass ring this year — congratulations! On 10 meters, since 2002 either W5PR or K4WI has been first or second: can you smell a *rivalry*? Will next year be the West Gulf's year on 160 meters? K5RX has been steadily moving up year by year and placed second in 2010. Let's see if Texas can triumph on Top Band!

In the massively competitive MM category, teams at K3LR swept both modes this year from Western Pennsylvania. (Give plate tectonics another century or two and K3LR will be portable-8!) In the M2 group, a pair of West Coast stations (K7ZSD and NK7U) appear for the first time since 2004.

Affiliated Club Competition

Unlimited Category	Score	Entries
Yankee Clipper Contest Club	234,062,475	203
Frankford Radio Club	197,699,928	140
Potomac Valley Radio Club	159,675,111	163
Contest Club Ontario	55,574,469	79
Northern California Contest Club	52,535,436	128
Florida Contest Group	49,639,950	93
Society of Midwest Contesters	46,504,080	112
*Minnesota Wireless Assn	44,967,489	91
Southern California Contest Club	21,271,257	52
Tennessee Contest Group	17,925,594	61
Arizona Outlaws Contest Club	13,299,261	70
Medium Category		
North Coast Contesters	58,532,361	31
Hudson Valley Contesters & DXers	27,636,801	39
Carolina DX Assn	22,155,432	46
Central Texas DX and Contest Club	21,177,222	18
Willamette Valley DX Club	17,177,835	42
Maritime Contest Club	16,199,220	18
Alabama Contest Group	16,786,749	41
Mad River Radio Club	15,329,817	27
Rochester (NY) DX Assn	15,143,019	16
South East Contest Club	13,960,356	38
Louisiana Contest Club	12,256,338	9
Order of Boiled Owls of New York	8,114,070	17
Western Washington DX Club	7,800,837	25
North Texas Contest Club	7,737,999	15
Grand Mesa Contesters of Colorado	7,590,135	30
Contest Group Du Quebec	5,021,055	14
CTRI Contest Group	4,953,390	18
Utah DX Assn	4,197,258	21
Western New York DX Assn	3,989,697	12
Texas DX Society	3,295,278	7
Mother Lode DX/Contest Club	3,301,542	15
Central Arizona DX Assn	3,067,443	7
Spokane DX Association	2,122,962	17
Saskatchewan Contest Club	1,859,364	9
Bergen ARA	1,493,955	15
*Sterling Park ARC	1,442,100	11
BC DX Club	1,371,510	6
Kentucky Contest Group	1,123,467	6
Allegheny Valley Radio Association	1,116,471	7
Eastern Iowa DX Assn	796,782	5
Magnolia DX Assn	706,551	6
Portage County Amateur Radio Service	549,594	11
Oklahoma DX Assn	307,551	5
Local Category		
Southwest Ohio DX Assn	4,397,364	8
Central Virginia Contest Club	2,168,688	10
Southern California DX Club	1,971,396	6
Kansas City DX Club	1,906,203	6
Delaware ARA (Ohio)	1,382,190	4
Metro DX Club	1,228,992	8
Lincoln ARC	956,811	3
Southeastern DX Club	515,937	5
Northern Arizona DX Assn	513,951	3
Meriden ARC	496,806	7
West Park Radiops	351,138	10
Falmouth ARA	293,787	4
Skyview Radio Society	274,173	5
Salt City DX Assn	265,848	3
Loudoun ARG	137,970	3
Delaware-Lehigh ARC	131,034	5
Great South Bay ARC	125,559	4
Hays-Caldwell ARC	120,000	6
Wireless Association of South Hills	113,403	3
Fort Wayne Radio Club	93,129	3
Low Country Contest Club	51,144	3
Saginaw Valley ARA	47,850	4
South Texas DX and Contest Club	45,903	4
Bristol (TN) ARC	36,399	3
Heartland DX Association	17,241	3

Close Calls

In the world of instant replay, short of car wrecks and bang-bang plays at the plate, nothing is more popular than a photo finish. The log checkers sure were "busy" as 78% of W-VE to DX QSOs were submitted for inspection — a most excellent scrutinizing! When you have thousands of scores, surely there were a few races decided by a nose? But of course!

In the W-VE Top Ten, the Multioperator teams try to "pull a vacuum," working everything that transmits. In this kind of an environment, the margin of victory can be paper-thin. For example, second and third places in MM were decided by 0.68% (73,000 points out of 10.7M) with W3LPL prevailing over KC1XX. The trio of W5RU (4th, LA), NK7U (5th, OR), and W1ZA (6th, VA) may have been spread from sea to shining sea, but they swept across the wire separated by only 36,000 points out of 2.2M.

Single Operator categories saw races just as hotly contested. SOA entrants W4MYA (6th) and N4ZC (7th) were only 0.59% apart — the tightest race of any Top Ten. The SOAB-HP scores of K8PO (8th, ME) and K1TO (9th, WCF) were only 1.13% apart. N4XL (5th) and KT4ZB (6th) were only 0.96% apart, too. Who says log checking doesn't matter? Send in your log, no matter how small!

Accuracy

With all the extra scrutiny applied to

Top Ten Finishes Since 2002

With at least one SOAB-HP or SOAB-LP

W-VE

Call (@QTH)	*Number*	*Category*
AA1K	9	SOAB-HP
N5AW	9	Various
W9RE	8	SOAB-HP
N1UR	7	SOAB-LP
N4TZ	7	Various
W3BGN	7	Various
VE3AT	7	SOAB-HP
K6LA (@VY2)	6	Various
K2PS	5	Various
K3ZO	5	SOAB-HP
K8IA	5	Various
KU1CW	5	Various
LZ4AX (@K3CR)	5	SOAB-HP
N1PGA	5	SOAB-LP
N1SV	5	Various
NN3W	5	Various
VE3EJ	5	SOAB-HP
VO1MP	5	Various

DX

Call (@QTH)	*Number*	*Category*
KK9A (Various)	8	Various
N2TK (@KP2)	8	SOAB-HP
NH7A (@FG,KH6)	8	SOAB-HP
G3FBK (@J8)	7	SOAB-LP
HI3TEJ	7	Various
W6PH (@VP9)	7	SOAB-LP
W2SC (@8P)	6	SOAB-HP
8P6EX	6	SOAB-LP
OK1RI	6	Various
W5AJ (Various)	6	Various
KH6ND	5	Various
LU1HF	5	SOSB-10
OH2BH (Various)	5	Various

Sponsored Plaque Winners

Thanks to the generous sponsorship of numerous clubs and individuals, we are pleased to announce the winners of a sponsored ARRL DX SSB plaque. The ARRL wishes to thank the plaque sponsors for their continued commitment to the ARRL Plaque Program. Without their support and dedication, the Plaque Program would not be possible.

Category	Plaque Sponsor	Winner
World Single Operator Phone High Power	North Jersey DX Association	8P5A (W2SC, op)
World Single Operator Phone QRP	QRP-ARCI	OK2BYW
World Single Operator Assisted Phone	Southern California DX Club	J7N (K3TEJ, op)
World 1.8 MHz Phone	Fred Race, W8FR, In Memory of ZL2BT	M8M (G3LNP, op)
World 7 MHz Phone	Jim Rafferty, N6RJ Memorial - Cayman ARS	CR2X (OH2BH, op)
World 14 MHz Phone	Don Wallace, W6AM, Memorial Award	F6KHM (F8DBF, op)
World 21 MHz Phone	Long Island DX Association	ZX5J (PP5JR, op)
World 28 MHz Phone	North Shenandoah DX Association, NS4DX	LU1HF
World Multioperator Two Transmitters Phone	W6NL and K6BL	D4C
World Multioperator Unlimited Phone	Stanley Cohen, W8QDQ	KH7X
W/VE Single Operator High Power Phone	Frankford Radio Club	VY2ZM
W/VE Single Operator Low Power Phone	Dauberville DX Association	N1UR
W/VE Single Operator QRP Phone	Jeffrey Briggs, K1ZM	VA3DF
W/VE Single Operator Assisted Phone	Pete Carter, K3VW Memorial	W2RE
W/VE 3.5 MHz Phone	Jeffrey Briggs, VY2ZM	AA1BU
W/VE 28 MHz Phone	Ralph Fontaine, AF7DX	W5PR
W/VE 1.8 MHz Phone	Butch Greve, W9EWC Memorial	W2MF
Asia Multioperator Single Transmitter Phone	Yankee Clipper Contest Club	RT0C
Europe Multioperator Unlimited Phone	Operators at K1TTT	DR1A
North America Multioperator Single Transmitter Phone	Nick Lash, K9KLR	VP5H
Oceania Single Operator High Power Phone	W7EW / W7AT	KH7XS
South America Multioperator Two Transmitter Phone	Operators at K1TTT	LP1H
Japan Single Operator Low Power Phone	Western Washington DX Club	JH4UYB
Great Lakes Division Single Operator Unlimited Phone	Northern Ohio DX Association	N8TR
New England Division Single Operator Low Power Phone	CTRI Contest Group	N1TM

Unsponsored plaques may be purchased by the plaque winner. If you wish to purchase an unsponsored plaque or order a duplicate plaque, contact ARRL Contest Branch Manager Sean Kutzko, KX9X, at 860-594-0232 or by e-mail at **kx9x@arrl.org**. The cost for plaques is $75 (includes shipping).

contest logs, it's high time that we recognize the exceptional logging accuracy of top operators and teams. You'll see that error rate is included in the Top Ten tables this year. Error rate is calculated in percent as the number of "bad" QSOs — those with a busted call (B), a miscopied exchange (X), or that can't be found in the other station's log (N) — divided by the total number of "good" QSOs after duplicates have been removed from that log.

Error Rate (%) = 100% × (B+X+N) / QSOs

This calculation is pretty much the same across the contest world. The penalties a particular sponsor assesses for each bad QSO vary, ranging from simply not counting the QSO to assessing extra penalty points. (Note that having a QSO designated as "bad" in one's log is *not* an accusation of cheating any more than being assigned an error for bobbling a ground ball or having to back up five yards for illegal procedure.)

Error rate, though, isn't enough. There are a lot of "golden logs" out there but most contain less than 100 QSOs — a multi-thousand QSO log with a very low error rate is a tougher achievement. To recognize those exceptional performances, I devised a formula for computing an accuracy index that accounts for log size and adds a bonus for low error rate:

Accuracy Index = log(QSOs) + Accuracy Factor (1 – Error Rate in %/100)

where QSOs is the same as for Error Rate, Accuracy Factor is a weighting constant equal to 1 or higher that emphasizes accuracy more as its value increases. I took the log of QSOs because it keeps the numbers within a reasonable range and I wanted a 1-QSO log with a 100% error rate to have an index of 0.

I'm sure there could be (and will be) lots of discussion about what value of Accuracy Factor is appropriate and whether the formula actually measures what it is purported to measure. The intent is to stimulate discussion and create a formula that could be used for any contest, regardless of scoring methods. The Accuracy Leaders table contains the top five Accuracy Indexes achieved by SOA, SO (AB and SB) and MO stations. (This subject is discussed in more detail in the online article.)

DXing

Hey, it's a DX contest! Who cares if G or CT counts just the same as ZA or ND? The rarer it is, the more fun it is to work and the bigger the cheer when that QSO scrolls across the screens at a multiop station! Here are the top DX count band bonanzas for multiop and single-op:

160: K3LR (MM) 67, W2MF (SOSB-16) 58
80: K3LR (MM) 104, AA1BU (SOSB-80) 82
40: K3LR (MM) 126, W2RE (SOA) & W9RE (SOAB-HP) 95
20: K3LR (MM) 145, VE6WQ (SOSB-20) 128, and 64 stations made DXCC
15: K3LR (MM) & KC1XX (MM) 120, N4ZC (SOA) & W5KFT (SOSB-15, NA5TR, op) 99, and 10 stations made DXCC
10: W5PR (SOSB-10) 30, W3LPL (MM) 28

Which station will be the first to log 5BDXCC in the new cycle? Out of 15 stations listed, 10 are category leaders!

Oddities

One can't stare at this many numbers for this long and not find some really interesting material! The best is K1GU's 30,000-point DX Phone "hat trick." Ned not only had a "golden log" (no errors), but grabbed 100 DX multipliers in 100 QSOs exactly! If that isn't sufficiently unique for you, his score tied with adjacent SOA entry, K2RS!

There were 52 tied scores, with the largest being W9WI and N1BCL in SOAB-HP, each with 235,620 points. The smallest winning score was 12 points by NH6PE on SO-10 for the Oceania title!

My very first contest, not the last for sure! — CM5FZ

Concluding Remarks

This was my last contest from the Seattle area after 27 years of West Coast contesting. I'm relearning the Midwest propagation after returning to Missouri, with its own set of challenges — namely, having to fight through *both* coasts to work anybody! Thanks to all my old friends in WWA for the good times and contest fun.

Keep it ever so — see you in the pileups on March 5 and 6 of next year!

A Web Full of Information

You'll find a lot more reading and photos in the online version of this article at **www.arrl.org/contests**. There are many graphs and charts to help put the contest in perspective — how did you do?