

ARRL January VHF Sweepstakes 2012 Results

By Kevin Kaufhold, W9GKA

Fireworks in January!

The summer months are usually known for dramatic activity on the VHF and above bands but the 2012 January VHF Sweepstakes weekend surprised almost everyone with an exceptional amount of enhanced propagation which equaled or surpassed a summer run on the bands in some areas. Not only was there an abundance of sporadic E (E-skip or Es), but aurora (Au), transequatorial propagation (TEP), and even F2 and Au-Es were evident in many areas. Several stations had Es QSO totals approaching their typical June VHF QSO Party results. Many participants felt that this year's contest had some of the best January propagation in many years. As Bob, K2DRH noted in his post-contest recap, "This one had it all, Au, Es, and even some enhanced tropo."

At the outset of this report, great thanks are bestowed upon the numerous individuals who responded to requests for information on the spectacular conditions, some of whom provided log extracts and significant details. Because of these fabulous notes from the contestants themselves, this write-up has become something more than a typical contest results article, taking on the trappings and detailed richness typical of some propagation studies.

6 Meter Conditions

For many ops, the fireworks on 6 meters occurred right from the start of the contest. In the mid-section of the nation, Larry, NØLL made 186 contacts on 6 meters from his Midwest location and even worked HKØNA on 6 meters for DXCC entity #130. Congrats Larry! Jon, NØJK had strong Es from eastern Kansas to the mid-Atlantic region and even had a run going using a twoelement Yagi with 10 watts. The opening moved to the southwest after two-plus hours with Mexico coming in very loud. Paul, WØUC experienced similar conditions with the southeast coming in at the start on Saturday then shifting into the southwest from 2103Z until 0300Z with a contact to W3XO/5 and many others. Bill, KØHA worked P43A and P49V about the same time, possibly via F2. NØJK also worked P43A on 6 meters Sunday at 2215 UTC.

Larry, N9LB worked over 40 stations from EN52 in Wisconsin to South Carolina through the Gulf and into the southwest from 1925Z until 2141Z on Saturday. Another brief opening occurred later on Saturday into New Mexico, Idaho, Arizona, and Colorado. Only a single five-element beam at 60 feet and 100 watts was used. Dan, K9EA in Indiana experienced good conditions mostly into the northeast and southeast. Marshall, W9RVG in EM57 in southern Illinois worked into DM near the start and then heavily into the south and southeast from then on, at one point working ZF1. On day two of the contest, Marshall again worked to the south and into YV4 and YV5.

Es From the West

Duffey, KK6MC got in on the fun while roving across four grids between Flagstaff and Phoenix with W7QQ. They had numerous Es QSOs on Saturday afternoon, some to the same stations as they moved between grids. The opening was so intense that many contacts occurred while driving through hilly terrain. Another opening into the Pacific NW hit on Sunday afternoon and throughout California. Traveling the same route as last year, the KK6MC score tripled. A Moxon beam close to the car roof with 100 watts was used for all 6 meter contacts.



Duffey, KK6MC roved across four grids between Flagstaff and Phoenix, using a Moxon beam for 6 meters and Yagis for 2 meters through 70 cm. (Photo by KK6MC)

Len, WA6KLK in CM89 reported working P43A in Aruba at 2001 UTC Sunday and then several others in rapid succession in the DM grid field. Len was running only 100 watts to a three-element beam. Pete, WA7JTM indicated that this was his best Es opening in a January contest – ever! That says a lot since he has operated in contests going back to the 1960s. Tom, NQ7R in Arizona had numerous 6 meter single-hop contacts into the south, Midwest, and Pacific Northwest.

Don, W6KBX had almost thirty 6 meter single-hop Qs from his location in Sacramento, California as well as a brief opening into the Caribbean between 2151 and 2209Z Saturday, working VP2, P43A, FM8, and FM5. Dave, N7DB also worked Es from his Pacific NW location, contacting western interior stations via single-hop. Dave noted Au contacts into VE7 from some ops in his area. Many spots suggesting F2 were reported from W5, W6, W7 into the Caribbean and South America. For instance, Steve, W5KI worked YV5ESN in Venezuela from EM36.

West Coast Region

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

14/47 ITA	07.070	0015
WA7JTM	27,270	SOLP
NQ7R	24,444	SOLP
WJØF	19,170	SOLP
K6MI	14,300	SOLP
K6TSK	9,894	SOLP
N7CW	38,068	SOHP
W6XI	18,700	SOHP
N7EPD	13,489	SOHP
KC6ZWT	13,048	SOHP
KC6SEH	6,840	SOHP
AE6GE	945	SO-P
KL3JI	160	SO-P
WO1S	627	L
W6YX	6,240	MO
W6RKC	559	MO
KE7SW	450	MO
VE6CPP	63	MO
KF6I	18	MO
K6LMN	3,078	R
K6EU	645	R
KL7YK	580	R
K6GEP	63	R
	-	
KK6MC	12,920	RL
K6BRW	3,480	RL
WW7D	2,768	RL
WA7KVC	2,398	RL
K1FJM (N6ZE, op)	910	RL
1111 ON (1402E, OP)	310	

Fire and Ice in the Northeast

Five inches of snow and sleet fell in many areas of the Northeast twelve hours before contest. As a result, activity at times was lower than usual and several rovers got a very slow start but numerous stations got in on the fun anyway. Joe, K1JT reported isolated Es openings into the south at the start of the contest and again on Sunday from 1830 to 2335 UTC, both into the southeast

and to the midwest. Jim, N2NRD worked many Es Qs from the multi-op N3NGE. The band was open for 2 hours prior to the start then continued from 1900Z to most of the Gulf states for two hours. At one point Florida stations boomed in with very strong signals. XE3N and V31AE were also worked. A short opening also occurred into VO1, VE1, VE2, and VY2. On Sunday between 1922Z and 2217Z, an opening again occurred into the southeast. V31 in Belize was worked during this time as well.

Stan, K3IPM worked new grids in GN37 and GN39, as well as running many southeastern and Midwestern stations on Saturday through 2125Z. N3LL felt that 6 meters sounded like June during most of Sunday. Phil, K3TUF reported that 6 meters was briefly open for several days prior to the contest and into the morning of the first contest day on Saturday. What surprised Phil was the length of the openings and that Es appeared on both contest days. Jeff, K1TEO was also active on Eskip, working LA, AR, and TX on Saturday then many more on Sunday into the southeast. Ron, WZ1V in FN31 had strong 6 meter signals on Sunday from all the southern states. From eastern PA, Jeff, WA3UAT worked single-hop into the south, southwest, and Midwest in his first-ever VHF contest. I hope he realizes how special the 2012 event was!



This pair of YU7EF 5-element rotatable Yagi stacks are located in Pennsylvania for remote operating by Stan, KA1ZE/3 from his Clearwater Beach, Florida home. (Photo by KA1ZE)

Stan, KA1ZE/3 worked several well-known stations in the upper Midwest on Saturday, including WØUC, W9JN, WØZQ, KØKP, and NØAKC. Interestingly, Stan made contacts using his remote-controlled station in Clearwater Beach, Florida. A pair of YU7EF-designed 5-element rotatable Yagi stacks were in use. The receiver was an SDR (software-defined radio) with two channels and phase matching between stacks.

Northeast Region

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

WA3NUF N3RG AF1T WB2SIH K1KG K1TEO K3TUF	147,618 103,704 98,942 82,296 61,149 375,386 332,536	SOLP SOLP SOLP SOLP SOLP SOHP
K3IPM	103,562	SOHP
WA3DRC	72,624	SOHP
WB2RVX	63,300	SOHP
WB2AMU	980	SO-P
K2UNK	528	SO-P
WA3WUL	16	SO-P
KC2UES	8	SO-P
WA1LEI	6	SO-P
W3SO	143,202	L
K2LIM	134,568	L
K1JT	64,365	L
W1QK	40,034	L
W3HZU	26,270	L
N3NGE	535,050	MO
K3EOD W3SZ	137,772	MO MO
N3YMS	79,280 66,700	MO
N1JEZ	40,479	MO
K1DS	134,246	R
NN3Q	40,068	R
AA1I	17,976	R
WA1T	11,704	R
K3IUV	7,751	R
N2ZBH	9,316	RL
N2SNL	1,104	RL
K2TER	14,014	RU

The Amazing South

N4QWZ in Tennessee's EM66 grid worked into South America, making contact with LU5, ZP5, and YV5 for the first time in his long radio career. Stations in CO2 and C6 were also worked. All Qs were on CW. While the Caribbean QSOs were likely Es, the South American stations were probably made via TEP. The propagation maps show another station in EM66 also making TEP Qs deep into South America at almost 5,000 miles distance. Mississippi's N3AWS in EM50 entered as Single-Op, Portable and worked FM8DY in FK94 with only five watts and three elements. N4BRF ran rates of 100+QSOs / hour at times from EL96. It must have been an amazing experience for the Boca Raton club's first VHF contest.

From EM31, Marshall, K5QE had an exceptional E-skip run, working almost everything and everyone early Saturday afternoon in the EN and FN fields then switching into the DM field by 2156 UTC of the first day. In fact, others in the Northwest reported Marshall's signals being extremely solid for much of Saturday. One of the K5QE ops, N5NU, ran a 200-Q hour on Saturday. Marshall's multi-op station had 158 grids on 6 meters alone.

Southeast Region

Southeastern Divis	ions)
103,032	SOLP
66,125	SOLP
58,108	SOLP
36,642	SOLP
31,300	SOLP
64,533	SOHP
61,608	SOHP
46,509	SOHP
34,132	SOHP
32,130	SOHP
7,398	SO-P
5,289	SO-P
384	SO-P
54,080	L
35,966	L
10,318	L
6,325	L
29,488	MO
22,750	MO
22,320	MO
,	MO
2,911	MO
16,665	R
,	R
,	RL
,	RL
·	RL
288	RL
	66,125 58,108 36,642 31,300 64,533 61,608 46,509 34,132 32,130 7,398 5,289 384 54,080 35,966 10,318 6,325 29,488 22,750 22,320 3,080 2,911

Central Region

ochtiai region		
(Central and Great Lakes Divisions;	Ontario	Section)
K2DRH	151,392	SOLP
VE3SMA	28,122	SOLP
N9LB	26,235	SOLP
K8MR	20,768	SOLP
VA3ZV	16,730	SOLP
WØUC	81,016	SOHP
K8MD	44,157	SOHP
K9EA	35,595	SOHP
VA3ST	35,100	SOHP
W9GA	23,828	
N8XA	6,400	
W9SZ	2,187	SO-P
KDØEBT	126	SO-P
W9RM	56,092	L
N9TF	9,882	
N8ZM	4,224	L
K8GDT	2,520	L
W9RVG	8,610	MO
N2BJ	7,130	MO
W8RU	3,686	MO
VE3OIL	33,902	R
K9TMS	12,072	R
N9REP	11,400	R
K9BTW	11,160	R
W9FZ	6,253	R
K9JK	9,400	RL
WB8BZK	8,080	RL
VE3RKS	1,856	RL
K9PLS	240	RL

Midwest Region

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

Divisions; ivianitoda and Saskat	cnewan Se	ections
WB5ZDP	33,182	SOLP
NØLL	27,306	SOLP
WB2FKO	24,947	SOLP
WAØARM	17,301	SOLP
W6ZI	17,220	SOLP
W5PR	80,475	SOHP
WØGHZ	58,195	SOHP
WØZQ	32,054	SOHP
W3XO/5	31,122	SOHP
WD5K	20,748	SOHP
WD5AGO	1,680	SO-P
KD7WPJ	108	SO-P
KØNR	90	SO-P
KØSIX	27,166	L
NØLD	7,865	L
WØVB	4,743	L
WD5IYF	1,716	L
K5QE	812,224	MO
KBØHH	70,596	MO
NØGZ	14,268	MO
K5GKC	2,838	MO
KC5MVZ	2,088	MO
K5ME	379,000	R
W5FWR	356,345	R
KF5KEY	351,840	R
AE5P	317,515	R
K5TRK	305,800	R
WK5F	22,750	RL
ABØYM	12,814	RL
WØBL	9,080	RL
AF5Q	777	RL
KE5VIO	192	RL
KE5VIM	192	RL
KRØVER	15,120	RU

Aurora Hits in the Upper North

Au was strong in the upper plains and Midwest. Paul, WØUC in EN44 not only ran 6 meter Es, but had one of his longest Au sessions ever during a contest. Paul's first 6 meter Au run was on Sunday from 2026Z to 2044Z. The buzz then returned on 6 meters from 2244Z to 0130Z with contacts on 2 meters as well between 2301 to 0122Z. Gary, WØGHZ also made some Au contacts from EN34 between 0043Z and 0113Z on Saturday. Jim, K8MR had aurora contacts with VE2 and VE3 as well as with WØUC and W9JN. Steve, VE3SMA in EN93 also reported working WØUC and W9JN on Au at around the same time.

Jeff, K1TEO made some Aurora contacts from the Northeast although he felt that Au did not open significantly from his location. Ops at N3NGE reported that the Au was more of a "faint swish" from FN20 than the usual buzz sound. N1JEZ also reported an Au contact to FN07. ARRL's own NN1N, Dave made a number of Es Qs into the southeast on Saturday but followed that up with eight Au contacts to VE2, VE3, and W8 on Sunday between 2252 and 0100 UTC.

The Exotic Forms of Communication

On top of the tremendous propagation this year, several stations challenged this local contest perception with far distant QSOs on several modes and frequencies. K1JT, K5QE, and several others made Qs off the Moon once again this year. Many others ran meteor scatter on 6 and 2 meters. 10 GHz was well represented, too. One exceptional, 165-mile 10G CW contact between Jon, WØZQ and Jim, KØAWU is even available on-line at nlrs-10ghz.blogspot.com.

Top Ten by Category

Circle Outerstee Levy Brown (C	OOL DV	Rover (R)	
Single Operator, Low Power (S	BOLP)	Rover (R)	
K2DRH	151,392	K5ME	379,000
WA3NUF	147,618	W5FWR	356,345
N3RG	103,704	KF5KEY	351,840
N3LL	103,032	AE5P	317,515
AF1T	98,942	K5TRK	305,800
WB2SIH	82,296	K5FAY	292,930
N4TWX	66,125	W5TV K1DS	184,052 134,246
K1KG	61,149	NN3Q	40,068
N4QWZ N1DPM	58,108 40,152	VE3OIL	33,902
Single Operator, High Power (•	Limited Rover (RL)	,
	•	MAZEE	00.750
K1TEO	375,386	WK5F KK6MC	22,750 12,920
K3TUF	332,536	ABØYM	12,920
K3IPM	103,562	K9JK	9,400
WØUC W5PR	81,016 80,475	N2ZBH	9,316
WA3DRC	72,624	WØBL	9,080
W4ZRZ	64,533	WB8BZK	8,080
WB2RVX	63,300	WA4JA	3,634
K4QI	61,608	K6BRW	3,480
WØGHZ	58,195	N4TZH	3,108
QRP Portable (SO-P)		Unlimited Rover (RU)	
N3AWS	7,398	KRØVER	15,120
N8XA	6,400	K2TER	14,014
WØPV	5,289	NZ I Z I	1 1,0 1 1
W9SZ	2,187		
WD5AGO	1,680		
WB2AMU	980		
AE6GE	945		
K2UNK	528		
K4RSV	384		
KL3JI	160		
Limited Multioperator (ML)			
W3SO	143,202		
K2LIM	134,568		
K1JT	64,365		
W9RM	56,092		
W4NH	54,080		
W1QK	40,034		
WY3P	35,966		
KØSIX	27,166		
W3HZU N4BRF	26,270 10,318		
Multioperator (MO)	10,010		
	04.2.22.4		
K5QE N3NGE	812,224 535,050		
N3NGE K3EOD	535,050 137,772		
W3SZ	79,280		
KBØHH	79,280		
N3YMS	66,700		
N1JEZ	40,479		
N4QV	29,488		
WB3IGR	25,270		
N4JQQ	22,750		

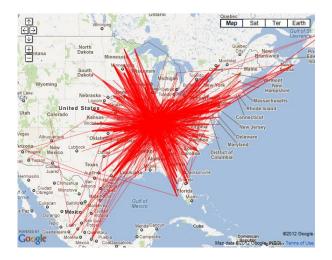
Division Winners

Single Operator, Low	Power (SOLP)		Multioperator (MO)		
Atlantic	WA3NUF	147,618	Atlantic	N3NGE	535,050
Central	K2DRH	151,392	Central	W9RVG	8,610
Dakota	NØKK	12,600	Delta	N4JQQ	22,750
Delta	N4QWZ	58,108	Great Lakes	W8RU	3,686
Great Lakes	K8MR	20,768	Hudson	KC2SST	1,456
Hudson	WB2SIH	82,296	Midwest	NØGZ	14,268
Midwest	NØLL	27,306	New England	N1JEZ	40,479
New England	AF1T	98,942	Northwestern	KE7SW	450
Northwestern	KD7UO	4,488	Pacific	W6YX	6,240
Pacific	K6MI	14,300	Roanoke	N4PD	3,080
Roanoke	W3IP	18,848	Rocky Mountain	WØRIC	1,924
Rocky Mountain	WB2FKO	24,947	Southeastern	N4QV	29,488
Southeastern	N3LL	103,032	Southwestern	KF6I	18
Southwestern	WA7JTM	27,270	West Gulf	K5QE	812,224
West Gulf	WB5ZDP	33,182	Canada	VE6CPP	63
Canada	VE3SMA	28,122			
Oin als On souten Hink		,	Rover (R)		
Single Operator, High	Power (SOHP)		Atlantic	K1DS	134,246
Atlantic	K3TUF	332,536	Central	K9TMS	12,072
Central	WØUC	81,016	Dakota	KCØP	9,418
Dakota	WØGHZ	58,195	Delta	AG4V	16,665
Delta	KG5MD	23,280	Midwest	WB9QAF	187
Great Lakes	K8MD	44,157	New England	AA1I	17,976
Hudson	W2KV	23,302	Northwestern	KL7YK	580
Midwest	WØLGQ	4,888	Pacific	K6EU	645
New England	K1TEO	375,386	Roanoke	K8GP	11,232
Northwestern	N7EPD	13,489	Rocky Mountain	NØLP	19,760
Pacific	KC6ZWT	13,048	Southwestern	K6LMN	3,078
Roanoke	K4QI	61,608	West Gulf	K5ME	379,000
Rocky Mountain	K7ICW	10,728	Canada	VE3OIL	33,902
Southeastern	W4ZRZ	64,533			
Southwestern	N7CW	38,068	Limited Rover (RL)		
West Gulf	W5PR	80,475	A d d	NOOLN	4 404
Canada	VA3ST	35,100	Atlantic	N2SLN	1,104
Circula Consultan Banta	-1-1- (CC D)		Central Delta	K9JK WA4JA	9,400 3,634
Single Operator, Porta	able (SO-P)		Hudson	N2ZBH	3,63 4 9,316
A 41 = := 4: =	NALION.	F00	Northwestern	WW7D	2,768
Atlantic	K2UNK	528	Pacific	K6BRW	3,480
Central	W9SZ	2,187	Roanoke	KD4RSL	2,414
Delta Croot Lakes	N3AWS	7,398	Rocky Mountain	ABØYM	12,814
Great Lakes Hudson	N8XA	6,400 980	Southeastern	N4TZH	3,108
New England	WB2AMU WA1LEI	960 6	Southwestern	KK6MC	12,920
Northwestern	KL3JI	160	West Gulf	WK5F	22,750
Pacific	AE6GE	945	Canada	VE3RKS	1,856
Southeastern	WØPV	5,289	Carrada	V 2011110	1,000
West Gulf	WD5AGO	1,680	Unlimited Rover (RU)		
Limited Multioperator	(ML)		Atlantic Rocky Mountain	K2TER KRØVER	14,014 15,120
Atlantic	W3SO	143,202	•		·
Central	W9RM	56,092			
Dakota	KØSIX	27,166			
Great Lakes	N8ZM	4,224			
Hudson	W2JJ (WA2VUN,op)	7,310			
Midwest	NØLD	7,865			
New England	W1QK	40,034			
Roanoke	WY3P	35,966			
Southeastern	W4NH	54,080			
Southwestern	WO1S	627			
West Gulf	WD5IYF	1,716			

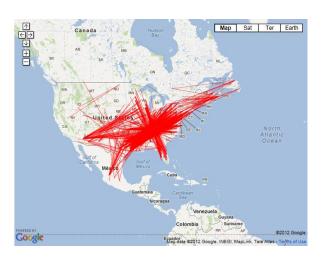
6 Meter Propagation Play-by-Play

The multitude of contest reports takes on added significance when plotted on propagation maps. John, K9JK did a great service in generating the following maps by aggregating contest data per hour, generating the exact number of contacts made between specific grids, and using the mapping features of Google Maps (maps.google.com) to provide visual identification of QSO paths and the distance between end-points. The ARRL log-checking database was used in the compilation of these maps so the visual depiction of activity should be a good indication of actual conditions. Mid-points between contacts and likely E layer densities are also easy to spot. When looking at the following maps, it is amazing to realize all this occurred in January, not June!

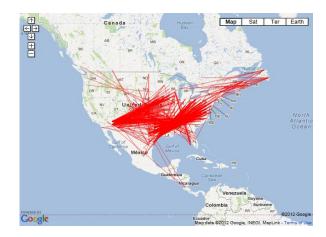
The explosive conditions on Saturday can be seen from maps of the first five contest hours. At the opening bell of 1900Z, 6 meters was wide open in much of the eastern half of the country. The mid-point of many contacts centered on Indiana with some contestants working into Mexico.



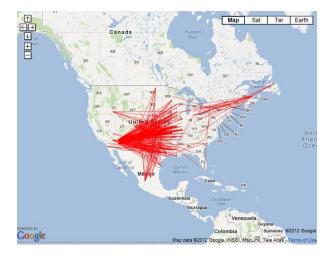
In the second hour (2000-2100Z), the Es opening strengthened in the east and extended into the southwest. Stations as far northeast as GN29 and GN37 in Newfoundland were working to the south and southwest. Florida had a pipeline to the upper Midwest. Stations in DL81 from Mexico were booming into the US.



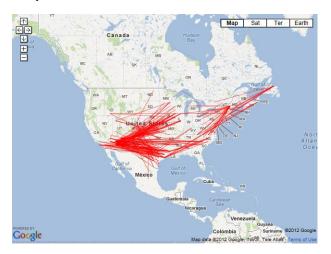
During the third hour (2100-2200Z), the eastern opening shifted southward while the southwest strengthens further. A few contacts were made to Costa Rico and El Salvador over 2,000 to 2,500 mile distances. Newfoundland and other VE QSOs continued. Some Qs occurred with the Pacific Northwest.



VE contacts in the far northeast continued in Hour 4 (2200-2300Z) but the eastern opening completely fell apart. The southwest opening continued with the midpoint of many contacts being over Oklahoma and Northern Texas. Mexico was still running due north into the US.



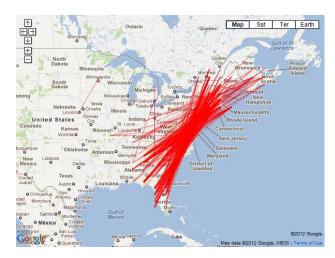
By Hour 5 (2300-0000Z) in the early evening on Saturday the southwest opening is still considerable but weakening. Newfoundland, as well as Nova Scotia, were still open to the east. The upper NE in FN44 also became quite active. After an amazing day, 6 meter activity finally died out afterwards on Saturday.



Sunday's propagation during Hour 23 (1800-1900Z) was also quite fascinating, starting with strong Es between the NE and the south. Note the two long contacts from EL29 in Texas; one to the south in Costa Rica (EK70) and the other to the north in Minnesota (EN35).



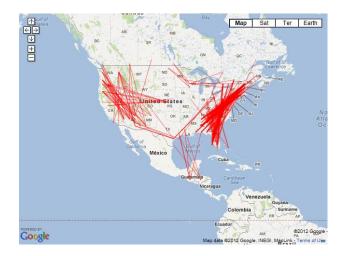
Paths along the Eastern Seaboard into the south continued to build in Hour 24 (1900-2000Z) but no DX to the south was worked.



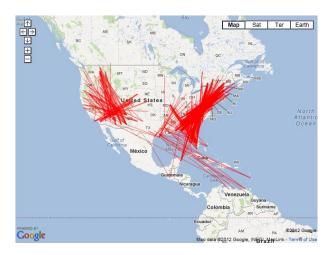
Contacts along the same paths in the east intensified in Hour 25 (2000-2100Z). Some activity started in the west and several QSOs were made to Guatemala in EK44 and EK53; Costa Rica in EK70; and Cuba in EL83.



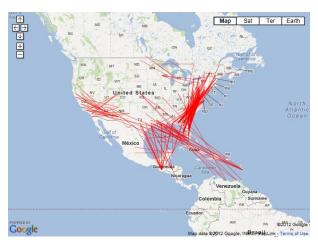
Sketchy paths in the west and Northwest firmed up in Hour 26 (2100-2200Z) while the eastern circuits continued. Qs continued with Guatemala and then Honduras (EK64) was worked from Texas. Interestingly, the upper plains and VE begin scattered QSOs to the east and south. This may have been Au on 6 as there is really no way to tell from the log data itself, but that would be consistent with activity reports.



By Hour 27 of the contest (2200-2300Z), the entire eastern portion of the country was involved in Es openings. The Pacific Northwest and west are now solidly within the western opening, too. Suspected F2 or double-hop Es hit, with numerous QSOs to Venezuela in FK50, FK60, FK80, and FJ89. Cancun and Martinique also opened. One contact between CM87 and FK52 in Curacao covered 3,735 miles. Another contact between DM24 and FK94 traversed 3,617 miles.



The eastern Es weakened in Hour 28 (2300-0000Z) but the TX and LA paths to Florida, Latin America, and the Caribbean intensified. The Northwest dropped out with the western openings shifting down to California. The upper Midwest and plains areas again opened into the east. Long-haul contacts continued with Honduras, Guatemala, Costa Rico, Martinique, and Venezuela in the range of 2,600 + miles. The longest contact may have been between CM97 and FK98 at 3,927 miles. Puerto Rico also became active during this period.



All openings weakened considerably by Hour 29 (0000-0100Z). Only Los Angeles was still open in the west. The upper plains and VE strengthened into the east however. Contacts also continued into the Caribbean and Latin America. While Puerto Rico had some pathways to the north, the biggest news now involved southern

types of TEP between Puerto Rico in FK68 and Argentina and Brazil in GG40 and GG22 at 3,484 miles.



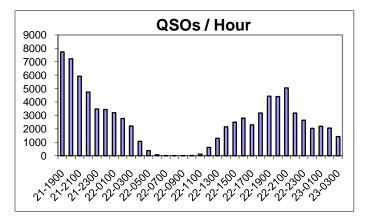
The west almost completely closed down in Hour 30 (0100-0200Z), while the east enjoyed a final burst of activity to Florida. The Upper Plains states intensified their openings to the east. Sporadic E paths continued to Honduras, Mexico, Guatemala, and Costa Rico. The contest finished with two significant TEP QSOs between Tennessee in EM66 and Argentina in FF99 at 4,931 miles and Paraguay in GG14 at 4,713 miles. These two Qs may be the longest of the entire contest.



2012 Results – Aggregate Activity

As the tables show, log submissions were up this year some 8% over 2011 with 767 logs entered compared to 710 last year. With the enhanced propagation, aggregate scores surged some 24% over 2011 to 10,737,292 points. Total contacts increased 33% to more than 87,000 QSOs and total multipliers across all bands jumped 48% to almost 28,000. In fact, in only one prior year from 2002 through 2011 has anyone worked more than 100 multipliers on 6 meters and that was by K5QE in 2007. This year alone, seven stations went over 100 mults on 6 meters, three of those being SOLP, three SOHP, and one Multiop, Unlimited as shown in the QSO and Multiplier

Leader tables. The graph shows the aggregate volume of contacts made during each contest hour. Note that in several hours on both Saturday and Sunday contestants worked over 3,000 Qs per hour. That is a lot of activity!



There were more than 100 logs with activity on the lower 6 VHF+ bands, as shown in the following table. Even the microwave bands from 2.3G through 24G had good amounts of activity, with hundreds of contacts on most of these bands from all over the US and VE. 300G + frequencies had many QSOs, too, from 19 separate logs.

Band	Logs	QSOs
6	720	46,408
2	612	20,964
222	317	5,683
432	466	8,350
902	114	1,406
1296	173	1,883
2304	78	935
3456	52	708
5760	34	432
10G	46	456
24G	14	81
47G	0	0
75G	0	0
119G	0	0
142G	0	0
241G	0	0
Light	19	51
	Total	87,357

Contest Categories

Participation was up in 2012 in many of the categories, as shown in the activity table. While there was some movement between sub-categories, total Single-op logs jumped dramatically from 574 to 619; total Multi-op logs increased from 60 to 69; and the Rover category totals (combined) went up from 54 to 63 logs.

Category	2012 Logs	2011 Logs
SOLP	471	420
SOHP	148	154
SO-Port	16	22
ML	23	28
MU	46	32
Rover	39	30
RL	22	19
DII	2	_

The increase in category participation may in part be due to the better propagation. It is nevertheless a very healthy trend that hopefully will continue in future years.

Single-Operator Categories

In Single-Op, High Power (SOHP) Jeff, K1TEO took first place, just shy of 1,000 contacts and 375,000 + points. Jeff's score was certainly helped by the strong 6 meter conditions but making contacts on all bands through 10G was a large factor in his success, too. Notably, Jeff had 17 QSOs on 2.3G and 11 contacts on 5.7G. Now that's some all-band capability! Second in SOHP went to Phil, K3TUF also scoring well over 300,000 points. Phil blanketed all bands, making contacts as high as 24G as well as light. Stan, K3IPM took third place with over 103,000 points. He no doubt benefitted from the excellent band openings, working both to far northeast into VE as well as throughout the south and southeast US.

Single-Op, Low Power (SOLP) continues to be the most popular category in the contest with 61% of all contest logs. First place goes to Bob, K2DRH at 151,000 points. Bob led the nation in multipliers among the SOLP stations on most of the eight bands on which he was active. Only 4,000 points behind, Phil, WA3NUF captured second place this year with just over 146,000 points. Phil was on more bands and had more contacts than Bob but the difference was in the 110 more multipliers for K2DRH. Third went to Ray, N3RG at 103,704 points. Just a few hundred points behind in fourth was Bob, N3LL at 103,032 who no doubt was aided by strong Es into his West Central Florida location.

Single-Op, Portable (SOP) stations are a rugged bunch. Not only do they put up with freezing cold, snow, and sleet in portable spots but they run only 10 watts, use generators or batteries, and often make do with makeshift antennas. First place went to James, N3AWS from Mississippi who used only 6 meters, making 137 Qs and finishing with 7,398 points. Phil, N8XA worked 6, 2, and 222 from his Ohio location to take second, while John, WØPV finished third at over 5,000 points, also running only 6 meters from West Central Florida.

Multi-Op Categories

It is fascinating to watch multi-op stations in action. Vast numbers of contacts, bands, and multipliers are common practice. What is so intriguing is how they do it. Detailed checklists and equipment checks are standard practice for weeks before a big contest. Being able to juggle many schedules, bands, and modes from EME to MS and tropo is truly awe-inspiring to watch.

In particular, Multi-op, Unlimited (MU) is a no-holds-barred, big power spectacular event, typically with many other single-ops and rovers in close coordination. Taking top honors this year is Marshall, K5QE's Texas team. At 812,224 points, Marshall's was one of two stations in the

entire contest to exceed 1,000 total QSOs at 1,339 contacts. It was a long-sought goal of his to win the MU category in January from a low population area. Congratulations! Second place went to another great operation at Len, N3NGE's station in eastern Pennsylvania. Being the other station to go over 1,000 contacts at 1,229 Qs, Len's station was very close on contacts but over 100 multipliers behind K5QE, finishing at 535,050 points. K3EOD, Allen's team in New Jersey, did a great job finishing in third place at over 137,000 points.

The Multi-op, Limited (ML) category is an interesting category, being limited to only four bands but with multiple ops running the bands. ML saw intense competition in 2012. W3SO in Pennsylvania finished with top honors at 143,000 plus points. Around 50% of the station's 676 contacts were on 6 meters. Second place was taken by K2LIM, only 9,000 points behind with a few less contacts and multipliers. Third was K1JT with more than 64,000 points, working from New Jersey. Joe, K1JT is a fascinating fellow, winning both VHF contests back as far as the 1950's as well as the Nobel Prize in Physics.

The Rover Categories

Over the years, rovers have been instrumental in keeping activity levels up all over the country. Reaching into sparsely populated grids, rovers will often be the only way that some of the rarer grids are activated on any bands.

This year the national rover leaders were a Who's Who from the Nacogdoches Radio Club. (See the sidebar on their adventure at the end of this artcile!) The first seven places in the Rover category were from Nacogdoches as was the top place holder in the Limited Rover (RL). First place in the Rover category went to Bob, K5ME at 379,000 points. Running 11 bands through 24G, Bob made 672 contacts and 125 multipliers. Close behind was W5FWR at more than 356,000. The difference lay in a few less Qs and multipliers. KF5KEY was third at 351,000 points. All three of these top Rovers worked from 10 grids with 11 bands of operation.



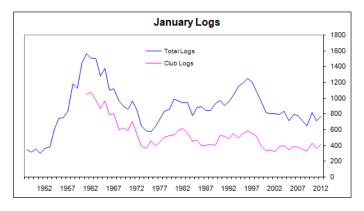
A chart showing the number of QSOs logged during each hour of the contest. The effects of the big 6 meter openings raised activity on both days. (Photo by N6NB)

The RL category saw Bill, WK5F take the top spot at 22,750 points. Having only the lowest four VHF bands to utilize, he still made 303 contacts. Second was Duffey, KK6MC who had over 100 sporadic E 6 meter contacts in Arizona, totaling almost 13,000 points. Third in this category was ABØYM from Colorado, who also obviously benefitted from excellent 6 meter conditions with 65 out of 207 contacts being on 6 meters.

Only two logs were entered in the Unlimited Rover (RU) category. KRØVER in Colorado ran 6 bands through 1296, garnering 15,000 or so points. K2TER from New York was second, making over one-half of his contacts on 6 meters.

Club Competition

The Club Competition has been a driving force of the January VHF Sweepstakes since the earliest days of the contest in 1948. This year was no exception with 43 clubs participating compared with 38 clubs last year in 2011 and up from 27 clubs back in 2000. 414 club logs were turned in this year, accounting for 54% of all logs. Club members also generated the vast bulk of scores at 8,571,134 points, 78% of total points made by all participants. Any way one views the statistics, clubs continue to play a huge role in the January contest. The graph shows the close relationship between club logs and total contest logs.



In the Unlimited Club category, the Mt. Airy VHF Radio Club "Pack Rats" posted a huge number of club logs (77) as well as total points (2.4M) being the only club that amassed over 50 member logs in the contest. The consistency and sheer size of member participation and Mt. Airy club scores throughout the years has been truly staggering. Indeed, including this year the Pack Rats have won the last 16 consecutive Unlimited Club gavels in the January contest and have won either the Unlimited or Medium club category in almost every year since

1961. No other club can claim that kind of record in any contest, HF or VHF+.

Unlimited Club

Club Name	Total Score	Logs
Mt Airy VHF Radio Club	2,416,112	77

Thirty clubs participated in the Medium Club category. The Nacogdoches ARC engaged in a monumental effort to take the Medium Club gavel with over 3 Mpoints, having increased their logs to 15 this year. The North East Weak Signal Group continued its strong showing from prior years, placing second in the category. Another preeminent club, the Potomac Valley Radio Club, placed third with more logs than any other club except the Pack Rats.

Medium (Club	
Club Name	Total Score	Logs
Nacogdoches ARC	3,024,885	15
North East Weak Signal Group	782,902	20
Potomac Valley Radio Club	464,850	36
Florida Weak Signal Society	258,046	10
Northern Lights Radio Society	254,539	15
Society of Midwest Contesters	175,650	13
Contest Club Ontario	161,530	16
Badger Contesters	122,851	21
Florida Contest Group	103,872	7
Yankee Clipper Contest Club	86,541	12
Roadrunners Microwave Group	72,208	3
Arizona Outlaws Contest Club	66,271	4
Tennessee Contest Group	59,164	3
North Texas Microwave Society	48,959	5
Pacific Northwest VHF Society	31,475	11
Rochester VHF Group	29,927	9
Frankford Radio Club	25,508	5
Western New York DX Assn	20,959	3
Carolina DX Association	19,472	5
Grand Mesa Contesters of Colorac		6
Northern California Contest Club	17,008	7
Six Meter Club of Chicago	14,650	11
South Jersey Radio Assn	14,353	6
Bergen ARA	14,016	12
Central Texas DX and Contest Clu	-,	4
Alabama Contest Group	6,286	3
Minnesota Wireless Assn	5,502	7
Contest Group Du Quebec	4,888	6
Southern California Contest Club	443	3
Alaska VHF-UP Group	310	3

The Local Club category experienced intense competition among 12 club entries. First place went to the Murgas ARC with 51,453 points from 4 logs. Murgas has also been a perennially active club, having now won eight Local Club gavels in January (at least by the author's count) and even more in September. The Bristol (TN) ARC finished close behind in second place at 47,773 points and 10 logs while the Stoned Monkeys ARC from Illinois was third with over 34,000 points.

Local C	lub	
Club Name	Total Score	Logs
Bristol (TN) ARC	47,773	10
Stoned Monkey VHF ARC	34,872	4
Granite State ARA	22,740	4
Eastern Connecticut ARA	18,774	4
Lone Star DX Assn	18,174	3
Raritan Bay Radio Amateurs	12,272	6
10-70 Repeater Assn	9,141	5
Meriden ARC	8,955	4
Burlington ARC	5,655	6
Mobile Sixers Radio Club	5,064	3
Portage County Amateur Radio S	vc 4,310	3

With club support being so critical for the January Sweepstakes the entire contest truly becomes a celebration of the clubs. If any club would like to be featured in future contest write-ups please send in a short narrative and pictures of your exploits!

Conclusion

Propagation this year was extraordinary, with Es, Au, Au-Es, TEP, and F2 all contributing to the effort. Most of the contestant's scores were higher than in prior years as a result. The real significance of the 2012 edition of the January VHF Sweepstakes may lie however in the increased participation levels. Not only were total points, QSOs, and multipliers higher but submitted logs, participating clubs, and band activity levels were all up. Let's keep the trend going into 2013! See you next year for the January VHF Sweepstakes on 19th through the 21st! (Sean please confirm

Focus on the Clubs – The Great East Texas Adventure of the Nacogdoches ARC

Since January is normally driven by club activity, it is only fitting to focus on the amazing energy and efforts exhibited by the clubs around the nation.

Out in the middle of sparsely populated country, the Nacogdoches ARC club often racks up impressive totals on grids, contacts, and QSO points. An all-out effort was made this year by the Nacogdoches Contest Club to provide a new club experience that would allow club members an opportunity to meet new people, learn new aspects of Amateur Radio, and attempt to win first place nationally in the ARRL Club Competition by generating high scores at K5QE as well as all rovers in the club.

At the K5QE multi-op, the basic goal was to maximize grid counts on every band, especially 6 and 2 meters. Over the last several years, EME has become a mainstay for the station, as working the moon has been a great way to add to the grid count from an otherwise low-grid, low population location. 2 meter EME was rather poor this year however, with only 29 stations and 28 multipliers being obtained. With moon-rise in January being at 6:25 AM Sunday morning, it was difficult to work the moon, rovers, and tropo all at the same time. FSK441 MS was used on 6 meters until 2 AM, and then resumed at 5 AM Sunday. 15 unique grids were worked this way.

Wayne, N6NB and John, N6MU, assisted in the effort, transporting six of toolbox stations some 1,600 miles from Southern California to East Texas in (and on) a Econoline vehicle. Three 11 band stations and three 10 band stations were moved in this manner. A few days before the contest, five more operators from California joined the fun in Texas. Using Wayne's van, two rental cars, and a borrowed SUV, Army, AE5P, coordinated all rovers for the club. Army upgraded his own eight-band rover station to ten band, adding 5.7G and 10G. He also set up the same bands at K5QE on Friday before the contest. Unfortunately, the 5.7 and 10G at the multistation never worked at all, for some unknown reason. A local eight band rover and another 4four band rover were also deployed. Rovers were assembled and tested at AE5P's shop/shack.

N6NB indicated that based on ground rules set forth previously by Sean, KX9X in a Southern California Contest Club (SCCC) effort, a rover's score counts for the local club if one of the two operators is a resident member of the local club and so long as the rover satisfies the typical club distance requirements. Everyone from California was in agreement that this was to not be a SCCC effort, and thus all Texas call signs were used with at least one member of Nacogdoches

being in each rover vehicle, making the activity a Nacogdoches ARC club effort. The photo in the earlier Rover section of the writeup shows the club rovers just before the start of the contest at a shopping center in Nederland, Texas.

The rovers worked from Nederland, TX (EL39) and moved their way north to Texarkana (EM23/EM33) for a total of 10 grids. The local area was blessed with very good weather for January, with warm temperatures and no precipitation. In addition to the main rovers, several other club members also roved independently to add more points to the effort. Some of these operators had very limited experience in roving, and their efforts were very much appreciated. It was truly a team effort, and all contributed to the Great East Texas Adventure.

Normally, the club QSO count is rather low, due to the extremely low local population count. However, with 6 meters being open into many areas of the country, QSO rates and overall scores were much higher than normal. While the lower band propagation was exceptional, the big club news of the contest was that a group of people out in the middle of very lonely territory could assemble so many stations to become quite competitive with much higher population centers around the country. While population and propagation are often the critical lynchpins of successful club operations, the Nacogdoches ARC has shown that through massive amounts of hard work, clubs anywhere can compete and win club gavels.

OCO Lacadaria Di	. Danal	K3JJZ	12	K1TEO	130	KDØEBT	2
QSO Leaders By		K1KG	12	K3TUF	113	222 MHz	-
Single Operator Low Power		N1DPM	12	WA3DRC	70	W9SZ	7
50 MHz		N4QWZ	10	K3IPM	66	AE6GE	7
N3LL	562	WB2JAY	8	WA3SRU	65	K4RSV	3
N4TWX	464	N3ALN	7	WA3EHD	54	WB2AMU	3
K3TW	275	K6MI	5	N3ITT	52	N8XA	3
N4BP	250	VE3SMA	5	WZ1V	49	KL3JI	2
W3LI	246	W3IP	5	W3GAD	48	432 MHz	
WB2FKO	244	1296 MHz		WA2OMY	46	AE6GE	11
WA7JTM	239	WA3NUF	26	WB2RVX	44	W9SZ	8
N8RA	231	N3RG	22	W1ZC	44	KØNR	5
NQ7R	227	K2DRH	20	VA3ST	43	WD5AGO	5
WJØF	213	WB2SIH	20	WØRSJ	41	K4RSV	5
KO4MA	212	AF1T	18	K4QI	40	WB2AMU	4
W1TR	204	KC2TN	16	9Ø2 MHz		KD7WPJ	4
AF1T	203	K6TSK	14	K1TEO	34	KL3JI	2
WA3NUF	192	W1TR	14	K3TUF	33	KDØEBT	1
N9CM	187	K1KG	14	WA3DRC	25	KC2UES	1
144 MHz		AC1J	14	WA3EHD	23	9Ø2 MHz	
WB2CUT	191	N1DPM	13	WA3SRU	22	W9SZ	2
WA3NUF	171	WA3GFZ	11	WB2RVX	21	1296 MHz	
WB2SIH	164	W2BZY	10	K3IPM	18	WD5AGO	3
N3RG	145	WAØARM	10	WA2OMY	17	W9SZ	3
K2DRH	122	WB2JAY	10	WØRSJ	15	Multioperator	
AF1T	122	Single Operator High Power	r	KE2N	11	50 MHz	
K3GNC	119	50 MHz		K3CB	11	K5QE	689
KB3TC	105	W5PR	555	W3GAD	10	N3NGE	480
N8RA	100	K1TOL	495	W3PAW	9	W3SO -L	328
K3JJZ	92	K1TEO	364	NØAKC	8	K2LIM -L	308
W3ICC	91	WD4MGB	359	KC6ZWT	8	W4NH -L	290
WA3GFZ	89	K3IPM	309	W3HMS	8	N4QV	278
KA3HED	85	N7CW	307	WØGHZ	8	K3EOD	243
W3EKT	73	K3TUF	264	WA3PTV	8	K1JT -L	240
K1KG	73	K3ZO	248	1296 MHz		W3UR	237
222 MHz		K2HZN	231	K3TUF	42	W1QK -L	228
WA3NUF	80	WD5K	228	K1TEO	42	W2JJ (WA2VUN, op) -L	215
WB2SIH	57	W4VHF	226	WA3DRC	35	WY3P -L	207
AF1T	54	KI4FIA	226	WB2RVX	24	W9RM -L	206
W3ICC	52	W2YX	225	W1ZC	22	KBØHH	172
N3RG	47	WØUC	222	WA3EHD	20	N1JEZ	160
KB1JEY	42	W6XI	220	WA2OMY	20	144 MHz	
K2DRH N3FD	40	144 MHz		WØGHZ	20	N3NGE	384
	39	K1TEO	297	K3IPM	18	K5QE	229
K3JJZ N4QWZ	37 35	KA1ZE	269	WØRSJ	17	K2LIM -L	215
WA3GFZ		W2KV	237	WA3RLT	15	W3SO -L	201
N3ALN	34 32	K3TUF	200	N3ITT	15	K1JT -L	181
W3EKT	32	WA2OMY	163	VA3ST	14	W1QK -L	163
K3IUV	30	N2NC	151	WØZQ	14	K3EOD	157
KA3WXV	30	K3IPM	140	W3GAD	14	N3YMS	150
432 MHz	30	WZ1V	137	WØUC	. 14	W3SZ	101
WB2SIH	81	K3ZO	125	Single Operator Portal	oie	W3HZU -L	89
WA3NUF	78	W3TDF	124	50 MHz	407	KBØHH	83
AF1T	63	WA3EHD	116	N3AWS	137	KE1LI	82
W3ICC	56	W1RZF	112	WØPV	123	W9RM -L	75 75
K2DRH	54	WA4GPM	104 96	N8XA	78 44	WB3IGR	75 71
N3RG	54	WA3DRC		K2UNK		N1JEZ	/ 1
K3GNC	50	WA3SRU W2BVH	95 95	WD5AGO WB2AMU	28 24	222 MHz N3NGE	126
K3JJZ	46	WZBVH 222 MHz	90	AE6GE	24 13	K5QE	126
KC2TN	45	K1TEO	94	KDØEBT	10	K2LIM -L	68
KB1JEY	41	K3TUF	93	KL3JI	6	K3EOD	67
N3FD	41	WA3SRU	59	KD7WPJ	5	W3SO -L	62
N4QWZ	40	K3IPM	58	K4RSV	3	N3YMS	45
VA3ZV	39	WA3DRC	55	WA1LEI	3	W3HZU -L	38
K6MI	35	WA3DRC WA3EHD	50	144 MHz	3	W3HZU -L W3SZ	36 37
W1TR	35	N3ITT	47	N8XA	16	W1QK -L	32
W3EKT	35	WB2RVX	42	W9SZ	15	KBØHH	32
KB3TC	35	WA2OMY	42	AE6GE	14	K1JT -L	32
9Ø2 MHz		K1TR	30	WB2AMU	11	WB3IGR	29
WA3NUF	27	K4QI	29	WD5AGO	10	N1JEZ	25
N3RG	18	WØRSJ	29	KL3JI	6	N9TF -L	23
AF1T	17	W3PAW	29 27	K4RSV	5	WY3P -L	23
WA3GFZ	15	W3GAD	27	KD7WPJ	5	432 MHz	22
WB2SIH	15	N3RN	27	KØNR	5	N3NGE	187
K2DRH	13	432 MHz	۷.	KC2UES	2	K5QE	135
		702 WII IZ		1102020	4	NOXE	100

W3SO -L K3EOD

K2LIM -L K1JT -L N3YMS

KBØHH W1QK -L W3SZ KØSIX -L WB3IGR

WY3P -L W3HZU -L W9RM -L 9Ø2 MHz K5QE

N3NGE

N3NGE K3EOD N3YMS W3SZ WB3IGR N4JQQ N1JEZ KBØHH W8RU NØGZ W6RKC W1XM 1296 MHz

1296 MHz K5QE N3NGE K3EOD W3SZ N3YMS N4JQQ N1JEZ WB3IGR W1XM W6YX N2BJ KBØHH

WB1CMG K1KC W8RU

-L denotes Limited Multioperator

30 30 28

64

M III and I Day I	W6ZI	11	KN4SM	18	WB2AMU	11
Mult Leaders by Band	K6TSK	11	K8TQK	17	KDØEBT	6
Single Operator Low Power	WAØARM	11	VA3ST	17	AE6GE	4
50 MHz	W3EKT	11	WØUC	15	KL3JI	3
N3LL 132	9Ø2 MHz	• • • • • • • • • • • • • • • • • • • •	W4ZRZ	15	KD7WPJ	2
N4TWX 102	K2DRH	11	WA4GPM	14	WA1LEI	2
WB2FKO 100	N4QWZ	10	K1TR	13	K4RSV	1
WJØF 90	WA3NUF	8	K8MD	13	144 MHz	•
NQ7R 89	K1KG	8	KG5MD	13	N8XA	11
WA7JTM 89	AF1T	7	K3IPM	13	W9SZ	9
K2DRH 87	WB2SIH	7	K3CB	12	WB2AMU	4
NØLL 83	N1DPM	7	K9EA	12	WD5AGO	4
KO4MA 71	N3RG	5	W3PAW	12	AE6GE	4
N8CJK 70	WA3GFZ	5	432 MHz	· -	KL3JI	3
N4BP 67	WB2JAY	5	K1TEO	34	KØNR	3
K3TW 65	VE3SMA	4	K3TUF	30	KDØEBT	2
N9CM 64	KF8QL	4	K4QI	26	KD7WPJ	2
N7IR 60	N3ALN	3	W4ZRZ	21	KC2UES	1
W6BXQ 59	WB5ZDP	3	VA3ST	19	K4RSV	1
WB2REM 59	N9LB	3	KN4SM	18	222 MHz	
144 MHz	VE2JWH	3	WØUC	16	W9SZ	6
K2DRH 54	K3JJZ	3	K9EA	15	AE6GE	3
N4QWZ 31	1296 MHz		K3CB	15	N8XA	2
K8MR 26	K2DRH	13	WZ1V	14	WB2AMU	2
N3RG 24	K1KG	8	KG5MD	14	K4RSV	1
N8RA 23	N4QWZ	8	WA4GPM	14	KL3JI	1
WD5IYT 22	N3RG	7	K8MD	13	432 MHz	
WB2SIH 22	N1DPM	7	WA2OMY	13	W9SZ	5
KX4R 22	W2BZY	6	K1TR	13	AE6GE	4
WA3NUF 22	WB5ZDP	6	K3IPM	13	KØNR	3
KA3HED 21	K6TSK	6	WØGHZ	13	WB2AMU	3
VA3ZV 21	AC1J	6	W9GA	13	WD5AGO	3
K1KG 21	WB2JAY	6	9Ø2 MHz		KD7WPJ	2
AF1T 21	WB2SIH	6	K1TEO	15	K4RSV	1
VE3SMA 21	W1TR	5	K3TUF	8	KC2UES	1
VE3ZV 21	WA3NUF	5	W4ZRZ	7	KDØEBT	1
N9LB 21	AF1T	5	NØAKC	7	KL3JI	1
222 MHz	WAØARM	5	W5LUA	6	9Ø2 MHz	
K2DRH 27	Single Operator High	Power	WA3DRC	6	W9SZ	2
N4QWZ 21	50 MHz		WA3EHD	6	1296 MHz	
WA3NUF 18	W5PR	145	WØGHZ	6	W9SZ	3
WB2SIH 17	N7CW	124	WA3PTV	6	WD5AGO	1
AF1T 17	K1TOL	114	WA3SRU	5	Multioperator	
N3RG 16	WD5K	91	W3HMS	5	50 MHz	
K8MR 14 VE3SMA 14	WD4MGB	85	K3IPM	5	K5QE	158
K1KG 13	W6XI	85	WØZQ	5	W4NH -L	95
N9LB 12	WØUC	83	WØRSJ	5	N4QV	87
N3ALN 12	W3XO/5	80	W9GA	5	W9RM -L	82
KX4R 12	KI4FIA	79	W3PAW	5	KBØHH	82
W3EKT 11	K1TEO	70	K3CB	5	W3SO -L	75
K2QO 11	ND5T	69	1296 MHz	40	N3NGE	74
W3ICC 9	W2YX	68	K1TEO	12	K2LIM -L	68
WA3GFZ 9	N9HF	67	K3TUF	11	N4BRF -L	60 59
WB5ZDP 9						59
	K4QI	66	WØUC	10	WY3P -L	E0.
WB2JAY 9	W4AS	66 66	W1ZC	10 9	KØSIX -L	58 56
WB2JAY 9	W4AS 144 MHz	66	W1ZC VA3ST	10 9 8	KØSIX -L NØGZ	56
WB2JAY 9 N9DG 9	W4AS 144 MHz KA1ZE	66 67	W1ZC VA3ST WØGHZ	10 9 8 8	KØSIX -L NØGZ K1KC	56 55
WB2JAY 9 N9DG 9 WB8TFV 9	W4AS 144 MHz KA1ZE K3TUF	66 67 44	W1ZC VA3ST WØGHZ W4ZRZ	10 9 8 8 8	KØSIX -L NØGZ K1KC W3UR	56 55 49
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9	W4AS 144 MHz KA1ZE K3TUF K1TEO	66 67 44 41	W1ZC VA3ST WØGHZ W4ZRZ WØZQ	10 9 8 8 8 7	KØSIX -L NØGZ K1KC W3UR N1JEZ	56 55
WB2JAY 9 N9DG 9 WB8TFV 9	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM	66 67 44 41 37	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB	10 9 8 8 8 7 6	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz	56 55 49 48
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC	66 67 44 41 37 35	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA	10 9 8 8 8 7 6 6	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE	56 55 49 48 78
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV	66 67 44 41 37 35 34	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT	10 9 8 8 8 7 6 6	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHZ K5QE W3SO -L	56 55 49 48 78 47
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI	66 67 44 41 37 35 34	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC	10 9 8 8 7 6 6 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE	56 55 49 48 78 47 44
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA	66 67 44 41 37 35 34 34	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC	10 9 8 8 7 6 6 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L	56 55 49 48 78 47 44 43
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16 WD5IYT 16	W4AS 144 MHz KA1ZE K3TUF K1TEO W44GPM WØUC W2KV K4QI K9EA K8TQK	66 67 44 41 37 35 34 34 30	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI	10 9 8 8 7 6 6 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L	56 55 49 48 78 47 44 43 34
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WB2SIH 16 WD5IYT 16 AF1T 15	W4AS 144 MHz KA1ZE K3TUF K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK	66 67 44 41 37 35 34 30 30	W1ZC VA3ST WØGHZ W4ZRZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N	10 9 8 8 7 6 6 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHZ K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L	56 55 49 48 78 47 44 43 34
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM	66 67 44 41 37 35 34 30 30 30 28	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW	10 9 8 8 7 6 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH	56 55 49 48 78 47 44 43 34 33 24
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15	W4AS 144 MHz KA1ZE K3TUF K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK	66 67 44 41 37 35 34 30 30	W1ZC VA3ST WØGHZ W4ZRZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N	10 9 8 8 7 6 6 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHZ K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L	56 55 49 48 78 47 44 43 34 33 24
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 N9LB 14	W4AS 144 MHz KA1ZE K3TUF K1TEO W44GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD	66 67 44 41 37 35 34 34 30 30 30 28 27	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ	10 9 8 8 7 6 6 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHZ K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS	56 55 49 48 78 47 44 43 34 33 24
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 N9LB 14 K8MR 14	W4AS 144 MHz KA1ZE K3TUF K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD	66 67 44 41 37 35 34 30 30 30 28 27 27	W1ZC VA3ST WØGHZ W4ZRZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ K2HZN	10 9 8 8 7 6 6 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHZ K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS K3EOD	56 55 49 48 78 47 44 43 34 33 24 24 23
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 N9LB 14 K8MR 14 VE3SMA 13	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD W4ZRZ KG5MD	66 67 44 41 37 35 34 30 30 30 28 27 27	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ K2HZN Single Operator Portal	10 9 8 8 7 6 6 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS K3EOD N1JEZ	56 55 49 48 78 47 44 43 34 33 24 24 23 21
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 KX4R 15 KSMR 14 K8MR 14 VE3SMA 13 N3ALN 13	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD W4ZRZ KG5MD	66 67 44 41 37 35 34 30 30 30 28 27 27 27 26 25	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB WSLUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ K2HZN Single Operator Portal 50 MHz	10 9 8 8 8 7 6 6 5 5 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS K3EOD N1JEZ WA4DYD -L	56 55 49 48 78 47 44 43 34 33 24 24 23 21 20
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 N9LB 14 K8MR 14 VE3SMA 13 N3ALN 13 K1KG 12	W4AS 144 MHz KA1ZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD W4ZRZ KG5MD W9JN W8MIL	66 67 44 41 37 35 34 30 30 30 28 27 27 27 26 25	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ K2HZN Single Operator Portal 50 MHZ N3AWS	10 9 8 8 8 7 6 6 5 5 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS K3EOD N1JEZ WA4DYD -L K1KC	56 55 49 48 78 47 44 43 34 33 24 24 23 21 20 19
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WA3NUF 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 N9LB 14 K8MR 14 VE3SMA 13 N3ALN 13 K1KG 12 N9DG 11	W4AS 144 MHz KA1ZE K3TUF K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD W4ZRZ KG5MD W9JN W8MIL 222 MHz	66 67 44 41 37 35 34 30 30 28 27 27 26 25 25	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ K2HZN Single Operator Portal 50 MHz N3AWS N8XA	10 9 8 8 8 7 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS K3EOD N1JEZ WA4DYD -L K1KC	56 55 49 48 78 47 44 43 34 24 24 23 21 20 19
WB2JAY 9 N9DG 9 WB8TFV 9 N1DPM 9 432 MHz K2DRH 30 N4QWZ 22 VA3ZV 17 WB2SIH 16 WD5IYT 16 AF1T 15 N3RG 15 KX4R 15 N9LB 14 K8MR 14 VE3SMA 13 N3ALN 13 K1KG 12	W4AS 144 MHz KA1ZE KATZE K3TUF K1TEO WA4GPM WØUC W2KV K4QI K9EA K8TQK VA3ST KN4SM K8MD W4ZRZ KG5MD W9JN W8MIL 222 MHz K1TEO	66 67 44 41 37 35 34 30 30 30 28 27 27 26 25 25	W1ZC VA3ST WØGHZ W4ZRZ WØZQ K3CB W5LUA N3ITT NØAKC WA3DRC K4QI KE2N W3PAW WØRSJ K2HZN Single Operator Portal 50 MHz N3AWS N8XA WØPV	10 9 8 8 8 7 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	KØSIX -L NØGZ K1KC W3UR N1JEZ 144 MHz K5QE W3SO -L N3NGE K2LIM -L W9RM -L K1JT -L KBØHH N3YMS K3EOD N1JEZ WA4DYD -L K1KC W1QK -L	56 55 49 48 78 47 44 43 34 33 24 24 23 21 20 19 19

N3NGE K2LIM -L

W3SO -L K5QE K3EOD W9RM -L KBØHH N3YMS

W3HZU -L N9TF -L

N4JQQ WY3P -L N1JEZ WB3IGR KØSIX -L

432 MHz N3NGE K5QE

W3SO -L K2LIM -L K3EOD K1JT -L KBØHH W9RM -L

N3YMS WY3P -L N4JQQ N9TF -L

W3HZU -L

W3HZU -L W4NH -L KØSIX -L N1JEZ NØLD -L 9Ø2 MHz

K5QE

N3NGE

N4JQQ K3EOD N3YMS KBØHH N1JEZ WB3IGR W3SZ W1XM W8RU NØGZ W6RKC 1296 MHz K5QE

N3NGE N4JQQ K3EOD N3YMS WB3IGR N1JEZ KBØHH W3SZ W6YX N2BJ K1KC W1XM WB1CMG

-L denotes Limited Multioperator

16 14 14

13 11

13 12 11

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16

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