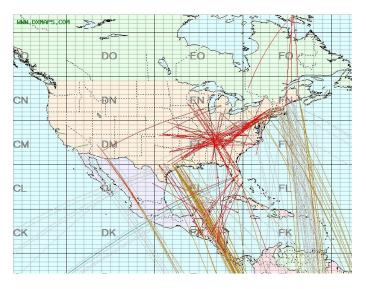
The Magic Band comes alive in September!

The 2012 version of the September VHF contest can be characterized as one with modest activity and conditions on most bands, and some unexpected six meter openings for much of the country on both Saturday and Sunday (Sep 8-10). The openings were modest by June contest standards but did include not only E-skip but also some DX openings as well.

Activity was up a small amount with 454 logs received this year. However, while fixed station and multioperator logs were up a bit over 2011, there was a decrease in rover logs received. Numerous stations noted the lower rover activity which has a large impact on the overall results given the ability to work these stations multiple times during a contest. I am sure all VHF contesters are rooting for a quick reversal of the overall rover activity in 2013.



The 6 meter band came to life during the September VHF Contest with a mix of sporadic E and transequatorial propagation (TEP). (Map courtesy EA6VQ and DXMaps.com)

One unusual aspect of this year's contest was the large turnover of stations in all categories making the Top Ten lists. Often times VHF contesting top lists have the same "names" (calls) with some musical chairs from year to year for the actual places. 2012 saw at least half of the

calls change in each Top Ten list and several with six or seven new members. For example, in the Single-Operator, High Power category 5 of the 10 were new calls this year, and in the Limited Multioperator category, 6 of the new calls were not on the 2011 list. So as you read this set your plan now for 2013 to determine how you can add your call to the list and continue to keep the top competitors on their toes.

A few new records were set this year with N3LL setting a Southeastern Division record for the Single-Operator, Low Power category while W8ZN did the same for the Roanoke Division's High Power category. While we are accustomed to DX log submissions for the June contest, one result of the six meter conditions during this contest was a larger than normal number of DX logs. Congratulations to CX9AU who had the highest DX score ever for the September contest!

Band Conditions

Contesters always hope for unusual conditions during the event to make things as interesting as possible. September contests hold the best chance for tropo enhancement of the three major ARRL events during the year. As we near the sunspot cycle peak another possibility is an aurora (Au), or some enhanced 6 meter DX via F2 propagation or transequatorial propagation (TEP).

Tropo conditions during the week before the contest were quite good between the Midwest and East Coast. A cold front moving east late in the week ended the Midwest part of the enhancement. By Friday morning and evening there were excellent conditions up and down the East Coast ahead of the front. As the front moved east Saturday, all hope of good tropo conditions ended. In fact the weather was so severe that it spawned tornadoes in parts of New York City – a rare event. In the southeast there were rain showers, in the Pacific Northwest heavy fog in areas, while in California the weather was quite nice but conditions were poor. The APRS maps told the story with virtually no enhancement anywhere across the US for much of the contest period.

While we expect (hope?) for good 6 meter conditions every June, we do not really expect that to happen in September. However, the real story for band conditions in this contest was the E-skip across much of the eastern half of the country both days and some TEP as well. The band was open from the Southeast U.S. to the Northeast for a part of Saturday afternoon and evening. Some in the Northeast were able to link the E-skip with TEP to work into South America. Those in the southern part of the U.S. were able to work the TEP directly and many ended up with quite a few South Americans in the log. The events repeated themselves the following day, ending with a strong E-skip opening from Florida to the north with many Florida stations running stations for several hours.

We can look at the logs of three stations for a sense of the magnitude and geography of the openings. N3LL (EL86) ended up with the high 6 meter QSO and grid totals for single-operators despite running low power, K5QE's Multioperator entry (EM31) topped all stations with the highest overall grid totals, while K1TEO (FN31) was the top single-operator station.

Bob, N3LL operates using 7 elements on 6 meters from EL86. Bob was definitely in the right place at the right time. Saturday the band was open mostly for DX in the afternoon and evening. He put PY, LU, CX, TI, V3, YN, HR, and XE in the log before the big catch in the evening a 59+ QSO with E51USA! Add eighteen domestic E-skip contacts in eleven grids and it was a pretty good Saturday from Florida.

Sunday was an even better day for Bob. After more DX in the morning and early afternoon working many of the same countries as the prior day, Bob added HK and HC to his DX list for the contest. The real fireworks occurred over the last few hours of the contest as Bob experienced a strong Es opening to the northern part of the country. He made over 200 E-skip QSOs and added 55 new grids in the US and Canada. He was busy working them right up to the end of the contest. The final 2-day tally was 306 OSOs in 100 grids on 6 meters. 66 of those grids worked on 6 were via E-skip and 18 were via TEP. Adding some local contacts on 144, 222 and 432, Bob tallied 41k points and 7th overall in the Single-Operator, Low Power category. Check out the attached maps to get a clear picture of the openings Bob experienced on 6 meters over the weekend.



N3LL - Saturday E-skip and TEP QSOs



N3LL - Sunday E-skip and TEP QSOs

Marshall, K5QE has a top multioperator station in Texas (EM31). They also saw DX both days but their domestic E-skip was better on Saturday than Sunday. On Saturday they experienced a strong E-skip opening to their northeast, working over 100 QSOs in 31 grids during the opening. Like 'LL, they also had some TEP, working 19 DX stations in ZF, CX, HR, YS, LU, HP, TG and XE. Sunday was not as good for E-skip but the TEP to Central and South America was quite good. They added V3, CE, HC, and KP4 to their DX list. In total they worked about 50 E-skip or TEP contacts Sunday. They ended up with a contest high for all stations on 6 meters with 117 grids and just under 300 QSOs. Not bad for a September contest on 6!

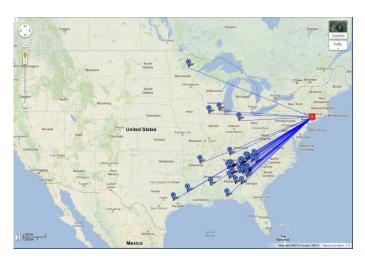


K5QE - Saturday E-skip and TEP QSOs



K5QE - Sunday E-skip and TEP QSOs

In the Northeast, K1TEO saw E-skip both days to the southwest Saturday and then to Florida on Sunday. While others in New England were able to use the E-skip to link into the TEP to South America, Jeff did not have any luck on that mode. On Saturday, Jeff made 30 E-skip QSOs in 14 grids, and then added 22 more Sunday evening in 11 new grids. The extra QSOs and 25 new grids during the openings helped him achieve the overall top single-operator score.



K1TEO - Saturday E-skip QSOs



K1TEO - Sunday E-skip QSOs

Even though 6 meters took center seat for this contest, there were many interesting other aspects to the event. Take a look at Bruce, W9FZ's summary of his Panhandle Mania of One (at the end of this article) to see how he continues to make unique rover efforts, activating low-activity grids. He has a lot of fun and increases it for others at the same time. And though they win almost every year, we should acknowledge the W2SZ operators who managed to build a fantastic microwave score even in the face of difficult band and weather conditions. Year after year they do an amazing amount of work to build an impressive station on Mt Greylock for the weekend, allowing them to work DX on the microwaves most of us could only dream about.

Single-Operator Results

The Single-Operator, Low Power category (SOLP) remains the most popular, with entries up a small amount this year to 234. Bob, K2DRH continues to top this category from his Illinois QTH, once again finishing ahead of Mitch, WB1GQR who operates from Mt. Equinox in Vermont. Bob found conditions and activity to be below average and had to grind it out to achieve the top score. As did many others, he noted the lack of rovers in this contest and the large impact that can have on results. He was also not in the main part of the 6 meter Eskip opening, only having a few QSOs to help his totals. In the end, while 'GQR had 100 more QSOs than Bob, DRH's higher grid totals on all bands made the difference.

Top Ten – Single-Operator

Single Operator, Low Power

K2DRH	103,040
WB1GQR (W1SJ, op)	80,520
K2KIB	78,200
AF1T	69,664
WB2SIH	55,120
K1KG	54,692
N3LL	41,654
N4QWZ	33,696
WA3EOQ	32,344
KX4R	30,738

Single Operator, High Power

K1TEO	452,452
W8ZN	361,849
K3TUF	255,509
WA2FGK (K2LNS, op)	211,008
WB2RVX	125,836
W3PAW	106,428
WØUC	66,920
W3IP	55,944
VE3ZV	54,538
N3HBX	50,715

QRP Portable

W1MR	31,450
W7LUD	5,110
WB2AMU	2,759
KBØHNN	2,296
N8XA	2,052
NØJK	714
N1PRW	408
KD8IPE	272
KC9MMM	189
K9PLS	138

K2KIB made good use of his portable mountaintop location to move up from 5th in 2011 to 3rd this time around. AF1T and WB2SIH moved up as well this year to finish fourth and fifth respectively, followed by last year's number-four finisher, K1KG.After that it was all

newcomers to the top list as N3LL made great use of the 6 meter Es for over 90% of his QSOs and the second highest band-grid total (100) to take 7th. N4QWZ, WA3EOQ and KX4R rounded out the top SOLP competitors. Greg, KX4R achieved his highest score ever for a September contest with the help of an hour long 6 meter opening Saturday afternoon in which he worked eighty stations, mostly in the FN grids. AF6RR had the top West Coast score while KKØQ led the Rocky Mountain region.

In the Single-Operator, High Power (SOHP) category, Jeff, K1TEO managed to hold off a hard-charging W8ZN to take the top spot. Jeff was helped by being in a little better location for the Es this time around, which added 50 QSOs and 25 grids to his 6 meter totals. 'TEO's higher grid totals on the bands outweighed some very impressive microwave QSO totals as Terry led all stations in that area, other than multioperator station W2SZ. "It was tough this time around" noted Jeff, "as my 903 station got water in the feed line from the heavy rains at the start of the contest, and 3 GHz and 10 GHz were not working very well. Fewer rovers were worked than in prior years."

Phil, K3TUF continues to make improvements to his station and moved up a place to third while WA2FGK (K2LNS, op) was right behind with his usual great effort. WB2RVX and W3PAW were fifth and sixth with excellent scores over 100k.



Paul, W3PAW continues to make improvements to his station vowing to be bigger and better than ever for the 2013 contesting cycle. (Photo from W3PAW)

Veteran contester Paul, WØUC was next with the contest's top score from the Midwest. Paul found local activity to be fairly good and worked quite a few rovers

though he noted that some dropped to the Limited category this year leaving their microwave gear at home. He also made about 15 6 meter E-skip QSOs to help out the score. W3IP, VE3ZV and N3HBX rounded out the Top Ten for the SOHP category. The top score from the west was N7EPD while NR5M led the scorers in his part of the country. The SOHP category saw an increase of fifteen participants over 2011 with a total of 101.

The Single-Operator Portable category saw the same number of entrants as last year, but a substantial turnover of top participants. While many-time leader Chris, W1MR returned to have the top score, the second-highest scorer was a first-time contester. Nelson, W7LUD took a logging road to the top of a mountain in CN88 to set up on 50, 144, and 432 SSB. He added 222 and 903 FM to build his score. This was his first time ever on 6 meters and he said "it was so much fun to work weak-signal VHF/UHF that I am hooked." Welcome Nelson and congratulations on the fine second-place finish – you can read more about his experiences at the end of this article.

Ken, WB2AMU moved up a couple of places to third this time, followed by KBØHHN and N8XA. Last year's number eight finisher in the category, NØJK, ended up fifth this year while N1PRW repeated in the Top Ten as well.

Multioperator

Twenty one logs were submitted in the Limited Multioperator (LM) category, with the W3SO team earning a clear win with 171k points. They had high grid totals on all bands although with the poor conditions on 144 MHz and up their totals were down from their typical results. Moving into the second slot was W2LV with solid results on all bands. They totaled just under 100k points, about 10k in front of third place W4IY who moved up from fifth in 2011. The W4NH group moved from the Multioperator category in 2011 to LM in 2012 to take fifth. 92 grids on 6 meters really helped their score as they worked a good deal of E-skip especially on Saturday. They were followed by N8ZM, K1HTV, W1QK, and WØVB. 'QK and 'VB both moved up one position from a year earlier.

Top Ten – Multioperator Categories

Limited Multioperator

W3SO	171,310
W2LV	96,200
W4IY	86,180
W4NH	83,985
N8ZM	38,688
K1HTV	18,407
W1QK	13,924
WØVB	10,990

WB6W NE1B	9,240 6,996
Multioperator	
W2SZ	745,140
K5QE	252,648
K2LIM	152,640
K3YTL	100,084
W2EA	97,536
KBØHH	72,772
K6MI	41,820
K3EOD	31,948
VE7JH	18,270
N9UHF	17,680

The W2SZ team used their usual portable location on Mt Greylock in Western Massachusetts to dominate the multioperator category nearly tripling the score on the next highest team. With conditions less than favorable they recorded solid scores on the bottom four bands but really excelled with the microwaves. They worked 144 grids on 903 MHz and up, more than most of the competitors tallied on all bands. Add almost 300 microwave QSOs and they scored just under three-quarters of a million points this year.

The K5QE team continues to turn in top notch-scores, placing second with 252k. They used E-skip to great effect, tallying the highest grid total of any station on 6 meters with 117. They also used moonbounce well, working over 100 grids on 2 meters in the contest! Sixty of those grids were worked off of the Moon. The K2LIM group in Western New York continues to make major hardware improvements and it paid off with a third-place finish. K3YTL, a long time contest competitor, made what may be their last group effort pay off, coming in fourth. They have lost many of their long-time operators and do not expect to be able to do all the work needed for future efforts – any newcomers want to jump in and help out?

W2EA and KBØHH continued to take top spots in the category placing fifth and sixth. K6MI had the top West Coast score, operating from Fraizer Mountain in DM04. It was cold and rainy, but helped along by some 10-band runs with rovers they placed seventh. K3EOD was next with another West Coast group, VE7JH, running up a good score from British Columbia. They enjoyed good weather and some nice rover QSOs from their 4000-foot club repeater location on Vancouver Island. N9UHF had the top multiop score from the Midwest to take the final Top Ten position.

Rovers

Rover entries were down a bit this year to 46. Most of the drop was in the Classic Rover category which had a total of 25 entries. Rovers have a large impact on scores so the drop in entries was noticed by many non-rover participants. Some of the poor weather in key parts of the country may have had an impact on participation this year, too. Let's hope that 2013 sees a return to higher levels of activity!

Top Ten - Rover Categories

Rover

W1RT VE3OIL NN3Q NØLNO VE3WJ W3HMS W1AUV AG4V N2ZBH	99,840 57,750 51,888 27,200 19,532 17,110 15,340 13,311 11,250
W9FZ	7,310

Limited Rover

K2QO	55,110
K9JK	33,352
WAØVPJ	21,376
N2SLN	8,120
KV2X	4,814
KI6QEL	3,105
WØZF	3,105
AB2YI	2,535
W5VY	2,240
N6ZE	2,000

Unlimited Rover

52,728
16,072
6,680
5,254
1,764
380

Returning to take the top spot in the Classic Rover category was John, W1RT along with his partner Andy, K1RA. The two debated a number of different routes this year, deciding at the last moment to head east to Cape Cod in the hope of catching some tropo before the massive cold front moved through and eliminated any hope of good tropo conditions. Their plan went awry when significant rig problems curtailed their early efforts. By the time they got things going, any hope of good conditions were lost though they did manage to work a station in Brazil on 6 meters, perhaps the longest rover QSO ever made in a September contest. Poor activity and continuing rig problems plagued them throughout Saturday. After a stop at John's Connecticut

QTH and some damage control, they regrouped on Sunday with much better results. They were unable to recoup Saturday's lost points so their score was down significantly from 2011 but they still scored nearly 100k to take the category.

Last year's number two, VE3OIL, repeated in second place. They didn't experience anything unusual except to work some Florida stations on 6 meters toward the end of the contest while in EN82. NN3Q was third after taking the unlimited rover top spot in 2011, followed by NØLNO, VE3WJ, W3HMS, W1AUV and AG4V. Newcomer N2ZBH picked up the ninth spot, while W9FZ doing his "Panhandle Mania" (see Bruce's article at the end of the results.) rounded out the category's top scores.

The Limited Rover (RL) category saw a slight downturn in submitted logs this year with a total of 16. K2QO roved once again from New England out toward Western New York to rack up 55k points with over 400 QSOs. They had very high grid totals on 6 and 2 meters for a rove which helped rack up the score. K9JK moved up from fourth in '11 to second this time with a successful try at a very different rove from their typical Chicago area efforts. They started in Northeast Pennsylvania and spent Saturday and some of Sunday morning in the W3 area before heading toward home, just making it into the Chicago area at the end of the contest. Total drive – 1600 miles! WAØVPJ continued his top level Limited Rover efforts with a similar score as last year to take third. N2SLN and KV2X were next while WØZF and the top West Coast Limited Rover, KI6QF, finished in a dead heat for sixth and seventh.

The Unlimited Rover (RU) category continues to have a small group of competitors as once again there were five entrants. Joe, WA3PTV came out on top after a high finish in the Rover category last year. He made an impressive 110 QSOs on the microwave bands to score over 50k points. Second-place WW7D made a lot of folks in the Pacific Northwest very happy, handing out almost 300 Qs on the bottom four bands. While some of his plans to fly to various airports around the region were delayed or cancelled because of weather, he still made it to nine Oregon and Washington grids. His addition of 222 MHz SSB and CW and more Qs this year helped him to more than a 50% increase in score. Others in the category were KCØP, KJ1K and KRØVER, rounding out the places for the RU operators.

Club Competition

Club submissions were up slightly this year with a total of 26 competitors. Twenty two were in the Medium category while four were in the Local category. About forty percent of all entrants were part of a club score.

In perhaps the closest competition in years, the top two clubs were less than 10,000 points apart. The North East Weak Signal Group (NEWS) edged out the Potomac Valley Radio Club (PVRC) 799,790 to 790,011. The NEWS Group moved up from second a year ago while the PVRC also moved up one position. Last year's champs, the Mt Airy VHF Club (Packrats), had an excellent score this time around as they were also over 700k points. They submitted fewer logs this year while the PVRC showed a nice increase in participation. Fourth and fifth spots were taken by the Nacogdoches ARC and the Contest Club of Ontario. A couple of Midwest clubs were next as the Northern Lights Radio Society and the Society of Midwest Contesters both exceeded the 100k point level.

Club Competition

Club Name Medium	Logs	Score
North East Weak Signal Group	19	799,790
Potomac Valley Radio Club	24	790,011
Mt Airy VHF Radio Club	13	705,816
Nacogdoches ARC	3	262,441
Contest Club Ontario	12	184,001
Northern Lights Radio Society	12	145,281
Society of Midwest Contesters	7	116,009
Florida Contest Group	5	99,336
Florida Weak Signal Society	6	67,151
Badger Contesters	9	59,159
Pacific Northwest VHF Society	12	48,404
South East Contest Club	3	37,580
Tennessee Contest Group	3	33,789
Roadrunners Microwave Group	4	25,284
Frankford Radio Club	5	23,084
Mad River Radio Club	3	18,461
Northern California Contest Club	6	15,772
Yankee Clipper Contest Club	8	15,201
Rochester VHF Group	5	10,975
Western New York DX Assn	3	1,359
Contest Group Du Quebec	3	399
Grand Mesa Contesters of Colorado	3	300
Local		
Murgas ARC	3	312,604
Stoned Monkey VHF ARC	6	18,151
Bristol (TN) ARC	6	11,475
Bergen ARA	3	1,615
Doigon / II / I	5	1,010

Among the four entries in the Local Club category, the Murgas ARC took the top spot. They returned to the lead position after a one-year absence in 2011. Last year's number two and three clubs repeated with the Stoned Monkey VHF ARC and Bristol ARC both doubling the number of entries to help their scores.

Summary

Having personally participated in this contest for over 35 years, I always hope that something interesting will happen so it won't be "same old same old". There had been good tropo conditions from my OTH for the weeks leading up to the contest, something that makes a contest a lot of fun for me. Knowing the radical weather change was coming and the WWV reports not showing any signs of an aurora over the weekend, I was a bit disappointed starting out the contest. Therefore, what a nice surprise it was to have E-skip on 6 meters and to make it even better have it happen both days! Moral of the story - with all the stations on the air during a VHF contest, something is bound to happen and it is not always the expected. I hope those who participated had fun making contacts, trying out new rigs, greeting old friends and just getting on the air. I hope to be on once again next fall and as always will be rooting for something unusual to happen. As they say, "You gotta be in it to enjoy it!" Hope to see you this September 14-16!

A special thanks to several operators who made contributions to help out with the content of this contest summary: Thanks to N3LL and K5QE who were kind enough to send their logs and provide insights on the 6 meter openings from their QTHs. W3PAW, W9FZ, K6MI, KX4R, W7LUD, VE7JH and WØUC all provided input on their operations. And to K1RA for his help with creating maps summarizing the 6 meter openings and K9AKS who continues to keep the records list for the contest so we know when new ones are set. And finally to my good friend Stan, KA1ZE who helped me find some data for the article. Thanks, guys!

2012 ARRL September VHF QSO Party

Regional Leaders by Category

Boxes list call sign, score, and category (A - Single-Op Low Power, B - Single-Op High Power, Q - Single-Op Portable, L - Limited Multioperator, M - Multioperator, R - Rover, RL - Limited Rover, RU - Unlimited Rover)

Northeast	Region		South	east Region		Cent	ral Region		Midw	est Region		West (Coast Region	n
New England, Hudson ar Maritime and Que		ons;		Roanoke and stern Divisio			nd Great Lake Ontario Secti		Mountain Divisions	Midwest, Rocl and West Gu ; Manitoba an ewan Section	ulf nd	Southwe Alberta, E	orthwestern stern Divisio British Colum WT Sections	ns; nbia
WB1GQR (W1SJ, op) K2KIB AF1T WB2SIH K1KG	80,520 78,200 69,664 55,120 54,692	A A A A	N3LL N4QWZ KX4R N4BP W5MRB	41,654 33,696 30,738 16,320 13,689	A A A A	K2DRH KC9BQA KF8QL VA3ELE VE3KZ	103,040 9,060 8,004 7,009 6,956	A A A A	KØSIX NØLL WB5ZDP W6ZI WØJT	13,662 7,980 7,810 6,327 6,123	A A A A	AF6RR K6TSK VE7FYC N6LB KG7P	8,640 6,960 3,762 3,150 2,834	A A A A
K1TEO K3TUF WA2FGK (K2LNS, op) WB2RVX W3PAW	452,452 255,509 211,008 125,836 106,428	В В В В	W8ZN W3IP N2CEI W4WA KE2N	361,849 55,944 43,875 36,176 32,943	B B B B	WØUC VE3ZV K8MD VA3ST K8TQK	66,920 54,538 39,720 34,668 34,572	В В В В	KØAWU NR5M K5LLL W3XO/5 WØLGQ	15,890 14,018 12,888 11,076 6,188	B B B B	N7EPD KC6ZWT K7ND W7FI W7GLF	16,402 12,250 8,880 7,040 4,092	В В В В
W1MR WB2AMU N1PRW KC2JRQ	31,450 2,759 408 10	Q Q Q Q				N8XA KC9MMM K9PLS K9HA W1MRK W1RIE	2,052 189 138 72 36 36	00000	KBØHNN NØJK KØNR	2,296 714 12	Q Q Q	W7LUD KD8IPE KF6CVA	5,110 272 24	Q Q Q
W3SO W2LV W1QK NE1B W2OW	171,310 96,200 13,924 6,996 4,272	L L L L	W4IY W4NH K1HTV W5ELK W4NFR	86,180 83,985 18,407 476 90	L L L L	N8ZM KY4ARC	38,688 169	L L	WØVB WD5IYF	10,990 480	L L	WB6W K6ZGI N7CKJ	9,240 1,224 518	L L L
W2SZ K2LIM K3YTL W2EA K3EOD	745,140 152,640 100,084 97,536 31,948	M M M M	KD2JA K1KC W4TUN W4YCC W4GZX	15,405 10,146 648 560 120	M M M M	N9UHF K8MM WZ8T N2BJ K9ZM	17,680 17,510 11,502 10,260 169	M M M M	K5QE KBØHH KC5MVZ	252,648 72,772 1,625	M M M	K6MI VE7JH W6TV KD7UO K7BWH	41,820 18,270 15,860 2,552 126	M M M M
W1RT NN3Q W3HMS W1AUV N2ZBH	99,840 51,888 17,110 15,340 11,250	R R R R	AG4V	13,311	R	VE3OIL VE3WJ VE3CRU AB8M W9II	57,750 19,532 2,871 966 833	R R R R	NØLNO W9FZ AE5P WK5F NØHZO	27,200 7,310 5,538 4,255 1,890	R R R R	K6EU KB5WIA N6GP	3,906 1,394 768	R R R
K2QO K9JK N2SLN KV2X AB2YI	55,110 33,352 8,120 4,814 2,535	RL RL RL RL RL	W5VY	2,240	RL	W8ISS VE3RKS	108 24	RL RL	WAØVPJ WØZF KD5EUO WBØHBJ	21,376 3,105 516 156	RL RL RL RL	KI6QEL N6ZE	3,105 2,000	RL RL
WA3PTV KJ1K	52,728 5,254	RU RU				K8DOG	380	RU	KCØP KRØVER	6,680 1,764	RU RU	WW7D	16,072	RU

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	Division Winners				
Single-Operator, Lo	ow Power		Limited Multiopera		474.040
Atlantic	WA3EOQ	32,344	Atlantic	W3SO	171,310
Central	K2DRH	103,040	Dakota	WØVB	10,990
Dakota	KØSIX	13,662	Delta	W5ELK	476
Delta	N4QWZ	33,696	Great Lakes	N8ZM	38,688
Great Lakes	KF8QL	8,004	Hudson	W2LV	96,200
Hudson	K2KIB	78,200	New England	W1QK	13,924
Midwest	NØLL	7,980	Northwestern	N7CKJ	518
New England	WB1GQR (W1SJ, op)	80,520	Pacific	WB6W	9,240
Northwestern	N6LB	3,150	Roanoke	W4IY	86,180
Pacific	AF6RR	8,640	Southwestern	K6ZGI	1,224
Roanoke	K4FJW	4,446	West Gulf	WD5IYF	480
Rocky Mountain	KKØQ	4,025	Multioperator		
Southeastern	N3LL	41,654	Atlantic	K2LIM	152,640
Southwestern	K6TSK	6,960	Central	N9UHF	17,680
West Gulf	WB5ZDP	7,810	Delta	W4GZX	120
Canada	VA3ELE	7,009	Great Lakes	K8MM	17,510
			Hudson	W2NPT	65
Single-Operator, H				W2SZ	745,140
Atlantic	K3TUF	255,509	New England Northwestern	KD7UO	2,552
Central	WØUC	66,920	Pacific	W6TV	15,860
Dakota	KØAWU	15,890	Roanoke	W4TUN	648
Delta	KG5MD	6,498	Southeastern	KD2JA	15,405
Great Lakes	K8MD	39,720	Southwestern	K6MI	41,820
Hudson	W2BVH	8,736	West Gulf	K5QE	252,648
Midwest	WØLGQ	6,188	Canada	VE7JH	18,270
New England	K1TEO	452,452	Carlada	V L / JI I	10,270
Northwestern	N7EPD	16,402	Classic Rover		
Pacific	KC6ZWT	12,250	Atlantic	NN3Q	51,888
Roanoke	W8ZN	361,849	Central	W9II	833
Rocky Mountain	WA7KYM	4,046	Dakota	NØHZO	1,890
Southeastern	N2CEI	43,875	Delta	AG4V	13,311
Southwestern	KC6SEH	2,176	Great Lakes	AB8M	966
West Gulf	NR5M	14,018	Hudson	N2ZBH	11,250
Canada	VE3ZV	54,538	Midwest	NØLNO	27,200
0' 1 0	4.11.		New England	W1RT	99,840
Single-Operator Po		400	Pacific	K6EU	3,906
Central	KC9MMM	189	Rocky Mountain	ABØYM	1,224
Dakota	KBØHNN	2,296	Southwestern	N6GP	768
Great Lakes	N8XA	2,052	West Gulf	W9FZ	7,310
Hudson	WB2AMU	2,759	Canada	VE3OIL	57,750
Midwest	NØJK	714			21,122
New England	W1MR	31,450	Limited Rover		
Northwestern	W7LUD	5,110	Atlantic	K2QO	55,110
Pacific	KF6CVA	24	Dakota	WAØVPJ	21,376
Rocky Mountain Southwestern	KØNR KD8IPE	12 272	Delta	W5VY	2,240
Southwestern	KDOIFE	212	Great Lakes	W8ISS	108
			New England	W1PL	646
			Pacific	KI6QEL	3,105
			Rocky Mountain	WBØHBJ	156
			Southwestern	N6ZE	2,000
			West Gulf	KD5EUO	516
			Canada	VE3RKS	24
			Unlimited Rover		
			Atlantic	WA3PTV	52,728
			Dakota	KCØP	6,680
			Great Lakes	K8DOG	380
			New England	KJ1K	5,254
			Northwestern	WW7D	16,072
			Rocky Mountain	KRØVER	1,764

Panhandle Mania of One

Bruce Richardson, W9FZ <w9fz@w9fz.com>

Great horizons for VHF/UHF/SHF-but the bands sure were quiet!

For the fourth year in a row, I enjoyed exploring parts of the central U.S. that I've never seen previously. In 2009, I explored 10 grids along the 98th Meridian from northern Nebraska southward to central Kansas. In 2010, I explored the 94th Meridian from south-central Iowa southward to west-central Missouri. 2011 found me out on the 102nd Meridian working along the Colorado eastern border from southwestern Nebraska southward to western Kansas.

During the week leading up to the contest, I call my cartrip "Looking for America" as I use maps, terrain data, and actual poking around to determine good operating locations for the contest on the following weekend.



During the week before, I chirp APRS so that friends and family can follow my wanderings. I make daily travelogue postings on Facebook—with pictures—to keep friends and family aware of what I'm doing. I enjoy photography, bird watching, and breakfasts in small-town café's while

I'm "Looking for America". Some would find the flat terrain dull but I find it beautiful. I grew up on a farm in Illinois so I appreciate seeing successful agriculture in action. In my travels (before the contest begins), I make a point to stop at every historical marker. It forces me to learn more about the area and to keep my pace slow.

I've been roving for over 23 years. Apartment living has been the largest motivator over the years. But the joys I've found while roving make it an important part of my life. Over the years, I've really responded to thanks when I've helped out an operator with a somewhat rare grid. For that reason, I usually head to rarer grids rather than troll through populous, common grids. Another motivator to activate grids new for me is the Central States VHF Society Reverse VUCC Award Program.

For the three years 2009-2011, I organized a loose and informal promotion effort called "Midwest Mania" to help spur activity during the September VHF contest in the Great Plains area. It starts with an email blast to all known VHF'ers in the region encouraging them to get on the air for the September contest. Further, it solicits what their plans are and what bands they are active on. Then I take that information and whip it into a little website

such as **w9fz.com/midwestmania11**. The promotion seemed to help and most operators reported that the September contest was more fun than in the past.

For 2012, I knew I wanted to take a car trip again and participate in the September contest. But my life was very busy with work and a competing hobby (Guts Frisbee). I sent some exploratory emails whether another "Midwest Mania" effort would be helpful. I did not get much response. At the Central States VHF Society conference in Cedar Rapids in late July 2012, I talked with Gary KBØHH. His big multi-op station has been one of the primary stations I have been contacting in the previous three years. He sure hoped I'd go out somewhere within range of his station because he'd appreciate the activity. So with my busy life and just one week to go, I whipped up a website called "Not Quite Midwest Mania 2012". (www.w9fz.com/nqmm12) Planned activity seemed somewhat down. Possibly

because of the short notice but it could be other issues. I decided to rove out on the Meridian 102nd from southwest Kansas southward through the Oklahoma Panhandle in to the Texas Panhandle near Lubbock, TX. Back in the early 80's, I spent 3 years based at Reese AFB in Lubbock, TX and really enjoyed my time there. I was just active on 2 meter FM in those days.



From my home base in the Twin Cities of Minnesota, it is a long way to the Texas Panhandle. Most years I enjoy a slow drive across the plains. This year, I decided to sprint to SW Kansas—I drove 650 miles each day. While sprinting past Topeka, KS, I put out a general "monitoring" call on an FM repeater. Who should hear me but Greg, WQØP—an active VHF'er who I hoped to work during the contest. He invited me over for a shack visit and I changed my plans and spent a few hours seeing his shack and learning about him and his locale. It really was one of the highlights of the trip. When VHF'ers get together for eye-ball QSO's, it makes the world smaller for the next time we connect on the high bands. (Greg multi-op'd with WAØARM at Greg's country hill-top.)

After two days of sprinting, I arrived in southwest Kansas and could slow the pace back down to have fun poking around and find the best operating locations. I gotta tell you, when the plains are that flat, VHF signals travel nicely and just about any location is as good as another. Still, I used maps and actual site-checkout to settle on where I'd operate during the contest. I'm looking for a trade-off between proximity to the grid-corner and good altitude or horizons. I also look for suitable places to pull off roads and park. In my case, with an immovable antenna rack on the roof, I need to turn the car to spin the beams.

Contest Results

This was my quietest VHF contest in many years. While I had alerted the region to where I was going, the truth is it's a very long way from Dallas or Denver to the area I was roving. So even though I CQ'd in hopeful directions, I did not get much response. The other issue is that although the weather was good, VHF/UHF radio conditions seemed poor. There was not an obvious spoiler to conditions like a front but the evidence showed conditions to be poor. I worked the KBØHH multi-op station from all of my locations but it was quite difficult from some--more difficult than it should have been. The terrain was flat and the distance not too great—yet we had to battle to complete on 2 meters. That indicated to us that conditions were poor.



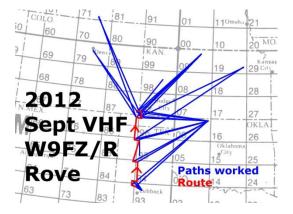
W9FZ/R in DM84xx southwest of Amarillo, TX as evening falls.(Photo by W9FZ)

I caught two Mexican stations on E-skip for 6 meters and they were the only E-skip I worked. At the north end of my rove, I heard the Denver area stations. I only worked them from one or two grids when it should have been four grids. The Denver Broncos were playing an important game that Sunday evening – after game-time, I heard nothing in that direction despite my CQs.



W9FZ/R in DM94ax just west of Canyon, TX. Fine horizons in all directions. That's Canyon, TX in the background.(Photo by W9FZ)

However, as seen in the graphic, I was successful on a few long DX QSOs. They were difficult—but we completed. From DM85xx, I worked WAØARM (multiop) in EM19 at about 390 miles. Also, from DM96xx, I worked WA7KYM in DN71 at about 350 miles. I must mention that Larry, NØLL also did a fine job looking for me and we worked in every grid that conditions would allow.



I ended up with 108 QSO's. That's about 10 per grid. That's less than I hoped for but is understandable considering where I was. Since I wasn't real busy with QSOs, I could bang away and take my time completing the distant contacts that I did make. I'd go back to that area. It was beautiful in its own way. The horizons are incredible. I hope to return to southwest and western Kansas for the Kansas QSO Party some year. Next year I'm looking at the 98th or 94th Meridians but more southerly than I've ever been.

Hooked on VHF+ Contesting!

By Nelson Ludlow, W7VUD

I very much enjoyed the September VHF Contest. This was not only my first VHF contest but my first contest ever. My first time on 6m actually!

I work at a company that does wireless research and we often are on mountain tops setting up microwave radios. So, I chose a sweet location up a logging road to a clear mountain top, near my home, in CN88 at about 2000' elevation with a clear line of sight to both Seattle and Vancouver Island, BC.

Powered with a motorcycle battery, I worked 6m, 2m, and 70cm using QRP SSB on my ICOM-7000 with beam antennas mounted on a makeshift mast of aluminum tent poles.

I had just purchased an Alinco DJ-G29T handheld and made several contacts on 223.5 FM with 5 watts. I even made one contact to Vancouver Island on 900 MHz using 2.5 watts, using just the handheld and rubber duck antenna. So even being QRP with the two radios which covered five bands, coupled with a great location you can still make several contacts.

We only had one rover in the Pacific Northwest, WW7D/Rover, who I was grateful for as he provided several grids that I didn't hear anyone in otherwise. The QSOs to WW7D/R (Darryl) came in clear, which led me to believe if there were more people on the air in our part of the country, we could achieve higher scores.

Since it was my first VHF contest, I planned to stay up all night to work new stations, but after around 1am, all the bands appeared to be silent, other than one or two diehards who we had already worked...so I got some sleep.

If I remember correctly, I was able to reach both Portland and North Vancouver Island from my location on both 6 and 2m.

The only thing that didn't go as well was getting a flat tire on a marginal logging "road". Luckily it went flat just as I was at the top of the mountain, so I called it good and set up my gear. However, I did miss a guy calling CQ while I was changing the tire the next day, hi hi. Good thing I wasn't planning to be a rover.

Since I am a rookie contester (although I have been a ham since 1974), I learned a few things the hard way. Such as, I plan to use contest logging software next time to keep better track of whether I had already made a QSO with a station. I mistakenly tried to double QSO a couple people via my paper log, and had them politely tell me we already made contact.

Bottom line – it was so much fun to work low signal strength VHF/UHF. I am hooked! After that I joined the Pacific Northwest VHF Society and already planning for the next contest.

QSO Leaders By Band		902 MHz		K1TEO	101
•		K2KIB	17	W8ZN	92
Single-Operator, Low Power		K1KG	17	WA2FGK (K2LNS, op)	70
50 MHz		AF1T	16	K3TUF	70
N3LL	306	WB2SIH	11	WB2RVX	54
N4BP	204	W3SZ	11	VE3ZV	44
WB1GQR (W1SJ, op)	166	WA3EOQ	11	W3PAW	41
K2DRH	133	N3ALN	9	W3IP	41
AF1T	115	WB3IGR	9	WØUC	38
KX4R	114	W3EKT	9	WA3SRU	37
W1TR	80	K2DRH	9	K8TQK	34
WB2SIH	73	W1FKF	8	KE2N	33
WB2JAY	72	WB1GQR (W1SJ, op)	8	VA3ST	29
W3EKT	72	W5MRB	7	N3HBX	28
K2UNK	70	WB2JAY	7	N1GJ	28
N4QWZ	70	N4QWZ	5		
N3ALN	69	1110112	Ŭ	400 8411-	
WB4SQ	67	4000 MIL-		432 MHz	400
W2BZY	67	1296 MHz	07	K1TEO	139
		K1KG	27	W8ZN	130
144 MHz		AF1T	24	K3TUF	102
WB1GQR (W1SJ, op)	164	K2KIB	20	WA2FGK (K2LNS, op)	87
WB2CUT	130	WB2SIH	17	WB2RVX	76
WB2SIH	125	K6TSK	15	W3IP	58
_		AC1J	13	WZ1V	52
K2DRH	113	WB2JAY	13	WA3SRU	52
K2KIB	104	WB1GQR (W1SJ, op)	13	WØUC	51
AF1T KØSIX	99	W3SZ	13	W1ZC	45
	77 70	K2DRH	13	VE3ZV	45
K1KG	72	W1FKF	11	W3PAW	43
W3EKT	68	VA3ELE	10	KC6ZWT	42
KX4R	61	WB3IGR	10	KE2N	41
KB4BKV	60	N3ALN	10	VA3ST	38
VA3ELE	58	KX4R	10		
W1TR	56	W3EKT	10	902 MHz	
WA3EOQ	56			K3TUF	40
WB2JAY	56	Single-Operator, High Powe	r	K1TEO	38
		50 MHz	•	W8ZN	37
222 MHz		K1TEO	283	W3PAW	25
WB1GQR (W1SJ, op)	62	N2CEI	264	WA2FGK (K2LNS, op)	24
WB2SIH	54	W4AS	217	WB2RVX	20
AF1T	47	N3HBX	215	W3IP	17
K2DRH	46	WA2FGK (K2LNS, op)	185	WA3SRU	16
K2KIB	39	W8ZN	159	WØUC	15
WA3EOQ	32	W3PAW	152	WA3DRC	13
K1KG	31	WD4MGB	152	VE3ZV	12
WB2JAY	29	K3TUF	149	KE2N	11
N3ALN	28	W2JJ (WA2VUN, op)	139	KC6ZWT	9
W3EKT	27	WB2RVX	127	K8TQK	7
KB4BKV	27	W4WA	121	K2HZN	6
N4QWZ	27	WZ1V	113	W9GA	6
WB3IGR	22	W3IP	112	W4WA	6
KX4R	19	NR5M	109	KU2A	6
KC9BQA	19	MICOIVI	103	K1IIG	6
W5MRB	19			KilliG	U
		144 MHz			
432 MHz		K1TEO	260	1296 MHz	
WB1GQR (W1SJ, op)	71	W8ZN	231	K1TEO	63
, , ,	68	K3TUF	146	W8ZN	56
K2DRH		N3HBX	143	K3TUF	54
WB2SIH AF1T	65 55	WA2FGK (K2LNS, op)	139	WB2RVX	31
		WB2RVX	120	WA2FGK (K2LNS, op)	28
K2KIB	46 43	WZ1V	96	W3IP	23
AF6RR	43	W3IP	88	W3PAW	22
KX4R	42 41	W1RZF	88	VE3ZV	21
W3EKT	41	W2KV	87	W1ZC	20
K1KG	41	KE2N	87	WØUC	20
WB2JAY	39 36	WØUC	84	WA3DRC	19
N4QWZ	36 35	W3BFC	78	KE2N	17
KØSIX	35	VE3ZV	75	WA3SRU	14
WA3EOQ	34	WA3SRU	71	VA3ST	13
W1TR	34			K8MD	13
VA3ELE	33	222 MHz		K1IIG	13

Single-Operator Portable 50 MHz W1MR N8XA W7LUD WB2AMU	149 37 35 33	W1MR KC9MMM K9PLS K9HA W1RIE W1MRK	2 N9UHF 3 2 K6MI 3 1 W6TV 3	2 8 2 2 2 2
KBØHNN N1PRW NØJK K9HA K9PLS KC9MMM KF6CVA	22 11 6 1 1 1	Multioperator 50 MHz W2SZ K5QE W4NH -L W2LV -L W3SO -L	415 W2EA 1 298 K6MI 1 286 K5QE 1 256 K3YTL 1 233 K2LIM 1	7 3 3 1 1
144 MHz W1MR KBØHNN W7LUD WB2AMU N8XA NØJK KD8IPE N1PRW	68 36 30 28 20 14 12 9	W2EA K2LIM KD2JA W4IY -L W1QK -L K3YTL N8ZM -L K1HTV -L K3EOD	220 VE7JH 195 N9UHF 151 W1XM 136 K1KC 135 K3EOD 119 WZ8T	9 5 3 2 2 1
KC2JRQ KØNR KC9MMM K9PLS W1MRK K9HA W1RIE KF6CVA	5 4 2 2 1 1 1	K1KC 144 MHz W2SZ W3SO -L K2LIM W2EA K3YTL	73 1296 MHz W2SZ 6 K3YTL 2 309 KBØHH 2 239 W2EA 1 231 K5QE 1 208 K6MI 1 189 K2LIM 1	7 0 6 6 6
222 MHz W1MR W7LUD WB2AMU K9PLS KC9MMM K9HA N1PRW	22 14 5 2 2 1 1	W2LV -L K5QE W4IY -L W4NH -L N8ZM -L KBØHH K3EOD VE7JH N9UHF	167 WB6W -L 157 W6TV 99 W1XM 87 N2BJ 84 KD7UO 80 N9UHF 72 KC5MVZ	9 8 6 6 5 4 4
KF6CVA 432 MHz W1MR W7LUD KBØHNN	1 46 25 12	K1HTV -L 222 MHz W3SO -L K2LIM K3YTL	65 K8MM -L denotes Limited Multioperator 98 86 73	4
KD8IPE WB2AMU NØJK N1PRW K9PLS KC9MMM W1RIE W1MRK KF6CVA K9HA KØNR	11 9 7 6 2 2 1 1 1 1	W2SZ W2LV -L W4IY -L W2EA KBØHH K3EOD K6MI K8MM K5QE VE7JH N8ZM -L W6TV	71 70 51 37 35 31 30 27 25 23 21	
902 MHz W1MR K9PLS KC9MMM W7LUD W1RIE W1MRK K9HA	11 2 2 1 1 1	432 MHz W2SZ W3SO -L K3YTL W2LV -L K2LIM W4IY -L K5QE KBØHH W2EA WB6W -L W4NH -L	170 129 90 83 81 73 63 59 49	

Multiplier Leaders By Band		902 MHz	40	N3HBX	27
Single-Operator, Low Power		K2KIB K1KG	10 10	W2KV W3IP	25 24
		K2DRH	9	WM8I	24
50 MHz	400	WA3EOQ	7	W9GA	24
N3LL N4BP	100	WB3IGR	7	000 MH-	
K2DRH	80 53	AF1T	7	222 MHz K1TEO	40
WB1GQR (W1SJ, op)	38	WB2SIH	7	WA2FGK (K2LNS, op)	32
N4QWZ	37	WB1GQR (W1SJ, op)	7	W8ZN	32
W2BZY	36	W5MRB W3SZ	7 6	K8TQK	29
AF1T	35	WB2JAY	5	VE3ZV	27
CX9AU	32	N4QWZ	5	K3TUF	24
N4OX	32	W1FKF	3	WB2RVX	21
KX4R XE2YWH	31 31	W3EKT	3	VA3ST WØUC	19 19
WA3EOQ	31	WB5ZDP	3	K8MD	17
K2KIB	29	WØJT KG7P	3 3	W9GA	16
WB2SIH	28	WD5IYT	3	W3PAW	16
K2UNK	27	KC9BQA	3	W3IP	15
144 MHz				KG5MD	15
K2DRH	42	1296 MHz K2DRH	12	WA3SRU	14
KØSIX	30	K1KG	12	432 MHz	
WB1GQR (W1SJ, op)	27	K2KIB	12	K1TEO	39
N4QWZ	27	WB2SIH	9	W8ZN	38
K2KIB NØLL	27 24	W5MRB	9	WA2FGK (K2LNS, op) K3TUF	34 29
WB2SIH	23	N4QWZ	8	K8TQK	29
K1KG	23	W3SZ	8 8	WB2RVX	25
K8WW	23	WB1GQR (W1SJ, op) AF1T	8	VE3ZV	24
WA3EOQ	23	WA3EOQ	7	WØUC	23
KX4R	22	KX4R	7	VA3ST	21
VA3ELE KB4BKV	21 20	WB3IGR	6	W9GA W3IP	20 20
W3EKT	20	K6TSK	6	K8MD	19
WB2CUT	20	WB2JAY W1TR	6 5	W3PAW	18
222 MHz		WB5ZDP	5 5	WZ1V	17
K2DRH	30	VA3ELE	5	W4WA	17
WB2SIH	20	AC1J	5	902 MHz	
WB1GQR (W1SJ, op)	19	W3EKT	5	K1TEO	20
N4QWZ	19	Single-Operator, High Power		K3TUF	14
WA3EOQ	18			WA2FGK (K2LNS, op)	13
K2KIB AF1T	17 17	50 MHz	00	W8ZN WØUC	11 10
W5MRB	17	W4AS N2CEI	90 90	W3PAW	10
KX4R	15	K1TEO	67	WB2RVX	9
KB4BKV	14	WA2FGK (K2LNS, op)	61	VE3ZV	9
NØLL	13	WD4MGB	60	WA3DRC	8
KF8QL	13	N3HBX	52	WA3SRU	7
WB2JAY K1KG	12 12	W4WA W8ZN	47 45	W9GA W4WA	6 6
WB3IGR	11	K8MD	43	K8TQK	6
W3EKT	11	W3PAW	43	W3IP	6 6
W6ZI	11	K3TUF	42	W3GAD	4
KC9BQA	11	WB2RVX	40	KE2N	4
432 MHz		WØUC	39	K1IIG	4
K2DRH	33	KN4SM NR5M	39 37	WA8RJF K2YAZ	4 4
N4QWZ	21	N1IBM	37	N1GJ	4
KX4R	19		0.	K5LLL	4
WB2SIH K2KIB	19 18	144 MHz K1TEO	5 2		
WA3EOQ	18	W8ZN	53 51		
WB1GQR (W1SJ, op)	18	NR5M	49		
K1KG	17	WA2FGK (K2LNS, op)	46	1296 MHz	
W5MRB	15	WB2RVX	40	K1TEO	26
W3EKT	15 14	K3TUF	34	K3TUF	17
NØLL VA3ZV	14 14	K8TQK VE3ZV	34 34	W8ZN	17
VA3ELE	14	WØUC	33	WA2FGK (K2LNS, op)	14
KØSIX	14	VA3ST	30	VE3ZV WØUC	12 12
AF1T	14	KN4SM	28	VVDOC	12

W3PAW					
W/3PAW	11	W7LUD	1	KBØHH	25
MOODY					
WB2RVX	10	W1RIE	1	K3YTL	24
WA3DRC	9	K9HA	1	W2LV -L	22
W3IP	8	W1MRK	1	N8ZM -L	20
K8MD	8	K9PLS	1	W4NH -L	19
W1ZC	8	KC9MMM	1	WZ8T	17
		KCalvilviivi	'		
K3MD	7			K8MM	16
K1IIG	7	1296 MHz		W2EA	14
		W1MR	4		
W4WA	7			K3EOD	14
VA3ST	7	KC9MMM	1	WØVB -L	14
	7	K9HA	1		
KE2N		K9PLS	1	902 MHz	
K8TQK	7				
		W1MRK	1	W2SZ	29
Single-Operator Portable		W1RIE	1	KBØHH	16
origic operator restable		WINE	•		
50 MH-		Multipaparatan		K3YTL	8
50 MHz		Multioperator		K5QE	8
W1MR	31			W2EA	Q
N8XA	26	50 MHz			8 7
		K5QE	117	K6MI	7
WB2AMU	15			K2LIM	7
W7LUD	11	W4NH -L	92		'.
		KD2JA	79	VE7JH	4
KBØHNN	8		59	WB6W -L	4
NØJK	5	W3SO -L		K1KC	2
N1PRW	4	W2SZ	59		2
	=	W4IY -L	55	WZ8T	2
K9HA	1			K3EOD	2
KF6CVA	1	N8ZM -L	54		_
	1	W2LV -L	53	N9UHF	1
K9PLS	1			W1XM	1
KC9MMM	1	K2LIM	53		
	•	K1HTV -L	46	W6TV	1
144 MHz		KBØHH	43		
				1296 MHz	
W1MR	16	K3EOD	40	W2SZ	27
KBØHNN	16	W2EA	37		
				KBØHH	18
WB2AMU	11	K3YTL	31	K5QE	11
NØJK	10	W1QK -L	26		
N8XA	10			K3YTL	11
		144 MHz		W2EA	9
W7LUD	9		400	W6TV	8
N1PRW	4	K5QE	103		_
		W2SZ	63	K2LIM	7
KD8IPE	4			K6MI	7
KC2JRQ	2	W3SO -L	53		5
	1	K2LIM	50	WB6W -L	5
W1RIE	•	W4IY -L	47	VE7JH	4
KC9MMM	1			KC5MVZ	4
K9PLS	1	W4NH -L	45		4
		KBØHH	37	K8MM	3
KØNR	1			N2BJ	3
KF6CVA	1	N8ZM -L	35		0
	1	K3YTL	34	K1KC	3
K9HA	1	W2EA	33	W1XM	3
W1MRK	1			K3EOD	3 3 3 3
		W2LV -L	31	NOLOD	3
			01		
222 MHz		K8MM		L. damataa I hakaal 8.6 de	
222 MHz	0	K8MM	23	-L denotes Limited Multioperator	
W1MR	8	K1HTV -L	23 22	-L denotes Limited Multioperator	
	7		23	-L denotes Limited Multioperator	
W1MR W7LUD	7	K1HTV -L WZ8T	23 22 21	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU	7 2	K1HTV -L	23 22	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM	7	K1HTV -L WZ8T K3EOD	23 22 21	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM	7 2	K1HTV -L WZ8T K3EOD 222 MHz	23 22 21 21	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW	7 2 1 1	K1HTV -L WZ8T K3EOD	23 22 21	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA	7 2 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L	23 22 21 21 36	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW	7 2 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM	23 22 21 21 21 36 35	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS	7 2 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L	23 22 21 21 21 36 35 25	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA	7 2 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM	23 22 21 21 21 36 35	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA	7 2 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L	23 22 21 21 21 36 35 25 24	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA	7 2 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L	23 22 21 21 36 35 25 24 23	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR	7 2 1 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL	23 22 21 21 36 35 25 24 23 23	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR	7 2 1 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL	23 22 21 21 36 35 25 24 23 23	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD	7 2 1 1 1 1 1 1 7	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE	23 22 21 21 36 35 25 24 23 23 22	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK	7 2 1 1 1 1 1 1 7 6	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH	23 22 21 21 21 36 35 25 24 23 23 22 22	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD	7 2 1 1 1 1 1 1 7	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE	23 22 21 21 36 35 25 24 23 23 22	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN	7 2 1 1 1 1 1 1 7 6 4	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM	23 22 21 21 23 36 35 25 24 23 23 22 22 19	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE	7 2 1 1 1 1 1 1 7 6 4 4	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD	23 22 21 21 36 35 25 24 23 23 22 22 19	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU	7 2 1 1 1 1 1 1 7 6 4 4 3	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA	23 22 21 21 36 35 25 24 23 23 22 22 19 17	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE	7 2 1 1 1 1 1 1 7 6 4 4	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA	23 22 21 21 36 35 25 24 23 23 22 22 19 17	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW	7 2 1 1 1 1 1 7 6 4 4 3 3	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L	23 22 21 21 36 35 25 24 23 23 22 22 19 17 16 15	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS	7 2 1 1 1 1 1 7 6 4 4 3 3 3	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T	23 22 21 21 21 36 35 25 24 23 23 22 22 22 19 17 16 15	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW	7 2 1 1 1 1 1 7 6 4 4 3 3	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L	23 22 21 21 21 36 35 25 24 23 23 22 22 19 17 16 15 14 13	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE	7 2 1 1 1 1 1 7 6 4 4 3 3 3 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L	23 22 21 21 21 36 35 25 24 23 23 22 22 19 17 16 15 14 13	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T	23 22 21 21 21 36 35 25 24 23 23 22 22 22 19 17 16 15	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1	K1HTV -L WZ8T K3EOD 222 MHZ W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ	23 22 21 21 21 36 35 25 24 23 23 22 22 19 17 16 15 14 13	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ	23 22 21 21 21 36 35 25 24 23 22 22 22 19 17 16 15 14 13	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM K9HA	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHZ W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ	23 22 21 21 21 36 35 25 24 23 23 22 22 19 17 16 15 14 13	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM K9HA KØNR	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ 432 MHz K5QE	23 22 21 21 21 36 35 25 24 23 22 22 22 19 17 16 15 14 13 12	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM K9HA	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ 432 MHz K5QE W2SZ	23 22 21 21 21 36 35 25 24 23 22 22 22 19 17 16 15 14 13 12	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM K9HA KØNR KF6CVA	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ 432 MHz K5QE W2SZ W3SO -L	23 22 21 21 21 36 35 25 24 23 23 22 22 19 17 16 15 14 13 12	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM K9HA KØNR	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ 432 MHz K5QE W2SZ	23 22 21 21 21 36 35 25 24 23 22 22 22 19 17 16 15 14 13 12	-L denotes Limited Multioperator	
W1MR W7LUD WB2AMU KC9MMM N1PRW K9HA K9PLS KF6CVA 432 MHz W1MR W7LUD NØJK KBØHNN KD8IPE WB2AMU N1PRW K9PLS W1RIE W1MRK KC9MMM K9HA KØNR KF6CVA	7 2 1 1 1 1 1 7 6 4 4 3 3 1 1 1 1 1	K1HTV -L WZ8T K3EOD 222 MHz W3SO -L K2LIM W2SZ W2LV -L W4IY -L K3YTL K5QE KBØHH K8MM K3EOD W2EA N8ZM -L WZ8T WØVB -L N2BJ 432 MHz K5QE W2SZ W3SO -L	23 22 21 21 21 36 35 25 24 23 23 22 22 19 17 16 15 14 13 12	-L denotes Limited Multioperator	