



# ARRL September VHF Contest

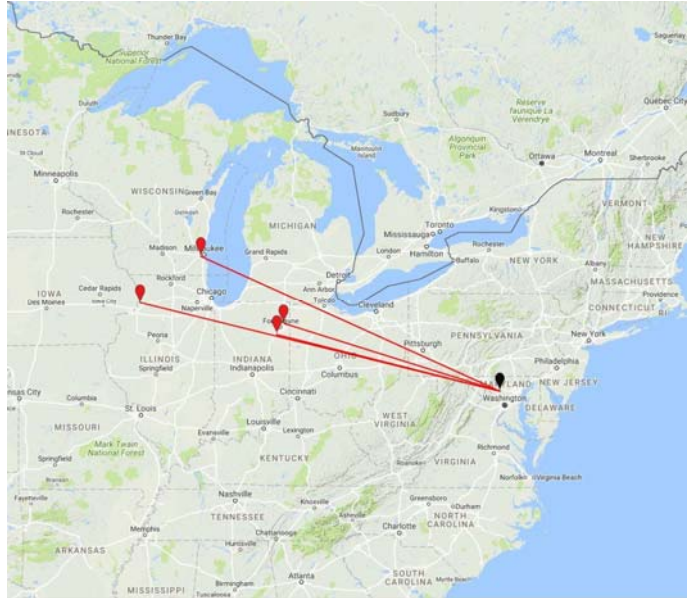
## 2017 Results

By Jeff Klein, K1TEO

### *Those who persevered, prevailed*

Conditions during the 2017 September VHF Contest on 8-10 September were generally noted as being average or below for most of the country. The exception was Sunday night when 144, 222 and 432 MHz saw some nice tropo openings between Wisconsin, Illinois, Michigan and Indiana toward Maryland, Virginia, Pennsylvania, Western New York and parts of Ontario.

SOLP entrant Bob, K2DRH in EN41/IL, first noticed the enhancement early Sunday evening when he had some QRM from W3SO in FN00! Bob worked a number of paths back to the East for the next few hours including rover N2SLN/R in FN22 on 144 MHz. 'SLN also heard Bob on 222 but no QSO was made. Here's a look at some of the long haul paths K2DRH worked on 144 MHz during the opening:



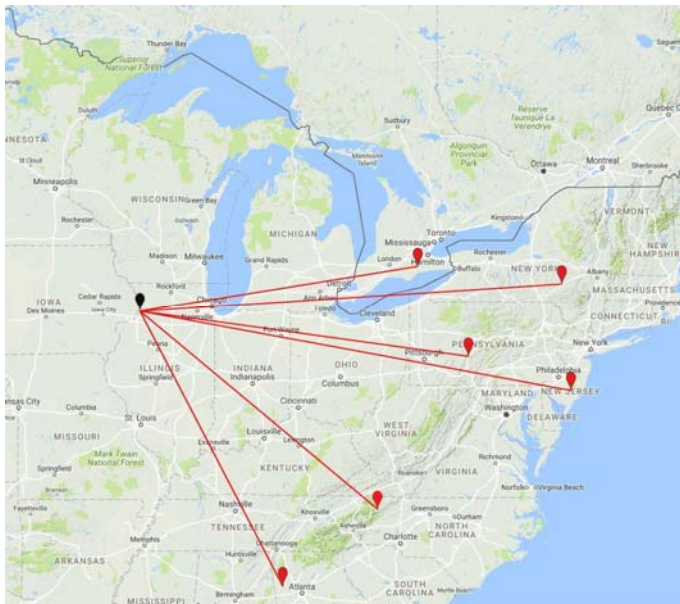
Based on reports from "DRH, "RZ and others the tropo was fairly good the last 4 – 5 hours of the contest. One thing that stands out however, is that not many stations were worked given the good conditions.

This may be indicative of one of the challenges for VHF contesting these days. The opening waited till late in the contest. Perhaps many casual operators had gotten on and found fewer stations active, especially with fewer "beacon" (Multioperator) stations on the bands. That may have meant fewer stations were on when the opening finally arrived, limiting the opportunities for those in the ducts.

We can also note that prediction programs like Hepburn did not indicate any enhancement was likely Sunday evening so stations weren't looking for potential openings. Even during the opening the real time program using APRS did not show the enhancement. Basically you needed to find the opening the old fashioned way without these operating aides, or be on the ON4KST chat page where those involved were trying to link up.

### Activity Levels

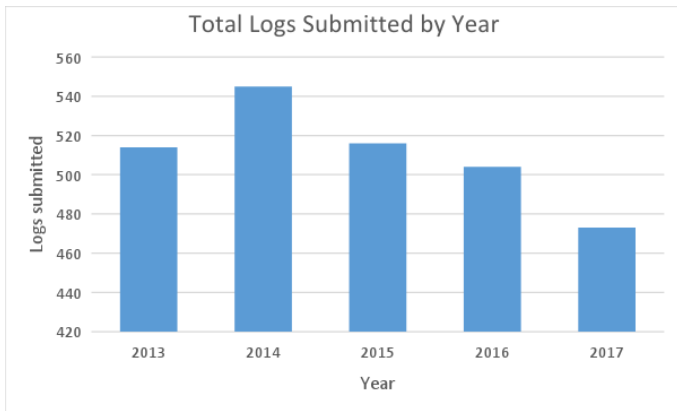
The 2017 contest was marked by a small decrease in overall activity and scores. Band conditions were generally flat with tropo enhancement for some on Sunday night. Little or no Es was reported on 6 meters. There was also a remarkable change in 6 meter operating



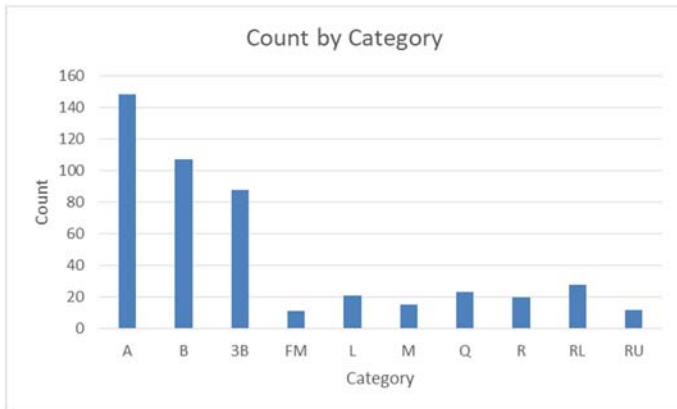
On the Eastern end, one of the stations enjoying some enhancement was SOHP entry Dave, K1RZ in FM19/MD. He worked a number of stations in the upper Midwest culminating with a QSO on 902 MHz with KU8Y just before the contest ended. They also worked on 1296 MHz after the contest indicating the microwave bands had some nice enhancement as well. Here's a look at Dave's long haul 144 MHz paths worked on Sunday evening:

approach with the introduction of a new WSJT mode shortly before the contest – FT8. Another factor for lower participation was the effect of devastating hurricanes that hit the Caribbean and mainland U.S. shortly before the contest. No doubt many contesters were focused on more important matters at the time.

Submitted logs dropped below 500 for the first time in several years as shown here:



We can see that the dropoff is not large but has been fairly consistent the last several years. There were also some interesting changes in the logs submitted by category. It has now been 5 years since the introduction of new categories such as Single-Operator 3 Band (SO3B) and FM only. The chart below shows us how all categories fared in 2017:



We can see that the Single-Operator, Low Power (SOLP) category remains the most popular with 148 submissions this year. However, that is down considerably from last year when there were 186 entries and the first two years of the Single-Operator, 3 Band (SO3B) category when there were over 200 entries. Some of the change has been toward SO3B as entries there were up about 20% this year to 88. However, the number of Single-Operator log submissions overall — including the Single-Operator, High Power (SOHP) category which has stayed relatively

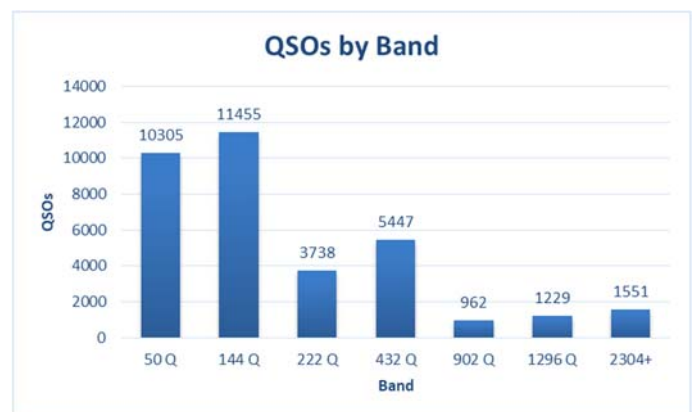
level in recent years — accounts for much of the downward trend in participation over the last five years.

On a positive note, Rover log submissions were up this year which is important for overall activity. The opportunity to work a rover in a new grid is always an important motivator for activity. Rover log submissions matched the high water mark of 60 over the last five years, last achieved in 2015.

There has been a significant decline in the number of Multioperator entries, especially in the Unlimited Multioperator (UM) category. This year there were 15 entries, down from 41 as recently as 2014. Limited Multioperator (LM) entries were up a bit from 2016 to 21, but are still lower than they were prior to 2015. This may have a ripple effect on overall contest activity levels.

Multioperator stations tend to serve as beacons on the bands as they are on for much of the contest. Many VHF contest operators are relatively casual, tuning the bands to give out points. Multioperator stations also often operate from top notch locations with excellent stations and can be widely heard. Without these “beacon” stations the bands seem less active and the casual operators may spend less time on the air because of seemingly lower activity. It’s often been said on VHF that “activity breeds activity” and it is a concern that fewer stations on throughout a contest may be impacting overall the interest of more casual operators.

In the next chart we can see the total number of QSOs reported for the contest in the submitted logs. As is typical in the September contest, 144 MHz remains the top band for contacts, slightly ahead of 50 MHz. Though 432 MHz has just over half the number of contacts made as compared to 50 MHz, the total points earned on 432 MHz were actually slightly higher than on 6 Meters given the double points earned on 432. We can also see that 432 remains a bit more popular than 222 MHz, and the same holds true for 1296 MHz versus 902 MHz.



## Introduction of FT8

The release of new WSJT mode FT8 during the summer gave an opportunity for contesters to utilize it during the September contest. The results were dramatic with FT8 generating large numbers of contacts, particularly on 6 meters. Many, including this author noted the large reduction of SSB and CW activity on the band during the contest. Quite a few stations were only heard on FT8 during the contest.

FT8 offers interesting opportunities to work stations with weaker signal strength than on SSB and CW. It does, however, take a good deal longer to make a contact on FT8. That aspect was further complicated by the availability of a contest mode for FT8 that removes the signal reports for contest operations, changing the sequence of messages during a QSO. Some operators were aware of the capability while others were not complicating the use of the mode in this contest.

Writing this after the January contest has taken place, this challenge is now behind us as many operators have migrated to the North American Contest configuration of FT8 (no signal reports). It is also clear after the September and January contests that the mode will be important future contest operating. It will be interesting to see how contesters balance the outstanding capabilities of FT8 particularly to work weak signal paths versus the added time to do so.

*In order to keep VHF+ contest tables and listings brief, the ARRL uses the following table of abbreviations and single-character designators to indicate band.*

Band Name	Abbr	Des.	Band Name	Abbr	Des.
6 meters	6M	A	10 GHz	10G	I
2 meters	2M	B	24 GHz	24G	J
222 MHz	222	C	47 GHz	47G	K
432 MHz	432	D	75 GHz	75G	L
902 MHz	902	9	119 GHz	119G	M
1.2 GHz	1.2G	E	142 GHz	142G	N
2.3 GHz	2.3G	F	241 GHz	241G	O
3.4 GHz	3.4G	G	Light	Light	P
5.7 GHz	5.7G	H			

## Single-Operator Category

Single-Operator entries were down overall with a shift toward the 3 Band (SO3B) category and away particularly from the SOLP category. SOLP still had the largest number of entries with 148, with 108 for the SOHP class and SO3B with 88.

## Top Ten, Single-Operator, Low Power

Call	Score	QSOs	Mults	Bands
K2DRH	133,774	391	211	ABCD9EFG
WB1GQR	83,205	432	129	ABCD9EFG
AF1T	67,488	322	114	ABCD9EFGHIJP
K1KG	50,774	259	106	ABCD9EFGHI
W3EKT	27,229	208	73	ABCD9EFG
W9GA	26,117	170	91	ABCD9E
N3JDR	25,330	197	85	ABCDE
K3TUF	24,964	179	79	ABCD9EFGH
WB2JAY	22,320	177	72	ABCD9EFG
K9MU	17,017	153	77	ABCD9

Continuing his success in the SOLP competition was Bob, K2DRH. 'DRH's score was achieved though high grid totals as he was the SOLP grid leader on all bands 50 – 1296 MHz. Activity in EN41 was good with many rovers to chase throughout the contest. The excitement came in the last 4.5 hours of the contest with the tropo enhancement described earlier that helped Bob work new grids Sunday evening.

WB1GQR operating on Mt Equinox in Vermont flipped places with AF1T to finish second in SOLP this contest. AF1T achieved his 114-grid total using 12 bands! Fellow New England operator K1KG was fourth as he was in 2016 while W3EKT in MD was fifth.

## Top Ten, Single-Operator, High Power

Call	Score	QSOs	Mults	Bands
K1TEO	303,780	663	249	ABCD9EFGHI
K1RZ	202,230	491	210	ABCD9EFGHI
W3IP	66,435	332	129	ABCD9E
WØUC	51,870	250	130	ABCD9EFGHI
WZ1V	41,340	255	106	ABCDE
K1TR	39,060	284	93	ABCDE
WA3DRC	31,208	216	83	ABCD9EFGHI
W2KV	28,060	251	92	ABD
N1JEZ	27,930	172	95	ABCD9EF
K8TQK	24,698	156	106	ABCD9EF

In Single-Operator, High Power (SOHP) K1TEO took top honors despite a drop off in his score from last September. He noted that there was very good rover activity but overall conditions and activity were down this year. Despite working about 100 fewer QSO's than in '16 he managed a few extra grids this time around.

Dave, K1RZ was second again with just over 200k points. As discussed earlier, Dave enjoyed tropo Sunday evening right up to the end with his final contact being a 902 MHz QSO with KU8Y in EN61! Nearby station W3IP, also in FM19 (VA), enjoyed the tropo conditions to bolster his third-place SOHP effort with a number of long haul QSO's on 144, 432 and 1296 MHz to IL, MI and WI Sunday evening.

From the Upper Midwest, WØUC took fourth place while CT station WZ1V placed fifth in the category.



Mike, W3IP's remote setup in FM19 with rotatable array up top and fixed 6 meter and 2 meter arrays. The equipment is in a small enclosure at the base of the tower. (W3IP photo)

### Top Ten, Single-Operator, 3 Band

Call	Score	QSOs	Mults	Bands
KO9A	12,036	151	68	ABD
K7BDB	4,396	124	28	ABD
WB9TFH	3,060	64	36	ABD
K3SFX	2,992	74	34	ABD
KA2BPP	2,720	71	34	ABD
N3BBI	2,494	73	29	ABD
N2BEG	2,449	78	31	ABD
N7IR	2,047	73	23	ABD
WV3P	1,898	61	26	ABD
W1DYJ	1,848	54	28	ABD

The SO3B category was led by KO9A who finished with 12K points. Jim found conditions normal for most of the contest but also found some tropo late with W3SO from WPA particularly loud Sunday night. He was able to finish first with roof-mounted log-periodic from his IL QTH (see picture at right).



SO3B winner KO9A's shack. (KO9A photo)



KO9A's log-periodic array. (KO9A photo)

The rest of the SO3B Top 5 was very close with K7BDB in second followed by WB9TFH, K3SFX, and KA2BPP. All were within about 1600 points of each other for some very good competition.

### Top Ten, Single-Operator Portable

Call	Score	QSOs	Mults	Bands
K7ALO	5,985	127	35	ABCDE
W9SZ	5,922	54	47	BCD9EFGHI
W6KKO	5,310	121	30	ABCD9
VE7FYC	2,790	63	31	ABCDEF
K7ATN	2,784	75	24	ABCD9EF
WA7JTM	1,332	55	18	ABCD
WB2AMU	1,003	46	17	ABCD
N1PRW	481	30	13	ABD
KQ2RP	403	24	13	ABCD
W7GIN	396	31	12	ABD

Single-Operator Portable (SOP) entries this year were down a bit but still totaled 23. K7ALO and W9SZ switched places from last year as 'ALO came out on top. Operating from Southfork Mountain in CN85, Alex used home-made Yagis and no more than 5 watts on his 5 bands. His QSO total of 127 was a good deal higher than Zack's at W9SZ but 'SZ had more grids on the 9 bands he operated. This was the closest category as the

difference between the two stations was 63 points! Right behind was W6KKO who worked his 5 bands to also score 5k points. VE7FYC and K7ATN placed 4<sup>th</sup> and 5<sup>th</sup> in SOP, with 'FYC 6 points ahead of 'ATN!



K7ALO's portable operation in CN85. All antennas are home brew (K7ALO photo)



The view from Southfork Mountain at 4800 feet in the Cascades of Oregon (K7ALO photo)

### Top Ten, Single-Operator, FM Only

Call	Score	QSOs	Mults	Bands
KM4KMU	6,669	129	39	ABCD
WB9WOZ	506	33	11	ABCD
W6IA	462	28	11	ABCD
VE6MB	250	17	10	BCD
W1GJM	60	10	6	A
VA2DG	26	10	2	BD
K4NRT	21	5	3	BCD
K2SI	16	4	4	AB
NØSUW	10	5	2	B
KL2DN	6	2	2	BD

After a nice increase in 2016, the FM Only category saw a dropoff this year with just 11 entries. KM4KMU dominated the category with over 6K points from his portable location at 4500 feet in FM08. His score was up nicely this year with the addition of 6 meters and a higher grid total than his winning 2016 effort. WB9WOZ moved up from 6<sup>th</sup> last year to take second with a nice score increase, while W6IA was third.



KK4KMU ready to roll (KK4KMU photo)

### Multioperator Category

As noted earlier, while Multioperator entries were down overall, the Limited Multioperator (LM) category saw a nice uptick in log submissions.

### Top Ten, Limited Multioperator

Call	Score	QSOs	Mults	Bands
W3SO	115,759	532	161	ABCD
N2NT	106,757	545	151	ABCD
K2LIM	105,700	523	151	ABCD
K5QE	63,570	278	195	ABCD
AA4ZZ	63,140	377	140	ABCD
W2LV	44,946	371	99	ABCD
W4NH	16,830	165	85	ABCD
K2BAR	8,836	139	47	ABCD
W4JNB	5,330	105	41	ABCD
K2JB	3,816	94	36	ABCD

The LM competition was very tight with the WPA group at W3SO just ahead of N2NT in NNJ and K2LIM in WNY. All three were over 100k in points as 'NT and 'LIM were separated by only 1000 points! Further

indicating the close results, all 3 operations had QSO totals within 22 of each other and 10 grid multipliers. Those 10 extra grids at 'SO made the difference to bring home the win. Most of their advantage came on 432 MHz where they had 39 grids worked while 'LIM came in with 32 and 'NT 27.

K5QE continued their strong results from Texas working a LM category high of 57 grids on 50 MHz and 102 on 144 MHz! Placing 5<sup>th</sup> with 400 points fewer than 'QE was the NC team at AA4ZZ.

### Top Ten, Unlimited Multioperator

Call	Score	QSOs	Mults	Bands
W2SZ	443,155	911	263	ABCD9EFGHIJ
W2EA	185,691	636	187	ABCD9EFGHIP
N8ZM	55,286	289	154	ABCD9E
W6TV	48,246	303	66	ABCD9EFGHIJ
WQØP	27,700	173	100	ABCDE
WE1P	23,004	216	81	ABCDEI
K7VHF	13,416	162	52	ABCD9EFIJ
W3RFC	13,398	147	58	ABCD9E
WB6W	10,578	179	41	ABCD9E
VA3NW	3,977	62	41	ABCD9E

W2SZ continued as top dog in the UM operator competition, scoring 443K. Despite some issues on 50 MHz that limited them to 26 grids worked, the 'SZ team was dominant on the microwave bands working 25 grids on 902, 25 on 1296, 23 on 2304, and 20 on 3456 MHz.



The W2EA microwave station (K2WB photo)

The W2EA group moved up from third in 2016 to second this contest. They worked hard to improve their microwave score — with some terrain analysis, they realized getting the antennas a bit higher could clear some local obstructions and do better to the south. (See the W2EA story at the end of this article.)

In third was the N8ZM group in Ohio who were paced by their contest high of 75 multipliers on 50 MHz. From the West Coast the W6TV group just missed 50K points as they were 5<sup>th</sup> overall.

### Rover Category

The Roving category saw a very significant increase in activity this contest with 18 additional entries. It was the highest number of entries in several years. That was good news for the entire community as rovers always help make VHF contesting a lot more exciting.

### Top Ten, Classic Rover

Call	Score	QSOs	Mults	Grids Act'd	Bands
N6NB/R	158,040	452	120	10	ABCD9EFGHIJ
K8GP/R	88,990	461	110	4	ABCD9EFGHI
N6MTS/R	76,320	365	72	6	ABCD9EFGHIJ
KF2MR/R	60,840	288	104	4	ABCD9EFGHI
VE3OIL/R	35,260	223	86	8	ABCD9EFGHIJP
W9SNR/R	22,820	172	70	3	ABCD9EFGHI
WA3PTV/R	19,686	206	51	3	ABCD9EFGHI
K2LDT/R	19,551	146	57	8	ABCD9EFGHI
W9FZ/R	18,236	226	47	6	ABCD9EI
KA9VVQ/R	16,764	223	44	6	ABCD9EI

In the Classic (R) category, Wayne, N6NB/R led the pack with over 150K points. His total was achieved by working similar amounts of QSOs and grids on all bands up through 24 GHz. As Wayne commented in his [3830scores.com](http://3830scores.com) submission that while he sees activity in California declining “there’s always 24 GHz to make this fun”.

2016 category leader K8GP/R had some issues that limited their rove to four grids. Their tenacity overcoming an alternator problem with the rover van got them back out on Sunday and helped them to second place in the Classic competition. N6MTS/R who like N6NB was on all bands through 24 GHz was third. Jarred, KF2MR hit four grids in WNY with his well-equipped station to take fourth while showing an impressive 50% score increase from last year. VE3OIL/R rounded out the top five for the group.



K8GP/R in FM09te. Terry (W8ZN) and Andy (K1RA) took this picture with their drone (K1RA photo)

### Top Ten, Limited Rover

Call	Score	QSOs	Mults	Grids	
				Act'd	Bands
NF2RS/R	49,440	379	103	8	ABCD
K2EZ/R	45,676	421	76	13	ABCD
KØBAK/R	13,872	192	51	8	ABCD
K9JK/R	7,998	182	31	6	ABCD
W1RGA/R	6,840	134	38	8	ABCD
K1SIG/R	6,179	132	37	6	ABCD
KJ2G/R	4,514	85	37	2	ABCD
W7JDB/R	4,408	96	38	11	ABD
KBØZOM/R	4,173	77	39	6	ABCD
W2HYW/R	3,658	100	31	4	ABD

The Limited Rover (RL) category saw a nice uptick in activity with 28 log submissions. Repeating in the top two positions were NF2RS/R in the top spot and K2EZ/R in second. 'RS activated eight grids while 'EZ operated from thirteen. While 'EZ had the higher QSO total the close competition was decided by the higher grid total as 'RS logged 103 while 'EZ had 76. Having worked both of these fine operators in this and past contests myself I can confirm they both can run through the four bands they operate with great efficiency. Congratulations to both on some excellent results!

KØBAK/R was the other RL to break 10K points placing third followed by K9JK/R and W1RGA/R.

### Top Ten, Unlimited Rover

Call	Score	QSOs	Mults	Grids	
				Act'd	Bands
K6MI/R	93,786	453	77	6	ABCD9EFGHIJ
W6TE/R	74,664	357	72	6	ABCD9EFGHIJ
N2SLN/R	28,776	237	88	7	ABCD
N6JET/R	14,400	205	45	7	ABCD9E
NØLD/R	12,096	136	56	13	ABCDE
KJ1K/R	5,500	57	44	2	ABCD9EFGHI
KØBBC/R	2,484	62	23	5	BCDE
W3ICC/R	2,262	60	26	3	ABCDE
KD5IKG/R	1,691	67	19	4	ABCD
NØKP/R	352	11	8	4	HI

The Unlimited Rover (RU) group also saw a spike in log submissions with a more than 100% increase. K6MI/R and W6TE/R accompanied N6NB/R to 6 of the 10 grid squares Wayne operated from with all bands up through 24 ghz as well. They took the top two spots with 'MI almost reaching 100K points. N2SLN/R scored about the same total as last year's winning effort to take third in 2017. They enjoyed some exciting tropo in the last hours of the contest, working their best contest DX ever, reaching K2DRH about 750 miles away on 2 meters. They also heard 'DRH on 222 but were not able to complete the contact. Rounding out the top five were N6JET/R and NØLD/R in fourth and fifth respectively.



K5ND/R in EM03 (Photo K5ND)

## Affiliated Club Competition

A total of 27 clubs competed in the Affiliated Club Competition across the three categories. No clubs submitted enough logs to qualify for the Unlimited category. However, 21 clubs had team efforts in the Medium category, with the Mt. Airy VHF Radio Club repeating in the top spot. Very close behind was the North East Weak Signal Group as both clubs surpassed the half-million point mark. The Potomac Valley Radio Club was in 3<sup>rd</sup> with the Southern California Contest Club in 4<sup>th</sup> as a total of 9 clubs broke the 100K point level.

There was also a repeat in the Local category with the Niagara Frontier Radiosport group once again taking the top honors with nearly 50k points. Separated by only 2k points for second and third place were the Eastern Panhandle ARC and the Chippewa Valley VHF Contesters.

## Affiliated Club Competition

Club	Score	Entries
<b>Medium</b>		
Mt Airy VHF Radio Club	556,399	20
North East Weak Signal Group	506,994	14
Potomac Valley Radio Club	368,762	29
Southern California Contest Club	169,562	4
Society of Midwest Contesters	154,490	7
Clovis Amateur Radio Pioneers	129,876	3
Badger Contesters	108,012	8
Rochester VHF Group	102,386	9
Pacific Northwest VHF Society	100,664	32
Northern Lights Radio Society	77,145	12
Carolina DX Association	66,592	3
Contest Club Ontario	57,753	9
Yankee Clipper Contest Club	39,985	5
Roadrunners Microwave Group	31,829	6
Northern California Contest Club	24,846	13
Willamette Valley DX Club	9,159	4
Bergen ARA	9,108	6
New Mexico VHF Society	7,498	5
Grand Mesa Contesters of Colorado	6,730	5
Michigan VHF-UHF Society	5,708	3
Arizona Outlaws Contest Club	4,722	12
<b>Local</b>		
Niagara Frontier Radiosport	49,716	6
Eastern Panhandle ARC	28,399	3
Chippewa Valley VHF Contesters	26,071	3
Pottstown Area ARC	8,548	3
Bristol (TN) ARC	422	3
Ventura County Amateur Radio Society	196	3

## Contest Summary

The 2017 September contest will go down as one that rewarded those who persevered despite lower activity levels and conditions, especially those on in the areas that saw enhancement late in the contest. Hopefully, the 2018 contest (Sep 8-10) will see a reversal in the downward trend in activity and some great conditions for all participants.

73, Jeff K1TEO

---

## W2EA by Ken Botterbrodt, K2WB

*Originally printed in "Cheese Bits," the newsletter of the Mount Airy VHF Radio Club. All photos courtesy K2WB.*

What is UAFBAF? UAFBAF is an acronym for Up As Friends, Back As Friends. This is the foundation of the South Jersey Mountain Toppers ARC (aka SJMT, aka W2EA).

Why is this important? What we do in the September VHF contest is supposed to be fun. Getting along is very important to the harmony of the operation. No one wants to go away for a weekend and come back miserable.

2017 was no exception, as in any multi-op portable operation with 15 people there are a lot of personalities to deal with. With exhaustion, even a sarcastic remark may be taken the wrong way. We had our problems, but overcame them as a group. And yes, we came back as friends.

Our biggest issue was where to put the microwaves (903 MHz and Up). The SJMT group plans as much as possible in detail. Our site has a number of obstacles to thread antennas and towers through. We have to know where things are going before we get there. Since the September VHF contest in 2016, Bob, W2SJ and Roger, W3SZ have been trying to understand why we could not work stations on 3 GHz and up to the south. With Roger's help and insight, a plan was formulated and now it was time to put theory into reality.

When the group arrived on the summit, time was lost relocating the tower from the planned location. There by creating a minor infringement to the 2<sup>nd</sup> Commandment of Mountain Top Contesting regarding changing the plan, a final location was determined.





Having the microwave on top of an AB-577 tower put the antennas 50 ft above the ground. Our work paid off and we were able to work stations in the Philadelphia area above 3 GHz.

Our UHF station had only two bands 222 and 432 MHz. Both have long M2 antennas with 33-foot booms. Again, these were put 50 ft on top of another AB-577 tower. This configuration has served us well for many years.



Both 6 meters and 2 meters were put on separate towers. Again with M2 antennas, 7 elements on 6 meters and 18 elements on 2 meters. The 2 meter antenna had a couple of tricks up its sleeve.

It was our intention to try a 2 meter EME contact this year. So, our 2 meter antenna was able to have the elevation adjust from 0° to almost 70° and the antenna would rotate from horizontal to vertical. We never made the EME contact, though, due to issues with the equipment.



Other than that, we accomplished what we planned to do. This includes setting up a world-class contest station and adding the ability to operate MSK144 and FT8. Our operations plan was solid and kept the equipment in operation around the clock.

In summary we made 663 contacts and 187 grids for a total of 191,144 points. Our digital effort paid dividends providing 19 MSK144 meteor scatter and 15 FT8 contacts, which also yielded an additional 20 grids.

Rovers made up almost 1/5<sup>th</sup> of our contacts. Rovers are very important and planning in advance pays off. Credit for the rover planning goes to Bill, K3EGE and Bob, W2SJ. Without this effort our score would have been lower. I would like to give thanks and kudos to all of the rovers and their efforts.



This is the all-important group photograph (the real reason of going to FN21kh). From left to right are K2WB, K3EGE, KC2TN, KB3SIG, N3AVT, W2TAG, K3HUW, KB1JEY, N3RG, W2SJ, KD2JPV, KE2D, KD2MPC, N2SCJ & N2UNI. As a group we returned on Monday as Friends. And that is what UAFBAF is all about.

73's & UAFBAF!! Ken K2WB

## 2017 ARRL September VHF Contest

### Regional Leaders

#### West Coast Region

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

N6NB/R	158,040	R
N6MTS/R	76,320	R
N6ORB/R	7,176	R
KE7MSU/R	6,171	R
W7JDB/R	4,408	RL
N6GP/R	1,420	RL
AL1VE/R	1,260	RL
WA8WZG/R	1,140	RL
K6LMN/R	528	RL
K6MI/R	93,786	RU
W6TE/R	74,664	RU
N6JET/R	14,400	RU
VE7AFZ/R	338	RU

K7YDL	14,122	SOHP
KE7SW	9,000	SOHP
K7ND	8,500	SOHP
N7EPD	5,400	SOHP
K7CW	4,407	SOHP

W6IT	10,058	SOLP
K2GMY	9,009	SOLP
WZ8T	7,839	SOLP
KC6ZWT	7,807	SOLP
AC7MD	5,882	SOLP

K7ALO	5,985	SOP
W6KKO	5,310	SOP
VE7FYC	2,790	SOP
K7ATN	2,784	SOP
WA7JTM	1,332	SOP

K7BDB	4,396	SO3B
N7IR	2,047	SO3B
WE7X	1,534	SO3B
N7RK	1,134	SO3B
AF6SA	1,026	SO3B

W6IA	462	SOFM
VE6MB	250	SOFM
KL2DN	6	SOFM
N1VM	1	SOFM

KB7ME	476	LM
-------	-----	----

W6TV	48,246	UM
K7VHF	13,416	UM
WB6W	10,578	UM
K6YK	1,638	UM

#### Midwest Region

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

KG5UCA/R	5,775	R
WØZF/R	4,669	R

KBØZOM/R	4,173	RL
AEØEE/R	2,990	RL
K5ND/R	2,652	RL
KK6MC/R	2,438	RL
KA5D/R	1,360	RL

NØLD/R	12,096	RU
KØBBC/R	2,484	RU
KD5IKG/R	1,691	RU
NØKP/R	352	RU

K5LLL	18,957	SOHP
KØSIX	9,000	SOHP
K5AND	8,639	SOHP
NTØV	7,704	SOHP
KØTPP	6,612	SOHP

NØLL	10,660	SOLP
N5RZ	3,102	SOLP
WØZQ	2,929	SOLP
K5TRA	1,936	SOLP
WBØHHM	1,392	SOLP

AF5Q	110	SOP
NØHSB	54	SOP
NØJK	54	SOP
NØRVS	9	SOP
AF4JF	6	SOP

KØCQ	1,000	SO3B
NRØT	430	SO3B
KC7QY	286	SO3B
AKØEM	156	SO3B
WØ/OA4ABC (OA4ABC, op)	140	SO3B

NØSUW	10	SOFM
-------	----	------

K5QE	63,570	LM
WØVB	924	LM
ABØDK	450	LM
K5LRW	35	LM

WQØP	27,700	UM
KC5MVZ	768	UM

#### Central Region

(Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)

VE3OIL/R	35,260	R
W9SNR/R	22,820	R
W9FZ/R	18,236	R
KA9VVQ/R	16,764	R

K9JK/R	7,998	RL
W9YOY/R	1,155	RL

WØUC	51,870	SOHP
K8TQK	24,698	SOHP
W9EWZ	11,868	SOHP
K8ZR	10,366	SOHP
K9EA	8,777	SOHP

K2DRH	133,774	SOLP
W9GA	26,117	SOLP
K9MU	17,017	SOLP
VE3DS	15,721	SOLP
N9LB	7,093	SOLP

W9SZ	5,922	SOP	<b>Northeast Region</b>		
AA8CH	117	SOP	(New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)		
KO9A	12,036	SO3B	KF2MR/R	60,840	R
WB9TFH	3,060	SO3B	WA3PTV/R	19,686	R
N9TF	1,800	SO3B	K2LDT/R	19,551	R
W9VS	1,400	SO3B	WB2SIH/R	12,993	R
VE3IQZ	522	SO3B	K2TER/R	10,656	R
WB9WOZ	506	SOFM	NF2RS/R	49,440	RL
N8ZM	55,286	UM	K2EZ/R	45,676	RL
VA3NW	3,977	UM	KØBAK/R	13,872	RL
N2BJ	2,112	UM	W1RGA/R	6,840	RL
<b>Southeast Region</b>			N2SLN/R	28,776	RU
(Delta, Roanoke and Southeastern Divisions)			KJ1K/R	5,500	RU
K8GP/R	88,990	R	W3ICC/R	2,262	RU
AB4CR/R	13,965	R	K1TEO	303,780	SOHP
AG4V/R	11,316	R	K1RZ	202,230	SOHP
W4WNT/R	12	RL	WZ1V	41,340	SOHP
WD5DJW/R	36	RU	K1TR	39,060	SOHP
W3IP	66,435	SOHP	WA3DRC	31,208	SOHP
KE8FD	15,554	SOHP	WB1GQR (W1SJ, op)	83,205	SOLP
N4QWZ	14,091	SOHP	AF1T	67,488	SOLP
N3MK	10,230	SOHP	K1KG	50,774	SOLP
N1GC	3,440	SOHP	W3EKT	27,229	SOLP
KX4R	12,567	SOLP	N3JDR	25,330	SOLP
KJ4ZYB	11,457	SOLP	WB2AMU	1,003	SOP
WA7TOF/4 (WA7TOF, op)	3,008	SOLP	N1PRW	481	SOP
W3ATE (W7IY, op)	560	SOLP	KQ2RP	403	SOP
K4FTO	410	SOLP	VE2NCG	297	SOP
N4PD	792	SO3B	N2TEB	120	SOP
WA4LDU	759	SO3B	K3SFX	2,992	SO3B
W4TTM	176	SO3B	KA2BPP	2,720	SO3B
KQ4LA	170	SO3B	N3BBI	2,494	SO3B
KB1RI	36	SO3B	N2BEG	2,449	SO3B
KM4KMU	6,669	SOFM	WV3P	1,898	SO3B
K4NRT	21	SOFM	W1GJM	60	SOFM
AA4ZZ	63,140	LM	VA2DG	26	SOFM
W4NH	16,830	LM	K2SI	16	SOFM
W4JNB	5,330	LM	W3SO	115,759	LM
K2JB	3,816	LM	N2NT	106,757	LM
WB4WXE	3,298	LM	K2LIM	105,700	LM
			W2LV	44,946	LM
			K2BAR	8,836	LM
			W2SZ	443,155	UM
			W2EA	185,691	UM
			WE1P	23,004	UM
			W3RFC	13,398	UM
			W3ACH	720	UM

## 2017 ARRL September VHF Contest

### Division Winners

#### Classic Rover

Atlantic	KF2MR/R	60,840
Central	W9SNR/R	22,820
Dakota	WØZF/R	4,669
Delta	AG4V/R	11,316
Hudson	WB2SIH/R	12,993
New England	N1WK/R	912
Northwestern	KE7MSU/R	6,171
Pacific	N6NB/R	158,040
Roanoke	K8GP/R	88,990
West Gulf	KG5UCA/R	5,775
Canada	VE3OIL/R	35,260

#### Limited Rover

Atlantic	NF2RS/R	49,440
Central	K9JK/R	7,998
Dakota	AEØEE/R	2,990
Great Lakes	W9YOY/R	1,155
Hudson	N2MH/R	9
Midwest	KBØZOM/R	4,173
New England	K2EZ/R	45,676
Northwestern	AL1VE/R	1,260
Pacific	W7JDB/R	4,408
Roanoke	W4WNT/R	12
Rocky Mountain	KK6MC/R	2,438
Southwestern	N6GP/R	1,420
West Gulf	K5ND/R	2,652

#### Unlimited Rover

Atlantic	N2SLN/R	28,776
Dakota	KØBBC/R	2,484
Delta	WD5DJW/R	36
New England	KJ1K/R	5,500
Pacific	K6MI/R	93,786
West Gulf	NØLD/R	12,096
Canada	VE7AFZ/R	338

#### Single Operator, High Power

Atlantic	K1RZ	202,230
Central	WØUC	51,870
Dakota	KØSIX	9,000
Delta	N4QWZ	14,091
Great Lakes	K8TQK	24,698
Hudson	W2KV	28,060
Midwest	KØTPP	6,612
New England	K1TEO	303,780
Northwestern	K7YDL	14,122
Pacific	WA6OSX	3,333
Roanoke	W3IP	66,435
Rocky Mountain	W9RM	5,494
Southeastern	KE8FD	15,554
Southwestern	KC6SEH	2,800
West Gulf	K5LLL	18,957
Canada	VA3ELE	3,535

#### Single Operator, Low Power

Atlantic	W3EKT	27,229
Central	K2DRH	133,774
Dakota	WØZQ	2,929
Delta	K4IDC	238

Great Lakes	W8KHP	442
Hudson	WB2JAY	22,320
Midwest	NØLL	10,660
New England	WB1GQR (W1SJ, op)	83,205
Northwestern	WZ8T	7,839
Pacific	K2GMY	9,009
Roanoke	KJ4ZYB	11,457
Rocky Mountain	W6OAL	520
Southeastern	KX4R	12,567
Southwestern	W6IT	10,058
West Gulf	N5RZ	3,102
Canada	VE3DS	15,721

#### Single Operator, Portable

Atlantic	N2TEB	120
Central	W9SZ	5,922
Dakota	NØHSB	54
Great Lakes	AA8CH	117
Hudson	WB2AMU	1,003
Midwest	NØJK	54
New England	N1PRW	481
Northwestern	K7ALO	5,985
Pacific	W6KKO	5,310
Southwestern	WA7JTM	1,332
West Gulf	AF5Q	110
Canada	VE7FYC	2,790

#### Single Operator, 3 Band

Atlantic	K3SFX	2,992
Central	KO9A	12,036
Dakota	NRØT	430
Delta	W4TTM	176
Great Lakes	N8BJQ	456
Hudson	KA2BPP	2,720
Midwest	KØCQ	1,000
New England	W1DYJ	1,848
Northwestern	K7BDB	4,396
Pacific	AF6SA	1,026
Roanoke	N4PD	792
Rocky Mountain	KC7QY	286
Southwestern	N7IR	2,047
Canada	CF7FC	578

#### Single Operator, FM Only

Atlantic	K2SI	16
Central	WB9WOZ	506
Dakota	NØSUW	10
Delta	K4NRT	21
New England	W1GJM	60
Northwestern	KL2DN	6
Pacific	W6IA	462
Roanoke	KM4KMU	6,669
Canada	VE6MB	250

#### Limited Multioperator

Atlantic	W3SO	115,759
Dakota	WØVB	924
Delta	NE5BO	2,948
Hudson	N2NT	106,757
Midwest	ABØDK	450
New England	WA1J	400
Northwestern	KB7ME	476
Roanoke	AA4ZZ	63,140
Rocky Mountain	K5LRW	35

Southeastern	W4JNB	5,330	WB2SIH/R	13
West Gulf	K5QE	63,570	W9SNR/R	12
<b>Unlimited Multioperator</b>			<b>432 MHz QSOs</b>	
Atlantic	W2EA	185,691	K8GP/R	79
Central	N2BJ	2,112	KA9VVQ/R	54
Great Lakes	N8ZM	55,286	W9FZ/R	54
Hudson	WE1P	23,004	KF2MR/R	52
Midwest	WQØP	27,700	N6NB/R	41
New England	W2SZ	443,155	<b>432 MHz Mults</b>	
Northwestern	K7VHF	13,416	K8GP/R	18
Pacific	W6TV	48,246	W9SNR/R	14
West Gulf	KC5MVZ	768	KF2MR/R	13
Canada	VA3NW	3,977	WB2SIH/R	13
			VE3OIL/R	12

## 2017 ARRL September VHF Contest

### QSO/Mult Band Leaders by Category

#### Classic Rover

##### 50 MHz QSOs

K8GP/R	95
N6ORB/R	55
KE7MSU/R	50
WA3PTV/R	49
KF2MR/R	42

##### 50 MHz Mults

K8GP/R	18
VE3OIL/R	14
KF2MR/R	12
WB2SIH/R	12
AB4CR/R	10
KE7MSU/R	10
N6NB/R	10
N6ORB/R	10
WA3PTV/R	10

##### 144 MHz QSOs

K8GP/R	137
VE3OIL/R	70
W9FZ/R	70
KA9VVQ/R	69
KF2MR/R	66

##### 144 MHz Mults

K8GP/R	26
WB2SIH/R	21
VE3OIL/R	20
KF2MR/R	17
W9SNR/R	16

##### 222 MHz QSOs

K8GP/R	68
KA9VVQ/R	45
KF2MR/R	45
W9FZ/R	45
VE3OIL/R	43

##### 222 MHz Mults

K8GP/R	17
KF2MR/R	14
VE3OIL/R	14

##### 902 MHz QSOs

N6NB/R	45
N6MTS/R	36
W9FZ/R	26
KA9VVQ/R	24
KF2MR/R	24

##### 902 MHz Mults

KF2MR/R	11
N6NB/R	10
K8GP/R	7
N6MTS/R	6
W9FZ/R	6
W9SNR/R	6

##### 1.2 GHz QSOs

N6NB/R	45
N6MTS/R	36
K8GP/R	27
KF2MR/R	25
VE3OIL/R	19

##### 1.2 GHz Mults

KF2MR/R	11
N6NB/R	10
K8GP/R	6
N6MTS/R	6
W9SNR/R	6
WB2SIH/R	6

##### 2.3 GHz QSOs

N6NB/R	41
N6MTS/R	36
KF2MR/R	17
K2LDT/R	12
K8GP/R	12

##### 2.3 GHz Mults

KF2MR/R	10
N6NB/R	10
N6MTS/R	6
K2LDT/R	5
K2TER/R	4
K8GP/R	4

##### 3.4 GHz QSOs

N6NB/R	44
N6MTS/R	36
K2LDT/R	12

KF2MR/R	12
K8GP/R	11
<b>3.4 GHz Mults</b>	
N6NB/R	10
KF2MR/R	7
N6MTS/R	6
K2LDT/R	4
K2TER/R	4
K8GP/R	4
<b>5.7 GHz QSOs</b>	
N6NB/R	39
N6MTS/R	31
K8GP/R	7
K2LDT/R	5
KF2MR/R	2
W9SNR/R	2
<b>5.7 GHz Mults</b>	
N6NB/R	10
N6MTS/R	6
K2LDT/R	3
K8GP/R	3
KF2MR/R	2
<b>10 GHz QSOs</b>	
N6NB/R	44
N6MTS/R	35
K8GP/R	7
WA3PTV/R	5
K2LDT/R	3
KA9VVQ/R	3
KF2MR/R	3
W9FZ/R	3
W9SNR/R	3
<b>10 GHz Mults</b>	
N6NB/R	10
N6MTS/R	6
K8GP/R	3
KF2MR/R	3
AB4CR/R	2
K2LDT/R	2
W9SNR/R	2
WA3PTV/R	2
<b>24 GHz QSOs</b>	
N6NB/R	34
N6MTS/R	24
VE3OIL/R	1
<b>24 GHz Mults</b>	
N6NB/R	10
N6MTS/R	6
VE3OIL/R	1
<b>Light QSOs</b>	
VE3OIL/R	1
<b>Light Mults</b>	
VE3OIL/R	1

### Limited Rover

<b>50 MHz QSOs</b>	
NF2RS/R	116
K2EZ/R	103
KØBAK/R	48
K1SIG/R	46
K9JK/R	45
<b>50 MHz Mults</b>	
NF2RS/R	18
K2EZ/R	17
KØBAK/R	12
K1SIG/R	10
W2HYW/R	10
W7JDB/R	10
<b>144 MHz QSOs</b>	
NF2RS/R	162
K2EZ/R	138
KØBAK/R	64
K9JK/R	61
W1RGA/R	56
<b>144 MHz Mults</b>	
NF2RS/R	38
K2EZ/R	17
KBØZOM/R	16
KØBAK/R	12
K5ND/R	11
W1RGA/R	11
W2HYW/R	11
<b>222 MHz QSOs</b>	
K2EZ/R	88
NF2RS/R	46
KØBAK/R	37
K9JK/R	29
AEØEE/R	22
<b>222 MHz Mults</b>	
NF2RS/R	19
K2EZ/R	15
KØBAK/R	9
KJ2G/R	8
K9JK/R	6
W1RGA/R	6
<b>432 MHz QSOs</b>	
K2EZ/R	92
NF2RS/R	55
K9JK/R	47
KØBAK/R	43
K5ND/R	28
<b>432 MHz Mults</b>	
NF2RS/R	20
K2EZ/R	14
KØBAK/R	10
KBØZOM/R	8
KJ2G/R	8

**Unlimited Rover****50 MHz QSOs**

N2SLN/R	75
N6JET/R	56
K6MI/R	49
W6TE/R	32
NØLD/R	23

**50 MHz Mults**

N2SLN/R	20
NØLD/R	9
N6JET/R	9
K6MI/R	7
VE7AFZ/R	7

**144 MHz QSOs**

N2SLN/R	72
N6JET/R	62
K6MI/R	58
NØLD/R	47
W6TE/R	32

**144 MHz Mults**

N2SLN/R	22
NØLD/R	13
K6MI/R	9
KJ1K/R	8
N6JET/R	8
W3ICC/R	8

**222 MHz QSOs**

N2SLN/R	44
K6MI/R	43
W6TE/R	32
NØLD/R	26
N6JET/R	26

**222 MHz Mults**

N2SLN/R	20
NØLD/R	8
K6MI/R	6
N6JET/R	6
W6TE/R	6

**432 MHz QSOs**

K6MI/R	51
N2SLN/R	46
N6JET/R	33
W6TE/R	32
NØLD/R	26

**432 MHz Mults**

N2SLN/R	19
NØLD/R	9
W3ICC/R	8
K6MI/R	7
KJ1K/R	7

**902 MHz QSOs**

K6MI/R	43
W6TE/R	35
N6JET/R	16
KJ1K/R	3

**902 MHz Mults**

K6MI/R	6
W6TE/R	6
N6JET/R	4
KJ1K/R	3

**1.2 GHz QSOs**

K6MI/R	42
W6TE/R	36
NØLD/R	14
N6JET/R	12
KJ1K/R	5

**1.2 GHz Mults**

K6MI/R	6
W6TE/R	6
N6JET/R	5
KJ1K/R	4
NØLD/R	4

**2.3 GHz QSOs**

K6MI/R	36
W6TE/R	34
KJ1K/R	4

**2.3 GHz Mults**

K6MI/R	6
W6TE/R	6
KJ1K/R	3

**3.4 GHz QSOs**

K6MI/R	36
W6TE/R	34
KJ1K/R	4

**3.4 GHz Mults**

K6MI/R	6
W6TE/R	6
KJ1K/R	3

**5.7 GHz QSOs**

K6MI/R	31
W6TE/R	31
KJ1K/R	4
NØKP/R	2

**5.7 GHz Mults**

K6MI/R	6
W6TE/R	6
KJ1K/R	3
NØKP/R	1

**10 GHz QSOs**

K6MI/R	36
W6TE/R	35
NØKP/R	9
KJ1K/R	1

**10 GHz Mults**

K6MI/R	6
W6TE/R	6
NØKP/R	3
KJ1K/R	1

**24 GHz QSOs**

K6MI/R	28
W6TE/R	24

**24 GHz Mults**

K6MI/R	6
W6TE/R	6

**Single Operator, High Power****50 MHz QSOs**

K1TEO	123
K7CW	113
K1RZ	96
W3IP	90
N3HBX	85

**50 MHz Mults**

KØTPP	59
W9RM	42
K1TEO	40
WØUC	40
K1RZ	39
K7CW	39

**144 MHz QSOs**

W1VD	188
K1TEO	186
W2KV	142
K1RZ	110
W3IP	100

**144 MHz Mults**

W2KV	50
K1TEO	47
KA1ZE/3 (KA1ZE, op)	47
W1VD	44
K1RZ	38

**222 MHz QSOs**

K1TEO	99
K1RZ	67
K1TR	45
WZ1V	42
W3IP	41

**222 MHz Mults**

K1TEO	34
K1RZ	25
K1TR	21
K8TQK	21
WØUC	21

**432 MHz QSOs**

K1TEO	110
K1RZ	85
W3IP	60
W2KV	54
K1TR	49

**432 MHz Mults**

K1TEO	33
K1RZ	31
W2KV	25
W3IP	23
WZ1V	21

**902 MHz QSOs**

K1TEO	37
K1RZ	33
W3IP	20
WØUC	19
K2YAZ	10
WA3DRC	10
WB2RVX	10

**902 MHz Mults**

K1TEO	24
K1RZ	19
WØUC	9
W3IP	9
K2YAZ	7
WA3DRC	7
WB2RVX	7

**1.2 GHz QSOs**

K1TEO	50
K1RZ	46
WZ1V	23
K1TR	21
W3IP	21

**1.2 GHz Mults**

K1TEO	26
K1RZ	21
WZ1V	12
VA3ELE	11
W3IP	10

**2.3 GHz QSOs**

K1RZ	24
K1TEO	24
WA3DRC	8
N1JEZ	6
W2BVH	5
WB2RVX	5

**2.3 GHz Mults**

K1TEO	18
K1RZ	15
WA3DRC	6
N1JEZ	5
W2BVH	5
WB2RVX	5

**3.4 GHz QSOs**

K1TEO	18
K1RZ	13
K1IIG	5
N3NGE	3
WA3DRC	3

**3.4 GHz Mults**

K1TEO	14
K1RZ	9
K1IIG	4
N3NGE	3
WA3DRC	3



**5.7 GHz QSOs**

K1TEO	8
K1RZ	6
WA3DRC	3
WB2RVX	3
N1GJ	2
N3NGE	2

**5.7 GHz Mults**

K1TEO	6
K1RZ	5
WA3DRC	3
WB2RVX	3
N1GJ	2
N3NGE	2

**10 GHz QSOs**

K1RZ	11
K1TEO	8
KØAWU	7
K5AND	4
K5LLL	4

**10 GHz Mults**

K1RZ	8
K1TEO	7
KØAWU	4
K1IIG	2
K5AND	2
K5LLL	2
N1GJ	2
W3XO/5 (W3XO, op)	2

**Single Operator, Low Power****50 MHz QSOs**

WB1GQR (W1SJ, op)	144
K2DRH	109
K3AJ	68
AF1T	65
WB1GCM	54

**50 MHz Mults**

K2DRH	57
NØLL	42
WB1GQR (W1SJ, op)	28
K9MU	27
K3AJ	25

**144 MHz QSOs**

WB1GQR (W1SJ, op)	124
K2DRH	103
AF1T	90
WB2CUT	83
K1KG	76

**144 MHz Mults**

K2DRH	49
N3JDR	31
WB1GQR (W1SJ, op)	29
W9GA	26
KJ4ZYB	25

**222 MHz QSOs**

K2DRH	55
WB1GQR (W1SJ, op)	53

AF1T	46
K1KG	36
N3JDR	32

**222 MHz Mults**

K2DRH	34
WB1GQR (W1SJ, op)	20
KX4R	18
W9GA	18
K1KG	16

**432 MHz QSOs**

K2DRH	71
WB1GQR (W1SJ, op)	71
AF1T	51
K1KG	44
N3JDR	41

**432 MHz Mults**

K2DRH	35
WB1GQR (W1SJ, op)	22
W9GA	19
N3JDR	18
K1KG	15

**902 MHz QSOs**

K2DRH	22
AF1T	17
K1KG	15
W9GA	15
N9LB	13
W3EKT	13

**902 MHz Mults**

K2DRH	13
AF1T	11
K1KG	10
W9GA	10
WB1GQR (W1SJ, op)	9

**1.2 GHz QSOs**

AF1T	20
K2DRH	20
WB1GQR (W1SJ, op)	20
K1KG	19
N3JDR	14

**1.2 GHz Mults**

K2DRH	14
WB1GQR (W1SJ, op)	12
AF1T	11
K1KG	10
AC1J	7
N3JDR	7
W9GA	7

**2.3 GHz QSOs**

AF1T	12
K1KG	9
W3EKT	9
K3TUF	7
WB1GQR (W1SJ, op)	5
WB2JAY	5

**2.3 GHz Mults**

AF1T	10
K1KG	8
K3TUF	5
W3EKT	5
WB1GQR (W1SJ, op)	5

**3.4 GHz QSOs**

AF1T	8
K1KG	7
K2DRH	7
W3EKT	7
W6IT	7

**3.4 GHz Mults**

AF1T	6
K1KG	5
K2DRH	5
W3EKT	5
W6IT	4
WB1GQR (W1SJ, op)	4
WB2JAY	4

**5.7 GHz QSOs**

W6IT	7
AF1T	5
K3TUF	5
K1KG	4

**5.7 GHz Mults**

AF1T	5
K3TUF	4
W6IT	4
K1KG	3

**10 GHz QSOs**

W6IT	7
AF1T	6
N9LB	6
K1KG	4
K5TRA	3

**10 GHz Mults**

AF1T	5
W6IT	4
K1KG	3
N9LB	3
K5TRA	2

**24 GHz QSOs**

AF1T	1
------	---

**24 GHz Mults**

AF1T	1
------	---

**Light QSOs**

AF1T	1
------	---

**Light Mults**

AF1T	1
------	---

**Single Operator, Portable****50 MHz QSOs**

K7ALO	39
W6KKO	26
K7ATN	21
VE7FYC	20
WA7JTM	16

**50 MHz Mults**

K7ALO	10
W6KKO	8
VE7FYC	7
K7ATN	5
N1PRW	5
W7GIN	5
WB2AMU	5

**144 MHz QSOs**

K7ALO	50
W6KKO	43
K7ATN	24
W7GIN	22
VE7FYC	20
WA7JTM	20
WB2AMU	20

**144 MHz Mults**

K7ALO	10
W9SZ	10
VE7FYC	9
W6KKO	8
WB2AMU	8

**222 MHz QSOs**

W6KKO	22
K7ALO	11
W9SZ	11
VE7FYC	8
K7ATN	5
WB2AMU	5

**222 MHz Mults**

W9SZ	10
W6KKO	6
K7ALO	5
VE7FYC	4
K7ATN	2
KQ2RP	2
WA7JTM	2
WB2AMU	2

**432 MHz QSOs**

W6KKO	26
K7ALO	21
K7ATN	16
WA7JTM	15
VE7FYC	12

**432 MHz Mults**

VE7FYC	8
W9SZ	8
W6KKO	7
K7ALO	6
WA7JTM	6

**902 MHz QSOs**

W6KKO	4
W9SZ	3
K7ATN	2
N6ZE/6 (N6ZE, op)	2

**902 MHz Mults**

W9SZ	3
K7ATN	2
N6ZE/6 (N6ZE, op)	1
W6KKO	1

**1.2 GHz QSOs**

K7ALO	6
K7ATN	5
W9SZ	4
VE7FYC	2

**1.2 GHz Mults**

K7ALO	4
W9SZ	4
K7ATN	3
VE7FYC	2

**2.3 GHz QSOs**

W9SZ	3
K7ATN	2
VE7FYC	1

**2.3 GHz Mults**

W9SZ	3
K7ATN	2
VE7FYC	1

**3.4 GHz QSOs**

W9SZ	4
------	---

**3.4 GHz Mults**

W9SZ	4
------	---

**5.7 GHz QSOs**

W9SZ	2
------	---

**5.7 GHz Mults**

W9SZ	2
------	---

**10 GHz QSOs**

W9SZ	3
------	---

**10 GHz Mults**

W9SZ	3
------	---

**Single Operator, 3 Band****50 MHz QSOs**

KO9A	74
K7BDB	52
N3BBI	44
W3LL	40
KA2BPP	39
KA6BIM	39

**50 MHz Mults**

KO9A	38
KA2BPP	19
K7XC	16
WA4LDU	16
N8BJQ	15

**144 MHz QSOs**

KO9A	51
N2BEG	43
K7BDB	39
K3SFX	38
N4PD	32

**144 MHz Mults**

KO9A	21
N2BEG	19
K3SFX	16
KØCQ	15
WB9TFH	15

**432 MHz QSOs**

K7BDB	33
KO9A	26
WB9TFH	21
N7IR	16
N9TF	15
W9VS	15

**432 MHz Mults**

WB9TFH	12
KO9A	9
K3SFX	8
WV3P	8
KØCQ	7

**Single Operator, FM Only****50 MHz QSOs**

KM4KMU	27
W1GJM	10
WB9WOZ	2
K2SI	1
W6IA	1

**50 MHz Mults**

KM4KMU	8
W1GJM	6
WB9WOZ	2
K2SI	1
W6IA	1

**144 MHz QSOs**

KM4KMU	60
WB9WOZ	18
W6IA	13
VE6MB	9
VA2DG	7

**144 MHz Mults**

KM4KMU	14
W6IA	6
VE6MB	4
WB9WOZ	4
K2SI	3

**222 MHz QSOs**

KM4KMU	16
WB9WOZ	5
W6IA	4
VE6MB	2
K4NRT	1

**222 MHz Mults**

KM4KMU	9
VE6MB	2
WB9WOZ	2
K4NRT	1
W6IA	1

**432 MHz QSOs**

KM4KMU	26
W6IA	10
WB9WOZ	8
VE6MB	6
VA2DG	3

**432 MHz Mults**

KM4KMU	8
VE6MB	4
W6IA	3
WB9WOZ	3
K4NRT	1
KL2DN	1
VA2DG	1

**Limited Multioperator****50 MHz QSOs**

N2NT	181
AA4ZZ	151
W3SO	144
K2LIM	142
W2LV	140

**50 MHz Mults**

K5QE	57
AA4ZZ	51
W4NH	44
N2NT	42
K2LIM	36

**144 MHz QSOs**

K2LIM	204
N2NT	202
W3SO	201
AA4ZZ	152
W2LV	146

**144 MHz Mults**

K5QE	102
W3SO	52
N2NT	51
K2LIM	48
AA4ZZ	42

**222 MHz QSOs**

K2LIM	93
W3SO	81
N2NT	77
W2LV	37
AA4ZZ	31

**222 MHz Mults**

K2LIM	35
W3SO	35
N2NT	31
AA4ZZ	20
W2LV	17

**432 MHz QSOs**

W3SO	106
N2NT	85
K2LIM	84
W2LV	48
AA4ZZ	43

**432 MHz Mults**

W3SO	39
K2LIM	32
AA4ZZ	27
N2NT	27
K5QE	24

**Unlimited Multioperator****50 MHz QSOs**

W2EA	256
W2SZ	202
N8ZM	152
WE1P	59
K7VHF	58

**50 MHz Mults**

N8ZM	75
W2EA	47
W2SZ	26
WQØP	21
K7VHF	14
WE1P	14

**144 MHz QSOs**

W2SZ	275
W2EA	159
WE1P	102
N8ZM	73
W6TV	59

**144 MHz Mults**

W2SZ	63
W2EA	35
N8ZM	33
WE1P	33
WQØP	27

**222 MHz QSOs**

W2SZ	88
W2EA	61
W6TV	28
WQØP	28
N8ZM	26
WE1P	26

**222 MHz Mults**

W2SZ	31
W2EA	25
N8ZM	20
WQØP	19
WE1P	17

**432 MHz QSOs**

W2SZ	129
W2EA	69
W6TV	45
WB6W	36
N8ZM	32
WQØP	32

**432 MHz Mults**

W2SZ	31
W2EA	25
N8ZM	20
WQØP	19
W3RFC	12
WE1P	12

**902 MHz QSOs**

W2SZ	44
W6TV	27
W2EA	21
WB6W	10
W3RFC	7

**902 MHz Mults**

W2SZ	25
W2EA	15
W6TV	6
W3RFC	5
VA3NW	4

**1.2 GHz QSOs**

W2SZ	50
W6TV	26
W2EA	25
WQØP	22
K7VHF	16

**1.2 GHz Mults**

W2SZ	25
W2EA	15
WQØP	14
W6TV	6
K7VHF	5
VA3NW	5
W3RFC	5

**2.3 GHz QSOs**

W2SZ	37
W6TV	23
W2EA	12
K7VHF	3

**2.3 GHz Mults**

W2SZ	23
W2EA	10
W6TV	6
K7VHF	3

**3.4 GHz QSOs**

W2SZ	36
W6TV	23
W2EA	12

**3.4 GHz Mults**

W2SZ	20
W2EA	8
W6TV	6

**5.7 GHz QSOs**

W2SZ	19
W6TV	4
W2EA	1

**5.7 GHz Mults**

W2SZ	7
W2EA	1
W6TV	1

**10 GHz QSOs**

W6TV	22
W2SZ	19
W2EA	5
WE1P	4
K7VHF	1

**10 GHz Mults**

W2SZ	8
W6TV	6
W2EA	5
K7VHF	1
WE1P	1

**24 GHz QSOs**

W2SZ	12
W6TV	11
K7VHF	1

**24 GHz Mults**

W6TV	6
W2SZ	4
K7VHF	1

**Light QSOs**

W2EA	15
------	----

**Light Mults**

W2EA	1
------	---