2021 January VHF Contest Full Results

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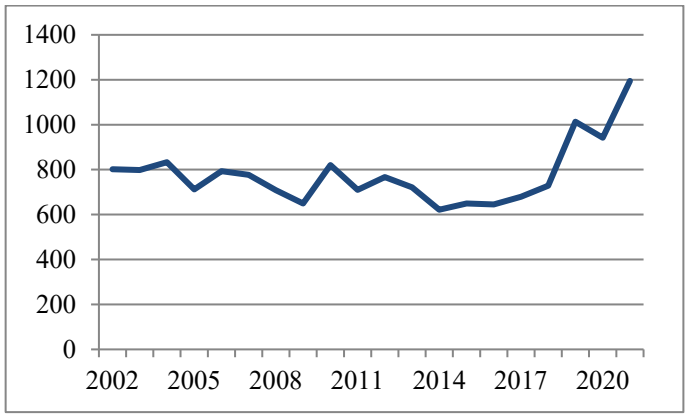
The Oklahoma and Texas rovers got together at the grid square convergence near Hico, Texas on Saturday to generate lots of QSOs on lots of bands for the rovers involved, as well as fixed stations. On Sunday, the rover packs went their own way to their respective states. (Photo by NØLD)

Covid-19 quarantines, activity on WSJT-X modes, and good weather across most of the country combined to produce the highest participation this century for a January VHF Contest!

With hams staying at home in significant numbers because of the Covid-19 quarantine, amateur radio contest participation in general has soared. Coincidentally, Covid-19 cases in the United States peaked close to the same weekend as the VHF contest. The January 2021 VHF contest was a beneficiary of this Covid-induced increase in activity. In addition, with the continuing increase in digital mode activity, the 1195 logs submitted for the 2021 January VHF contest set a record for this century.



Entries vs. Year, January VHF Contest

There was also good weather over much of the United States, which is a significant driver of activity in the January contest. More rovers get out in good weather, and home stations don't have to deal with ice on antennas or frozen rotators. That said, propagation conditions, usually a big driver in January contests, were flat to poor with no widespread openings. The exception was very good meteor scatter conditions on Sunday morning for many stations, which improved multiplier count for many. The digital modes, particularly FT8, made up for some of the lack of Es, which should surprise no one, as these modes were specifically designed to deal with marginal Sporadic-E (Es) openings on VHF. They are doing their job. The use of FT8 seems to fit quite well with people staying home during quarantine.

Although not promoted as a DX contest, there were entries from three DX entities, CO2, HI8, and XE. The XE activity is especially appreciated by contesters in the southwest where any addition to activity is appreciated.

The complexion of the January contest is changing. While the changes due to more and more stations incorporating the digital modes is fairly obvious to most, there are other subtle and not so subtle changes. Participation in the multi-operator categories is down.

This is unfortunate, as these stations have traditionally been on the air for the entire contest on multiple bands and serve as beacons and watering holes for other stations. The migration of Unlimited Multioperator stations to the Limited Multioperator category has also hurt microwave participation, which is particularly bad in

these times, when it is easier and easier to get on these higher bands.

KV2X/r and son Ryan setting up their rover in FN22 with the weather we usually associate with the January Contest. (Photo by W2EV)

The good news is that participation in the Single Operator Portable category is up, in large part due to many of the HF Summits on the Air (SOTA) operators getting on VHF and coordinating their summit-to-summit activity days with the VHF/UHF contest days.

The Winners

Single Operator FM (SOFM)

Single Operator, FM Only	
KM4KMU	17,404
WG4I	948
W3HDB	826
KK6OTK	810
VE3RWJ	776
KJ7AXA	582
KG7AZY	540
N6NFB	407
N1TEN	392
W5WGF	360

KM4KMU, a perennial contender in the SOFM category, regained his number one spot after slipping to number two last year and set a new all-time January contest record in doing so.

KM4KMU's setup, appropriately enough for the January Contest, just off Freeze Land Road. (Photo by KM4KMU)

Lest anyone belittle the FM-only category, John works hard before the contest to promote his activity turn people out for the contest and operates in a rover-style station fixed at one site that would be the envy of many SSB/CW ops. While we think of VHF FM as a short-range mode, John made several QSOs in the 250 to 300 mile range.

There were several stations closely bunched after. KM4KMU. W3HDB entered his first VHF/UHF contest, and made QSOs on four bands, one of the keys to being successful in VHF/UHF contests.

Getting locals interested in contesting through FM is one of the objectives in having this category, so don't ignore the FM frequencies, particularly when you have worked out the weak signal portion of the bands. Also, it doesn't hurt to put out the word in your local club that there is a contest with a category especially for those who don't have SSB/CW capability. While FM-only is not traditional VHF/UHF contesting, it does serve as a good introduction to contesting for beginners and demonstrates to newcomers that two meters has more interesting activities than what is supported on the local repeater.

Single Operator Portable (SOP)

Single Operator, Portable	
WA7JTM	8,646
WD5AGO	7,424
KK4BZ	5,544
KF7NP	5,211
W7JET	4,375
AA6XA	3,703
W4RXR	3,596
WK9U	3,105
N3YMS	2,420
K7TEJ	992

WA7JTM regained his number one spot in the SOP category after slipping to number 2 last year. Peter not only is a great operator, having honed his skills with over 40 years of multiop experience on mountain tops in the Southwest, but he also coordinates a Summits on the Air (SOTA) summit-to-summit activity among Arizona SOTA operators to coincide with the VHF/UHF contest on Sunday morning. This significantly increases VHF/UHF activity at a typically slow time. Most of the SOP operators, although running QRP levels, have multiple bands, some six or more, and they all know the value that even a 23cm FM handie-talkie can bring to the contest. You haven't experienced contesting until you have tried to work a pileup on 1296 MHz FM!

WA7JTM on SOTA Peak W7A/MN-119 in Arizona on his way to winning the SOP category. Peter hauls a complete 40-pound six-band station to the summit, complete with Yagis for each band. (Photo by WA7JTM)

While Arizonans dominate the SOP category, WD5AGO, despite no 6M Es and very poor tropo conditions, put in a solid second place finish from Oklahoma, due in large part to significant rover activity on the microwave bands in Oklahoma. KK4BZ also cracked the Arizona grip on the SOP, due in large part to significant 6M activity, although he braved cold weather and tough operating conditions. Being an outside activity, the SOP category is more affected by cold weather than most.

The KF7NP SOP antenna farm on W7A/MN-125 in Arizona. This simple antenna system, carried on his back up the summit, put Burke in the top 10 SOP. Note the PVC Armstrong rotator. (KF7NP photo)

KF7NP was close behind KK4BZ. Burke leveraged the growing rover activity in Arizona for a third of his QSOs. W7JET put in a solid 6- band effort to finish fifth.

AA6XA, operating from Loma Alta (W6/NC-350) in Marin county for the third year, finished sixth and lamented the lack of 902 MHz activity. Although he had the transverter and antenna, there was no one on to give him QSOs. W4RXR was close behind AA6XA while operating on five bands (no 23cm) from EM65. WK9U operated on 6M only (single band entries are unusual in this category), to finish in 8th place.

This is AA6XA on his way to Loma Alta (W6/NC-350) and a top ten finish in the SOP category. (Photo by AA6XA)

And this is the six-band station he carried two miles up the mountain in his backpack! (Photo by AA6XA)

Single Operator 3 Band (SO3B)

Single Operator, 3 Band	
KO9A	45,480
W3ATV	16,368
NU6S	12,704
W5TRL	11,570
N3AAA	10,850
VA3ASE	10,488
K1HC	9,625
VE3SST	9,288
N7IR	7,263
K5VIP	6,254

KO9A set a new SO3B all-time January contest record on his way to dominating the SO3B category. Sunday morning proved productive, as he leveraged both good meteor scatter conditions and some enhanced 2M tropo. He also spent most of the contest operating, putting in 29 hours total, so there wasn't much activity or many openings he would miss.

Todd, K3FR, put in a respectable SO3B showing in the contest with this indoor antenna stack. This shows that you shouldn't let antenna restrictions deter you from VHF/UHF contesting. Lest one think that DX can't be worked with indoor antennas at VHF, Todd put VO1SIX in the log (about 1200 miles distant). The use of FT8, in addition to being a weak signal mode, has also improved contesting for those with antenna restrictions. (Photo by K3FR)

W3ATV leveraged a few Es openings on 6M, one of the few ops in the contest to get some propagation, to finish second. NU6S was able to finish third on a good effort from the West Coast. W5TRL finished fourth, narrowly edging out N3AAA. N3AAA fought bad weather, rising SWR and RFI, due to icing and heavy snow, to finish fifth. Fortunately, the bad weather subsided on Saturday afternoon to allow Art to make a few QSOs and work a few more multipliers.

VA3ASE was close behind N3AAA in only his second VHF contest entry. Alex used FT8, SSB and FM to good advantage, to go where the QSOs were. K1HC finished 7th and wished for more CW activity, suggesting it may be time to consider allowing a QSO per mode, per band, rather than a single QSO per band. He celebrated his single CW

QSO with W1FM. VE3SST managed an 8th place finish, closely behind K1HC. N7IR, with his best effort in almost 10 years, finishing ninth, crediting the Arizona rover swarm and visitor N6GP/r for the high score. K5VIP finished 10th on a 100% search-and-pounce effort from Virginia with no 432 MHz QSOs.

The SO3B category is the second most popular category, behind Single Operator Low Power, and has grown significantly in popularity since its inception. It is ideally suited to those with the popular "DC-to-Daylight" transceivers. If you are enjoying the SO3B category, you may wish to consider adding other bands to explore further the possibilities that VHF/UHF offer.

Single Operator, Low Power (SOLP)

Single Operator, Low Power	
AF1T	88,580
K2DRH	70,470
WA3NUF	42,940
NR2C	37,733
NF3R	26,964
VE3DS	21,576
K5TRA	18,081
N7VD	16,646
W3KM	16,590
WA2VNV	16,320

The SOLP category, and the operators who participate in it, is the backbone of VHF/UHF contesting. It has the largest number of participants in most contests, and this running of the January VHF contest was no exception, with 495 logs submitted, almost half of the participants. Needless to say, competition can be tight.

AF1T edged out K2DRH to finish first. Dale uses the microwave bands to great advantage, both to his scores and to others'. Dale ran all bands through 24 GHz, spent effort to work the rovers who were equipped with the microwave bands, and spent a lot of time, 22 hours in all, pursuing contacts. He was aided by some Sporadic-E on Saturday night and Sunday morning.

K2DRH finished second despite the worst tropo conditions he has experienced for the January contest. Although he has a quite capable microwave station, there were few other stations on with similar capabilities to take advantage of it; and it was difficult to work the ones that were there. He added that there was additional difficulty in moving stations from band-to-band, due to the widespread FT8 activity and those operators who are unfamiliar with VHF/UHF contesting protocol. One can hope that this situation will get better over time.

KK6ZLY is grinning from ear to ear after his first 6M QSO ever. Alex and KQ6BN ran a socially-distanced activation of Mt. Diablo. (Photo KK6ZLY)

WA3NUF put in 22 hours of operating in an eight-band effort to finish in third place. He also noted the lack of SSB/CW participants and the resulting difficulty in moving stations from band-to-band.

NR2C overcame difficulties with his logging program to finish fourth, not far behind WA3NUF He also made a valiant in-contest effort to get on FT8 to work a New Zealand station that was spotted during a short DX opening. NF3R finished fifth, despite operating only five bands. VE3DS worked through the lack of rovers in his area and searched out the fixed stations to finish sixth under highly variable conditions. K5TRA used the high rover activity in Texas to combat poor propagation to finish seventh. Likewise, N7VD used the Arizona rovers in addition to the high SOTA activity to finish in seventh place, a good finish from the Southwest for January.

Single Operator High Power (SOHP)

Single Operator, High Power	
K1TEO	347,156
K1RZ	182,004
N1AV	126,232
W5ZN	110,745
W3SZ	77,972
N3RG	75,591
WZ1V	61,256
W3IP	55,428
WD9EXD	42,763
W3SO (W3XOX, op)	42,506

K1TEO increased his score over last year to finish way ahead of the pack in first place. He was one of the fortunate few who had Es both days, although tropo was poor. He has also implemented operating FT8 on 6M while operating other bands, a good way to take advantage of the new mode. Jeff was able to get a few stations to QSY up the bands on FT8, at least to 222 and 432, so let's hope that trend continues and expands.

K1RZ, finishing second, experienced average conditions. Dave worked 10 bands and contacted eight rovers to make his score. N1AV made a personal best score in the January VHF contest, despite not making any QSOs on 5.7 GHz. He will be adding 5.7 GHz, which is on the station preparation list for June. Jay reported exactly 12 minutes of Es for the entire contest, but the seven rovers out and about in Arizona made up for it. This is a good effort for SOHP from this part of the country. Jay is one of those stalwart ops who works the entire contest, finding meteor scatter or EME to keep him occupied in the wee hours.

W5ZN took advantage of the large number of rovers in Texas and Oklahoma and, that's right, no equipment problems, to finish fourth. Joel reported only a brief Es opening, but good meteors Sunday morning made up for it. Joel thought he lost an inordinate number of FT8 QSOs that could have been made on FT4 and wishes people would migrate to that mode for most of the contesting digital activity. That is good advice.

NØLL's normally dominating signal and contest performance was crippled by the Kansas wind removing half of the reflector on his 6M beam just before the contest. Although Larry still participated, this stifled his 46 year dominance of the Kansas section and Midwest Division of the January contest. (Photo from NØLL)

W3SZ finished fifth with a 10-band effort. WZ1V finished sixth and reported no enhanced propagation. He had Murphy visit twice, each time disabling a switching power supply. W3IP reported that it was a joy to work the contest without having to deal with antennas and rotors handicapped by ice. He also reported good meteor scatter conditions Sunday morning, with activity the best he has seen outside of a major meteor storm. W3SO ran as a single op station instead of their usual multioperator effort as Covid-inspired social distancing had robbed them of the opportunity to operate together.

Limited Multioperator

Limited Multioperator	
N2NT	119,647
K8GP	96,390
K5QE	70,350
W2MMD	26,928
VE3MIS	26,166
WA3EKL	13,860
N3EXA	11,092
WB4WXE	5,535
WO1S	3,024
K4MM	2,516

N2NT overcame problems with their 6M amp and higher than normal reflected power on the 2M array, to finish atop the Limited Multioperator category. They were fortunate enough to have a few 6M Es openings and good meteors on Sunday morning, as others have also reported.

K8GP put in a strong effort to finish second, despite flat-to-depressed conditions. Like others, they had a few short Es openings and no tropo. They were able to use FT8 to work into VE3 land and North Carolina on 222 MHz and 432 MHz, QSOs which would not have been completed without FT8. They worked 180 FM QSOs, taking advantage of KM4KMU's effort to get FM ops active to work him for his SOFM effort.

K5QE overcame some terrible local QRN to take third place. W2MMD finished fourth, narrowly edging out VE3MIS. VE3MIS experienced some hardware and software issues at the beginning of the contest but overcame them to finish fifth. They implemented a combination of in-person operators at the station and operators who remoted in to deal with the social distancing requirements. This innovative approach to dealing with social distancing may find applicability to non-quarantine situations where operators cannot make it to the multi-multi station for reasons of weather, illness, and family conflicts. They also took advantage of the significant FM activity.

W8ZN operating at K8GP. He and K1RA put K8GP in the second spot for the Limited Multioperator category. Andy and Terry combined long hours, multiple FM contacts, MSK144, FT8, as well as SSB/CW to deal with otherwise flat conditions. (Photo by K1RA)

The antenna farm used at K8GP. Note the K8GP rover vehicle antennas and masts used for fixed operation. (Photo K1RA)

WA3EKL did a two band, 6M and 2M, effort to take sixth place. They also struggled with poor conditions.

Unlimited Multioperator

Unlimited Multioperator	
N2JMH	102,492
N8GA	70,755
N2WK	66,963
N4QWZ	51,993
W4ZST	46,417
WA3EHD	44,304
KD2LGX	40,710
KA1SU	7,014
KC5MVZ	1,656
W2RME	1,334

N2JMH, along with K2TER, teamed up and operated nine bands to take first place. They spent some time shaking down the new station at the beginning of the contest and encountered the usual new-station-in-a-contest issues; RFI, grounding issues, and failed things on the tower with weather too bad to fix them.

N8GA took second place with a five-band effort. N2WK and WA2TMC reunited as a team after 22 years operating separately to take third place with a nine-band effort. They noted that conditions were down from previous years and that allowed them to take time out to watch the Bills NFL game.

N4QWZ teamed up with WM5Z to finish fourth in a six-band effort. NX9O joined W4ZST to finish fifth with a little help from an Es opening Sunday midday to the Midwest. KD2LGX with N2IK finished seventh with a two-day effort with 2M EME that included a VK QSO. Upon switching to the FT8 mode, the amplifier power supply died in a cloud of smoke. I guess Murphy prefers EME to FT8.

KA1SU with WB1QV and N1GHE operated seven bands with four modes to take 8th place. Their 12-hour effort shows that contesting can be fun and productive without knocking oneself out.

Classic Rover

Classic Rover	
N6NB/R	281,232
K2EZ/R	265,580
N7GP/R	169,533
K6VHF/R	55,743
KJ7JC/R	52,700
N7OW/R	39,468
W2EV/R	36,200
AG4V/R	35,000
WA6IPZ/R	28,512
NN3Q/R	27,216

In the Classic Rover Category, contention for top spot was intense with perennial Classic Rover leader N6NB/R narrowly edging out K2EZ/R by a little over 15,000 points, the difference largely being N6NB making a significant number of QSOs on frequencies above 3.7 GHz - all the way to 123 GHz! While Covid-19 was intense in California with travel restrictions, Wayne still managed to plan routes for several rovers and furnish them with his 10-band toolbox stations. This time three of them were also equipped with the 123 GHz band.

N6NB added 123 GHz transceivers from VK3CV and VK2XAX for another band to his already formidable rover to make 12 bands total. and finished with the second highest score overall. (Photo from N6NB)

It is worth noting that Wayne's score was the second-highest overall in the contest across all categories!

K2EZ roved in Oklahoma and Texas and connected up with rovers from both states in addition to independent roving. In the 5 years since she began roving seriously, K2EZ has consistently improved her Rover station, and it shows with her competitive score. N7GP/R put in a great effort from Arizona to finish third with the highest point total ever from Arizona in the Classic Rover category. K6VHF/R, KJ7JC/R, and N7OW/R, in fourth, fifth, and sixth positions respectively, also roved in Arizona; a sign of not only of increasing rover activity in Arizona, but of increasing VHF/UHF activity in general in Arizona. For many years, Arizona only saw one or no rovers in the January contest.

K6VHF/R is one of the growing number of Arizona stations, both rovers and fixed, finding that 10 GHz is a good way to increase one's score. Here, Alex is in QSO with N1AV from DM44 on his way to a Top Ten Classic Rover placing. (Photo from K6VHF)

K6VHF/R, who has roved in the unlimited category in the past, made his debut venture as a Classic Rover and did well. The Rovers in Arizona, known informally as the Rover Swarm, produced high scores not only for themselves, but also for the fixed stations and portable stations in Arizona. W2EV/R reported that the weather was nice up until the contest started, then pow, winter hit. WA6IPZ roved in southern California meeting up with N6NB/R at one grid corner to finish in ninth place.

Limited Rover

Limited Rover	
KA5D/R	42,883
W5TN/R	39,216
N6GP/R	19,228
K5ND/R	14,036
WB8LYJ/R	9,028
NV4B/R	8,083
KC7OOY/R	7,353
KM4OZH/R	6,592
KEØMHJ/R	4,500
AF1R/R	4,379

KA5D/R took first place in the Limited Rover category, roving in Texas. W5TN/R finished second, activating 10 grids and driving 644 miles in the process. A rover has to put on the miles to make the points in the wide-open West.

KI7OFL/R in the rare Southwest Arizona grid DM31 on the AZ/Mexico border. This was the start of a six-grid rove across southern Arizona. (Photo KI7OFL)

N6GP/R took third, roving in the LA Basin on Saturday and putting up a personal best for the January contest, both in points and placing in the top ten on the basis of QSOs on Saturday alone! The contest was about the same day as the peak in Covid-19 in Orange County, CA which made for light traffic and the ability to get from one operating point to another in the LA basin a lot easier than on a "normal" weekend. But Tim wasn't done and drove over to Arizona on Sunday to work the Arizona bunch and hook up with the Rover Swarm.

K5ND/R finished fourth, activating 11 grids in the process. Except for one CW and one SSB QSO, all of his QSOs were on FT8 or MSK144. More and more rovers are using the digital modes. WB8LYJ/R finished fifth, activating five grids and overcoming windy conditions which forced him to keep the antennas low. NV4B/R finished sixth, visiting 10 grids in the process. Art had some Es openings, but poor tropo conditions.

KEØMHJ/R, in what he called a "casual" rove, traveled 460 miles to activate 8 grids, finishing ninth. Rex is trying to rove more, hoping to become a regular. AF1R/R finished 10th, making all of his QSOs on SSB in 6 grids.

As K5SRT illustrates, when everything comes together for a rover, it is a cause for celebration. The TXRovers obviously had weather most of us do not associate with the January contest. (Photo by NØLD)

Unlimited Rover

Unlimited Rover	
K5SRT/R	194,590
NØLD/R	189,472
K6MI/R	105,300
KD5IKG/R	74,475
KG6CIH/R	9,744
AE5P/R	9,600
N6RH/R	9,420
KT5TE/R	8,700
KE6QR/R	7,967
KI6ARW/R	4,602

The Unlimited Rover category was created in 2008 to provide a place for "anything goes" rover competition, specifically, few if any restrictions on grid circling. For many years after its establishment, it was not used much for that, but in recent years it has begun to realize its initial promise. This year, nine out of the top ten Unlimited Rovers operated in groups. I think that is a good trend. The OKRovers and the TXRovers used the Unlimited Rover category rules to put together Texas Rover Convergence 2021; a gathering of seven rovers at the grid convergence near Hico, TX, resulting in some spectacular scores.

The OKRovers group, from left NØLD, KBØYHT, KG9DUK, WØHGJ, and Ross. The Oklahoma rover group is quite active and since its inception has put all of the Oklahoma grids on the air. (Photo courtesy of NØLD)

K5SRT/R roved with KG9DUK to finish first in the Unlimited Rover category, edging out NØLD/R to win the TX/OK Red River rover rivalry for TX. K5SRT/R activated 12 grids, operating on 9 bands. NØLD/R traveled to Texas on Saturday to the Hico convergence and activated the eastern 3 grid corners of OK on Sunday. K6MI/R finished in third place, activating 7 grids. This was the first outing for his 11-band rover station and it worked flawlessly. He has previously roved with a 10-band loaner station.

KD5IKG roved from Oklahoma to south Texas through 10 grids in conjunction with the OKRovers and TXRovers to take fourth place.

KG6CIH/R activated four grids on 13 bands including light to place fifth operating only SSB and CW. He reported that two of his favorite sites were not available, one having been marked "No Parking" since the last time he was there and the other was too crowded. This is always a potential problem to rovers, and a reminder that having a Plan B or checking out the sites a week before is a good idea. Even with 13 bands, Chris is planning on adding a new one(s) for future contests. Thinking big is one key to success for rovers. On the other hand, starting small worked for first-time Rover KJ5WJW.

KG5WJW/R's simple setup shows that you can have fun, make contacts, and enjoy contesting without going overboard. (Photo from KG5WJW)

AE5P/R, N6RH/R, and KT5TE/R all operated on four bands from the same six grids to finish closely together in fifth, sixth, and seventh places. KE6QR/R and KI6ARW/R operated on four bands from the same four grids to finish ninth and tenth.

Pat, N4GLE/R and Christopher, NV4B/R operating from atop Woodall Mountain, EM54vs, the highest point in Mississippi. (Photo by NV4B)

The Records

All Time Records by Category

Call	Score	Category	Year Set
N6NB	2,202,200	R	2005
KI6UZV/R	113,544	RL	2009
W6YLZ/R	395,760	RU	2009
K3EAR (K9PW, op)	541,918	SOHP	2007
W3SZ	186,415	SOLP	2013
N6NB	179,424	SOP	2015
KO9A	**45,480**	**SO3B**	**2021**
KM4KMU	**17,404**	**SOFM**	**2021**
K3EAR	355,350	LM	2005
K3EAR	944,064	UM	2004

There were two new records set in the 2021 January VHF contest. KO9A used the good meteor scatter conditions, coupled with MSK144 to set a new SO3B record. He was also fortunate to have some weak and on-again-off-again Es. Along with setting the all-time record, it was the best January contest

he had ever entered. It is good when a record can be set and coordinate with one's impression of the contest.

KM4KMU set a new record for the SOFM category. John has worked hard for this, honing his station to be optimum for FM operation and selecting a site (appropriately named Freeze Land Road) that has good coverage in the middle of a high amateur population area, most all of whom have at least two-band capability. He also spends a lot of effort sending out announcements and 400 e-mails to let people know he will be on. This gets a lot of people on FM, and this benefits not only John, but other contest stations in the area, many who noted that they worked more FM stations in this contest than in other January contests.

When planning your contest operations, it is good to consider what records are in place for your Division and Section. This will give you a good idea of what to expect when operating and setting a new Division of Section record, and is a good goal to keep one motivated during those slow times in the contest. Many records were set during years with good propagation, but there are a lot of records, particularly in the SO3B, SOFM, and RU categories that are within easy reach of modest stations.

Club Competition

Club	Score	Entries
Unlimited		
Mt Airy VHF Radio Club	1,391,631	61
Medium		
Arizona VHF Society	529,797	14
Rochester VHF Group	407,388	22
Southern California Contest Club	347,510	19
Potomac Valley Radio Club	297,386	50
North East Weak Signal Group	253,995	20
Society of Midwest Contesters	197,589	26
Roadrunners Microwave Group	115,498	4
Pacific Northwest VHF Society	108,173	30
Fourlanders Contest Team	101,020	15
DFW Contest Group	87,338	7
The Ontario VHF Association	72,094	8
Northern Lights Radio Society	59,684	17
Yankee Clipper Contest Club	48,984	17
Contest Club Ontario	44,790	16
Northern California Contest Club	43,768	17
Frankford Radio Club	40,561	13
Michigan VHF-UHF Society	40,332	4
Gloucester Co ARC	31,600	6
North Texas Microwave Society	29,022	4
Northeast Maryland Amateur Radio Contest Society	20,943	6
Arizona Outlaws Contest Club	17,668	9
Carolina DX Association	15,056	8
Badger Contesters	13,429	3
Florida Weak Signal Society	13,367	3
Florida Contest Group	10,650	11
Texas DX Society	10,596	6
Mad River Radio Club	9,725	5
Minnesota Wireless Assn	7,974	9
Hudson Valley Contesters and DXers	5,077	5
Downey ARC	4,614	3
Alabama Contest Group	4,228	3
New Mexico VHF Society	3,937	4
South Jersey Radio Assn	3,438	8
Tennessee Contest Group	3,253	4
Wayne County Amateur Radio Club	3,234	3
Six Meter Club of Chicago	2,625	4
Contoocook Valley Radio Club	2,270	3
Willamette Valley DX Club	1,784	3
Swamp Fox Contest Group	1,343	3
South East Contest Club	918	3
Grand Mesa Contesters of CO	687	3
Local		
Stoned Monkey VHF ARC	50,840	5
Chippewa Valley VHF Contesters	27,460	5
Bergen ARA	8,310	6
Bristol (TN) ARC	5,919	3
Meriden ARC	2,428	3

The club competition is one of the few factors in VHF/UHF contesting that correlate well to individual contest activity. Thus, when the club competition is healthy, so is the individual competition, and vice versa. If you don't belong to a

club you can submit your score with, try to find one or start your own. One of the best things you can do to increase contest activity is to join a club and submit a log for the club competition.

The Mt. Airy VHF Radio Club, better known as the Pack Rats, took the Unlimited Club category. This happens so often it seems like a tradition. They are effective in turning out VHF contest participation and it is no easy feat to get 50+ members to turn out for the January contest.

The Arizona VHF Society, started just two years ago, entered the club competition in a big way, taking the top spot in the Medium Club category over the strong traditional contenders in this category. The combination of developing rovers with capabilities on as many bands as possible, a few strong multiband fixed stations, and experienced contesters has made this possible.

The Stoned Monkey VHF ARC took first in the Local Club category. They have long competed successfully in this category, a tribute to their dedicated members.

Use of Digital Modes, FT8 in particular, increase activity in the January VHF Contest

When the SNR is high, it's time to QSY!

The use of the digital modes, in particular FT8, has changed the January VHF Contest landscape. The significant changes include an uptick in 50 MHz activity, a major uptick in overall log entries, a shift away from the legacy CW and SSB modes on 50 MHz to the digital modes, an uptick in 144 MHz activity after an initial drop, a drop in 222 MHz and 432 MHz activity (although this appears to be recovering), an increase in multipliers, and less moving people from one band to another after an initial QSO has been made. Some of these impacts are good, notably the increase in contest activity; and some are bad, the increased difficulty in moving people from one band to another.

After years of concern for stagnant or declining activity in the VHF contests, it would seem like the increase in activity would be welcome. It, however, is a mixed bag, with both pluses and minuses to the new activity. One obvious minus to the use of FT8 is the lower rate of QSOs achievable. For many, particularly HF converts to VHF/UHF contesting, the contest is all about rate, and with FT8, the rate isn't there. When the band is not open, there isn't much difference in rate between working stations on FT8 or working them on the analog modes. Once you deplete the stations that can be worked easily on the analog modes, the QSOs come hard. When the band is open, if there are stations on, rates can soar beyond what is capable on FT8. The rate problem is not so bad for the use of FT4, where contest QSOs can be made about as fast on as on CW. Of course, people need to get on and use FT4, which they have been reluctant to do.

FT8 is a fully formed mode. There are not likely to be further developments to the software. So, putting off learning how to send free-text messages while hoping for a future release of FT8 that incorporates an automatic feature as an easier way to send "QSY?" messages will not advance your capability.

A new digital mode, Q65, is on the horizon. This promises to make the heretofore difficult scatter modes, like ionoscatter and troposcatter near the QSY peaks, accessible to modest stations. This mode potentially offers as much improvement to modest stations as did FSK441 and MSK144.

Things to do to counteract the potential negative aspects associated with the use of digital modes:

1. Use FT4 instead of FT8 in contests. One can make a QSO with FT4 twice as fast as with FT8 and almost as fast as with CW.
2. Go to SSB or CW when the SNR is high. Rates will be higher; sometimes much higher, on these modes. There is a movement to have everyone go to SSB or CW frequencies on the hour to get legacy mode activity going. This is a good idea.
3. Learn how to use the TX Macros to send free-text messages to QSY to other bands. Learn to pay attention to the waterfall to see these messages.
4. When there are strong local stations, they should use the same sequence to avoid

interference. Also, stations running FT8 should watch their drive level and make sure their speech processor is off so that they do not splatter and cause further interference to locals.

5. Encourage casual contesters to use the FM, SSB, and CW modes when the SNR warrants it.

While the total number of QSOs made in the January contest has increased since the introduction of FT8 in 2018, the digital modes have accounted for the bulk of this increase. While the legacy modes (FM, CW, and SSB) make up a smaller fraction of the total QSOs than do the digital modes, the legacy modes were in decline prior to the introduction of the digital modes. Digital modes were only tracked separately starting in 2017, so data is not absolutely conclusive, but the trends are clear. MSK144 was first used in the January contest in 2016, FT8 in 2018. Table 1 and the plots in Figures 1 and 2 show the impact.

Distribution of Logs with digital QSOs by year				
Year	**Total Logs**	**No Digital**	**Any Digital**	**100% Digital**
2015	648			
2016	678			
2017	644			
2018	742	500	242	57
2019	918	392	526	196
2020	942	400	542	207
2021	1195	500	695	329
Note: Submitted logs are not required to specify mode, thus digital QSOs may be recorded as phone QSOs, so the "No Digital" data should be viewed with caution. The "No Digital" numbers given are an upper bound; the actual numbers of operations with no digital QSOs are probably less than what is shown.				

Table 1: Logs with Digital QSOs by Year

As shown in Figure 1, the total number of contest QSOs made in the January contest has increased since the introduction of FT8 in 2018. Digital modes have accounted for the bulk of this increase. While the legacy modes (FM, CW, & SSB) modes make up a smaller fraction of the total QSOs than do the digital modes, the legacy modes were in decline prior to the introduction of the digital modes. Digital modes have only been tracked separately in the contest databases beginning in 2017, so the data before that point is inconclusive, although at that time most of the digital was FSK144 and the JT65 modes. These modes have had a big impact on contest scores, but it is not as obvious as with the use of FT8. For example, two-meter grid counts of 100 or more are routinely made by well-equipped EME stations, while even high power stations with good terrestrial antennas seldom, if ever, approach that number. Similarly, meteor scatter has increased grid counts due to the use of FSK441 first, and later MSK144. There appears, however, to be little or no complaint about this impact of digital modes on the January VHF contest. It is less obvious when operating the contest, but it is obvious in the results.

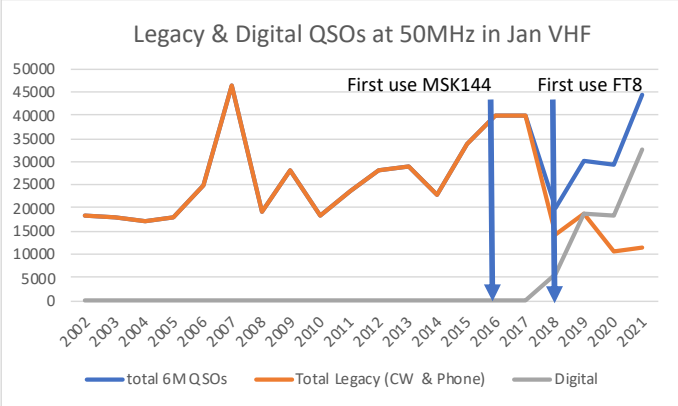


Figure 1 *While the total number of 50 MHz contest QSOs made in the January contest has increased since the introduction of FT8 in 2018, the digital modes have accounted for the bulk of this increase. While the legacy modes (FM, CW, & SSB) modes make up a smaller fraction of the total QSOs than do the digital modes, the legacy modes were in decline prior to the introduction of the digital modes, but the drop appears to have accelerated. Digital modes have only tracked separately beginning in 2017.*

As can be seen in Figure 2, it was apparent during the first year or two, that 6M FT8 activity took away activity from the higher bands, presumably due to

the newness of QSYing to other bands in a new mode. 144 MHz activity has begun to pick up, though; and after an initial decline, 222 MHz and 432 MHz activity have increased and leveled off a bit.

Activity on the microwave bands, 902 MHz and above, has been little affected since the introduction of the digital modes; but it does show a gradual decline from the early 2000s. There is a corresponding decline in the multioperator entries over that time period as well. The multioperator stations have long been a bastion of microwave activity. Microwave activity also tracks with participation in the Classic Rover category.

It should be noted that activity on all bands was level or in a slow decline prior to the introduction of FT8 with the exception of those years when there was widespread Es.

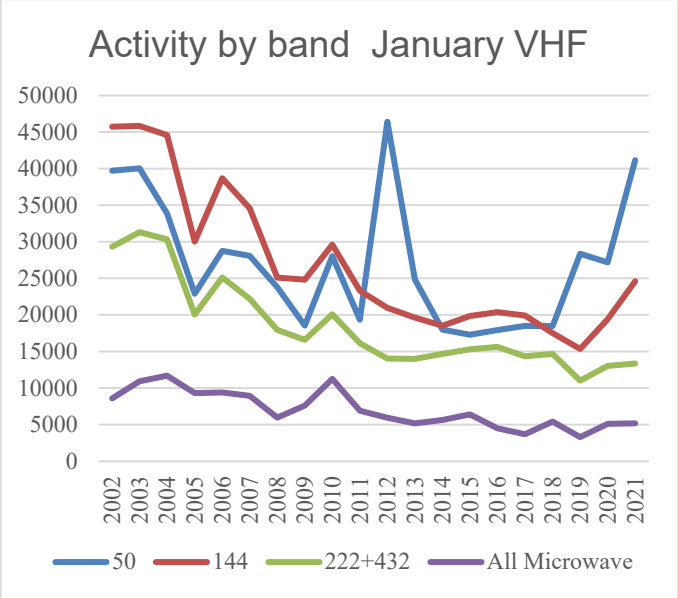


Figure 2 *While 6M FT8 activity originally took away activity from the higher bands, 144 MHz activity has begun to pick up. However, activity on all bands was in a slow decline prior to the introduction of FT8.*

KM4KMU started me thinking on these analyses and assembled much of the initial data; and I appreciate his input.

Reflections on the January VHF Contest

The complexion of the January contest has changed significantly over the past five years. Some of these changes are subtle, some are not. The most obvious is the widespread adoption of the digital modes, particularly FT8, and the changes that has brought about. I have discussed the impact of FT8 in more detail above.

One of the less noticed changes, or at least not so much talked about issues, is the increase in the number of meteor scatter QSOs being made. This is difficult to track exactly, as there is no requirement to put mode in the log, but in reading soapbox and https://3830scores.com comments there are a lot more people talking about making meteor scatter QSOs these days than there were five years ago; and there were more five years ago than 15 years before that. This correlates well with the introduction of MSK144, the first meteor scatter mode capable of relatively rapid contest QSOs, and before that FSK441. Now, meteor scatter QSOs are available to modestly equipped 6M and 2M stations.

One thing I noticed, and it was evident in the comments of many operators, is the synergy between the operators in different categories helping each other. This was apparent in the East, with KM4KMU's effort to turn out FM stations for his SOFM effort also resulting in numerous other fixed stations making more QSOs than they normally would, in some cases lots more. K8GP reported making 180 FM QSOs as a result of KM4KMU's turn-out-the-FMers efforts. A few other stations in the neighborhood reported similar results with the FM turnout. And, with the contest expertise and equipment, some FM QSOs were made at significant distances, at least for FM. The second example of synergy in the contest is the rovers and SOP ops in Arizona. Each gave the other, and fixed stations, a target-rich opportunity. The point is, I think, to pay attention to what others are doing outside your category; it may benefit you as well.

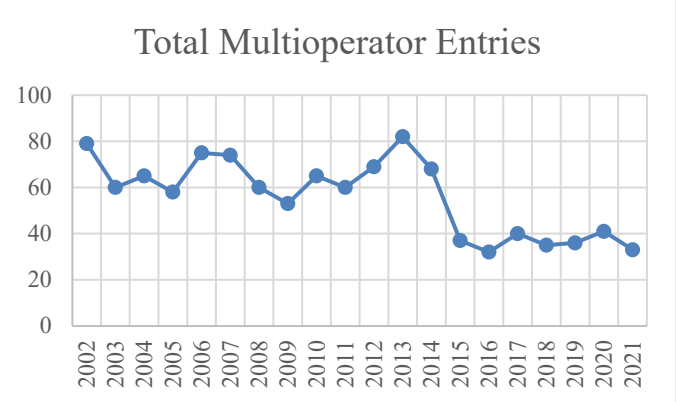
It was good to see the rovers out in force. Part of that was the good weather over most of the U.S. and I suspect that part of it was the desire to get out and about after being cooped up with the Covid-19 quarantine. More rovers were roving in groups,

which, if it increases activity and they work others outside the rover group, is a good thing. This is a significant change from 10 to 15 years ago, when such activities were the subject of much controversy and looked down upon by some.

For many years it was common to see complaints of stations, strong or not, hogging the calling frequency. Admonitions were made to newcomers not to get on and stay on the calling frequency. That concern has been largely replaced by the concern and complaints about everyone crowding into the 3 kHz default FT8 working frequency band.

CW QSOs are way down, largely because CW has been replaced as a weak signal mode by FT8. Unfortunately, FT8 cannot replace one of the very useful functions of CW: working SSB stations when the CW station is too weak to make a SSB contact. It was not too long ago that we had a boom in CW activity due to the influx of HF contesters getting new high-performance radios with 6M capability. CW activity has now regressed to low levels.

Since the Rover category was split into three in 2008, there has been an exodus away from the Classic Rover category but it appears that has stopped and the levels of activity between the Limited Rover category and the Classic Rover category are pretty much even. The Unlimited Rover Category is finally attracting the groups of rovers who grid circle as it was initially intended to do. The unfortunate thing is that these scores cannot be counted towards club scores and the club competition drives individual participation. Perhaps this will change.



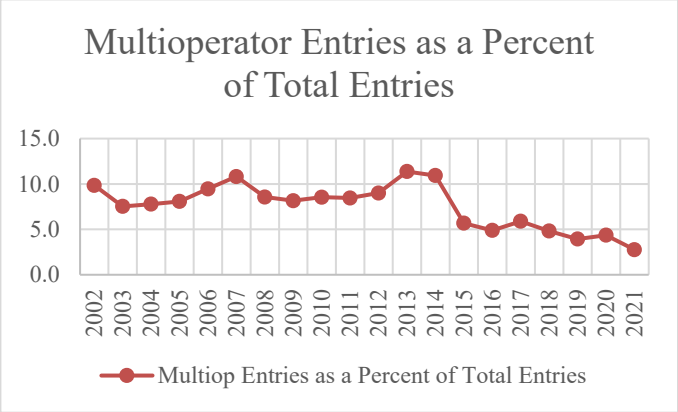


Figure 3 *Multioperator stations in the January VHF Contest have been declining over the past 20 years, both in terms of actual numbers, top plot, and in terms of percentage of total entries, lower plot. The decline in the past six years is particularly distressing.*

Lastly, there has been a decrease in multioperator stations, both in actual numbers and in the percentage of total entries over the past 20 years. Although the actual numbers of multioperator stations have leveled off after a high eight years ago, the trend in the percentage drop is particularly distressing, as shown in Figure 3. Much of that can be explained by the increase in the various single operator entries. With the multioperator stations generally having loud signals from rare or semi-rare locations, they are beacons as to whether the band is open and to where, and are usually on for the duration of the contest, which makes QSOs with almost everyone within reach possible. They often add QSO points and/or multipliers to many single operator entrants. If the multioperator stations continue to decline, then it will be harder for the single operator stations to make QSOs and total activity will decline. Thanks to K3DNE, Ed Kucharski for pointing this phenomenon out.

Log submission and checking

Submitting a log is the last task in entering a contest. It is important to do so. Even logs with only a few entries are important to submit. It shows the sponsor the level of interest in the contest and allows them to make adjustments based on participation. It helps the log checkers do a more accurate job. It builds data for analysis of contests to

make them better. For VHF/UHF it is a database to show how many hams are on these bands and how they are utilized. This is important in the long term for keeping the bands available to us. So, if you make contacts in the contest, please submit a log.

Electronic logs in Cabrillo format are preferred. Cabrillo format is generated by most logging programs. But, if you don't have the capability to generate an electronic log, don't let that stop you from submitting a log. You can retype your paper log into the log submission page. Or, if you do not have access to a computer, submitting a paper log is OK as long as it is legible. There are volunteers who will transcribe paper logs to Cabrillo logs. If you are having problems submitting your electronic log, ask for help, either from a local contester or fellow club member, or, from the ARRL Contest Desk. Encourage the casual contesters you know to submit logs. Help them through the process if necessary.

Keeping an accurate log is important, not only so you get credit for your valid QSOs, but also so that others can get credit for the QSO as well. Be sure to log duplicates. You may have gotten the call wrong the first time around, or the other guy may have gotten it wrong, or it may not have gotten entered in his log. You are not penalized for dupes when you submit an electronic log. Some errors are more egregious than others. The log checking will address and correct some errors, such as consistently incorrectly recorded time, but it is best not to rely on them to do so.

Your final score as reported may be less than what you submitted. This is always disappointing, but you can discover the reasons why. A log check report is available to ARRL members after each contest. It will show where errors occurred in your log, and in the logs of those who worked you. You can use this information to make your contesting and submitted logs better. Common errors include:

- wrong time entered; check and set your computer time *before* the contest starts
- typos; it is easy to hit an "Oh" or a zero instead of a zero or an "Oh", be sure to verify logged information at the monitor before hitting enter
- errors in logging calls or grid squares; ask for fills if not sure and always use phonetics,
- failing to hit ENTER after the QSO is complete to log it, particularly if using "QSY clears entry" mode.

A Golden Log (one that has no errors), while a task that requires tedious attention to detail, is worth striving for.

Logs Submitted

Category	Entrants
Rover	36
Limited Rover	36
Unlimited Rover	16
Single Operator High Power	255
Single Operator Low Power	456
Single Operator Portable	37
Single Operator Three Band	295
Single Operator FM	36
Limited Multioperator	11
Unlimited Multioperator	12
Checklog	5
Total	**1195**

Logs Submitted by Category
2021 January VHF Contest

Summary

This was a good year for the January VHF Contest. There were a 21st Century high number of logs submitted in 2021. Rover activity was higher than usual for the January VHF Contest, as was SOP. These are good trends, and we hope that they keep up. The number of multioperator entries, both Limited and Unlimited, were down. This may be due to the social distancing considerations for Covid-19, but there is a long-term downward trend in multiop entries. This is concerning as the multiop stations provide benefits to nearly all who participate.

Take stock of what worked for you and what didn't work in this contest. Decide how to improve on what worked and reduce the impact of what didn't work.

The use of digital modes has established itself as a part of the VHF scene in general and for VHF contesting in particular. Consider adopting them for future contests. Before you dismiss these modes out of hand, give them a try. You may not like to use FT8 for example, so try FT4. The rate is faster and it requires more operator attention. There were many in this contest who used MSK144 on both 6M and 2M to take advantage of good meteor scatter conditions to work grids not readily available by other means. And there isn't much else to do on VHF at 0430 (local) in the morning! There are other modes coming down the pike, such as Q65, which promises to bring ionoscatter capability to 100W class stations, opening whole new vistas.

It is not too early to start planning for next year's edition of the contest which will be held from 1900 UTC January 15 to 0359 UTC January 17 in 2022. Put it on your calendar. Let's keep participation in the January Contest at record highs.

Top Ten Scores by Category

Classic Rover			Limited Rover			Unlimited Rover	
N6NB/R	281,232		KA5D/R	42,883		K5SRT/R	194,590
K2EZ/R	265,580		W5TN/R	39,216		NØLD/R	189,472
N7GP/R	169,533		N6GP/R	19,228		K6MI/R	105,300
K6VHF/R	55,743		K5ND/R	14,036		KD5IKG/R	74,475
KJ7JC/R	52,700		WB8LYJ/R	9,028		KG6CIH/R	9,744
N7OW/R	39,468		NV4B/R	8,083		AE5P/R	9,600
W2EV/R	36,200		KC7OOY/R	7,353		N6RH/R	9,420
AG4V/R	35,000		KM4OZH/R	6,592		KT5TE/R	8,700
WA6IPZ/R	28,512		KEØMHJ/R	4,500		KE6QR/R	7,967
NN3Q/R	27,216		AF1R/R	4,379		KI6ARW/R	4,602

Single Operator High Power			Single Operator Low Power			Single Operator Portable	
K1TEO	347,156		AF1T	88,580		WA7JTM	8,646
K1RZ	182,004		K2DRH	70,470		WD5AGO	7,424
N1AV	126,232		WA3NUF	42,940		KK4BZ	5,544
W5ZN	110,745		NR2C	37,733		KF7NP	5,211
W3SZ	77,972		NF3R	26,964		W7JET	4,375
N3RG	75,591		VE3DS	21,576		AA6XA	3,703
WZ1V	61,256		K5TRA	18,081		W4RXR	3,596
W3IP	55,428		N7VD	16,646		WK9U	3,105
WD9EXD	42,763		W3KM	16,590		N3YMS	2,420
W3SO (W3XOX, op)	42,506		WA2VNV	16,320		K7TEJ	992

Single Operator 3 Band			Single Operator FM Only			Limited Multioperator			Unlimited Multioperator	
KO9A	45,480		KM4KMU	17,404		N2NT	119,647		N2JMH	102,492
W3ATV	16,368		WG4I	948		K8GP	96,390		N8GA	70,755
NU6S	12,704		W3HDB	826		K5QE	70,350		N2WK	66,963
W5TRL	11,570		KK6OTK	810		W2MMD	26,928		N4QWZ	51,993
N3AAA	10,850		VE3RWJ	776		VE3MIS	26,166		W4ZST	46,417
VA3ASE	10,488		KJ7AXA	582		WA3EKL	13,860		WA3EHD	44,304
K1HC	9,625		KG7AZY	540		N3EXA	11,092		KD2LGX	40,710
VE3SST	9,288		N6NFB	407		WB4WXE	5,535		KA1SU	7,014
N7IR	7,263		N1TEN	392		WO1S	3,024		KC5MVZ	1,656
K5VIP	6,254		W5WGF	360		K4MM	2,516		W2RME	1,334

Regional Leaders

West Coast Region (Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NT Sections)		Midwest Region (Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections)		Central Region (Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)		Southeast Region (Delta, Roanoke and Southeastern Divisions)		Northeast Region (New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)	
Classic Rover									
N6NB/R	281,232	K2EZ/R	265,580	K9TMS/R	20,739	AG4V/R	35,000	W2EV/R	36,200
N7GP/R	169,533	KCØP/R	7,400	AA9IL/R	14,784	W5JMC/R	19,596	NN3Q/R	27,216
K6VHF/R	55,743	NØHZO/R	6,919	N9REP/R	14,420	W5VY/R	11,814	W3ICC/R	23,560
KJ7JC/R	52,700			K9JK/R	12,984	K1DS/R	196	K2ET/R	21,522
N7OW/R	39,468			VE3OIL/R	3,146			KV2X/R	12,306
Limited Rover									
N6GP/R	19,228	KA5D/R	42,883	N9GH/R	1,045	WB8LYJ/R	9,028	AF1R/R	4,379
KC7OOY/R	7,353	W5TN/R	39,216	WA9FIH/R	368	NV4B/R	8,083	N2DXT/R	3,408
KX6A/R	2,394	K5ND/R	14,036			KM4OZH/R	6,592	KA2YRA/R	1,312
K7AMB/R	2,074	KEØMHJ/R	4,500			K2JB/R	936	WS3O/R	550
AL1VE/R	1,869	AA5PR/R	3,542			WD5HJF/R	902	N6MEJ/R	208
Unlimited Rover									
K6MI/R	105,300	K5SRT/R	194,590			AE5P/R	9,600	KG6CIH/R	9,744
KE6QR/R	7,967	NØLD/R	189,472					KJ1K/R	1,062
KI6ARW/R	4,602	KD5IKG/R	74,475						
VE7AFZ/R	1,216	N6RH/R	9,420						
K7ATN/R	15	KT5TE/R	8,700						
Single Operator, High Power									
N1AV	126,232	W5LUA	17,661	WD9EXD	42,763	W5ZN	110,745	K1TEO	347,156
K7EME	41,230	WØZQ	17,628	WZ8D	39,480	W3IP	55,428	K1RZ	182,004
KE7SW	14,750	KØTPP	16,377	KB8U	33,558	W4VHF	32,076	W3SZ	77,972
K6KLY	13,288	K5LLL	15,318	KE8FD	28,321	N3MK	20,898	N3RG	75,591
K7ND	8,096	WØGHZ	10,404	VE3ZV	22,074	AB4SF	14,948	WZ1V	61,256

West Coast Region		Midwest Region		Central Region		Southeast Region		Northeast Region	
(Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NT Sections)		(Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections)		(Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)		(Delta, Roanoke and Southeastern Divisions)		(New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)	
Single Operator, Low Power									
N7VD	16,646	K5TRA	18,081	K2DRH	70,470	W4MAA	12,483	AF1T	88,580
N7EPD	10,868	WR5AY	3,120	VE3DS	21,576	WG8S	11,690	WA3NUF	42,940
K2GMY	8,370	KAØPQW	2,500	K9KLD	9,727	N3CMH	7,182	NR2C	37,733
N7RK	7,371	WB5TUF	1,815	K9MU	8,816	K4MY	4,850	NF3R	26,964
K7YO	5,668	KM5RG	1,750	KC4KK	7,670	W4RAA	4,470	W3KM	16,590
Single Operator, Portable									
WA7JTM	8,646	WD5AGO	7,424	WK9U	3,105	KK4BZ	5,544	N3YMS	2,420
KF7NP	5,211	NØSUW	320	W9SZ	559	W4RXR	3,596	WB2AMU	440
W7JET	4,375	WØKI	138	N8XA	260	AB4DX	608	KQ2RP	84
AA6XA	3,703	KF5RRW	80	VE3IPS	120	WB1AJJ	8	WX3P	72
K7TEJ	992	NØJK	72	VA3RKM	56			WA3UOE	63
								N3YMS	2,420
Single Operator, 3 Band									
NU6S	12,704	W5TRL	11,570	KO9A	45,480	K5VIP	6,254	W3ATV	16,368
N7IR	7,263	WA5DM	2,952	VA3ASE	10,488	W4TM	5,499	N3AAA	10,850
K6RO	4,122	NØAT	2,263	VE3SST	9,288	WB2FKO	4,860	K1HC	9,625
N7QOZ	2,373	NØUR	2,170	AB8M	6,162	KO4ECD	4,116	W3FAY	5,694
KC7V	2,156	KØPHP	1,938	N8XQM	5,661	WA4LDU	3,476	N3ALN	5,460
Single Operator, FM Only									
KK6OTK	810	KG7AZY	540	VE3RWJ	776	KM4KMU	17,404	W3HDB	826
KJ7AXA	582	KG5UNK	315	VA3CBU	276	WG4I	948	VA2DG	81
N6NFB	407	NØHDR	276	W9WB	100	W5WGF	360	W3SEN	2
N1TEN	392	KØJJW	90	VE3ISO	24	KO4IUM	100		
VE6TC	150	KM5YX	40	KE8PX	6	K4NRT	24		

West Coast Region			Midwest Region			Central Region			Southeast Region			Northeast Region	
(Pacific, Northwestern and Southwestern Divisions; Alberta, British Columbia and NT Sections)			(Dakota, Midwest, Rocky Mountain and West Gulf Divisions; Manitoba and Saskatchewan Sections)			(Central and Great Lakes Divisions; Ontario East, Ontario North, Ontario South, and Greater Toronto Area Sections)			(Delta, Roanoke and Southeastern Divisions)			(New England, Hudson and Atlantic Divisions; Maritime and Quebec Sections)	
Limited Multioperator													
WO1S	3,024		K5QE	70,350		VE3MIS	26,166		K8GP	96,390		N2NT	119,647
									WB4WXE	5,535		W2MMD	26,928
									K4MM	2,516		WA3EKL	13,860
												N3EXA	11,092
												W1FM	855
Unlimited Multioperator													
			KC5MVZ	1,656		N8GA	70,755		N4QWZ	51,993		N2JMH	102,492
			KEØVKO	98					W4ZST	46,417		N2WK	66,963
												WA3EHD	44,304
												KD2LGX	40,710
												KA1SU	7,014

Division Winners

Division	Classic Rover		Limited Rover		Unlimited Rover		Single Operator High Power		Single Operator Low Power		Single Operator Portable		Single Operator 3 Band		Single Operator FM Only
Atlantic	W2EV/R		WS3O/R				K1RZ		WA3NUF		N3YMS		W3ATV		W3HDB
Central	K9TMS/R		N9GH/R				WD9EXD		K2DRH		WK9U		KO9A		W9WB
Dakota	KCØP/R						WØZQ		KAØPQW		NØSUW		NØAT		NØHDR
Delta	AG4V/R		NV4B/R		AE5P/R		W5ZN		AA4DD		W4RXR		WT4R		W5WGF
Great Lakes							WZ8D		W8DPK		N8XA		AB8M		KE8PX
Hudson			N2DXT/R				W2BVH		WA2VNV		WB2AMU		KG2H		
Midwest			KEØMHJ/R		AF4JF/R		KØTPP		WDØBGZ		NØJK		KØPHP		
New England			AF1R/R		KG6CIH/R		K1TEO		AF1T				K1HC		
Northwestern	KE7MSU/R		KC7OOY/R		K7ATN/R		KE7SW		N7EPD		K7IW		N7QOZ		KJ7AXA
Pacific	N6NB/R		WB6HUM/R		K6MI/R		K6KLY		K2GMY		AA6XA		NU6S		N6NFB
Roanoke	W8BRY/R		KM4OZH/R				W3IP		N3GLZ		KK4BZ		K5VIP		KM4KMU
Rocky Mountain			AA5PR/R				WE7L		NR7T		WØKI		KC7QY		KG7AZY
Southeastern	K4RSV/R		WB8LYJ/R				WA4GPM		W4MAA		AB4DX		W4TM		WG4I
Southwestern	W6IT/R		N6GP/R				N1AV		N7VD		WA7JTM		N7IR		KK6OTK
West Gulf	K2EZ/R		KA5D/R		K5SRT/R		W5LUA		K5TRA		WD5AGO		W5TRL		KG5UNK
Canada	VE3OIL/R		VE6CCL/R		VE7AFZ/R		VE3ZV		VE3DS		VE3IPS		VA3ASE		VE3RWJ

	Limited Multioperator		Unlimited Multioperator
Atlantic	W2MMD		N2JMH
Central			
Dakota			KEØVKO
Delta			N4QWZ
Great Lakes			N8GA
Hudson	N2NT		
Midwest			
New England	W1FM		KA1SU
Northwestern			
Pacific			
Roanoke	K8GP		
Rocky Mountain			
Southeastern	WB4WXE		W4ZST
Southwestern	WO1S		
West Gulf	K5QE		KC5MVZ
Canada	VE3MIS		

QSO/ Multiplier Leaders by Band by Category

Classic Rover	
50 MHz QSOs	
N7GP/R	148
W5JMC/R	132
N7OW/R	98
K6VHF/R	83
K2ET/R	76
50 MHz Mults	
W5JMC/R	34
W5VY/R	25
K2EZ/R	16
AG4V/R	15
N6NB/R	11
VE3OIL/R	11
144 MHz QSOs	
N7GP/R	159
K2EZ/R	102
N6ZE/R	100
N7OW/R	96
K6VHF/R	90
144 MHz Mults	
K2EZ/R	19
W5VY/R	16
AG4V/R	13
N6NB/R	12
KE7MSU/R	10

222 MHz QSOs	
N7GP/R	127
K2EZ/R	101
N7OW/R	64
K9JK/R	57
K6VHF/R	51
222 MHz Mults	
K2EZ/R	16
N6NB/R	11
AG4V/R	8
N7OW/R	7
W5VY/R	7
432 MHz QSOs	
N7GP/R	158
K2EZ/R	110
K6VHF/R	94
N7OW/R	85
KJ7JC/R	77
432 MHz Mults	
K2EZ/R	17
N6NB/R	11
AG4V/R	8
KCØP/R	7
KJ7JC/R	7
N7OW/R	7
NØHZO/R	7
W5VY/R	7

902 MHz QSOs	
N7GP/R	109
K2EZ/R	61
K9TMS/R	50
N7OW/R	46
AA9IL/R	40
K6VHF/R	40
KJ7JC/R	40
902 MHz Mults	
K2EZ/R	14
N6NB/R	11
AG4V/R	6
KV2X/R	6
N7GP/R	6
N7OW/R	6
W2EV/R	6
1.2 GHz QSOs	
N7GP/R	119
K2EZ/R	60
KJ7JC/R	56
N7OW/R	55
K6VHF/R	53
1.2 GHz Mults	
K2EZ/R	14
N6NB/R	11
KJ7JC/R	6
KV2X/R	6
N7GP/R	6
N7OW/R	6
W2EV/R	6

2.3 GHz QSOs	
N7GP/R	85
K2EZ/R	56
N6NB/R	34
KJ7JC/R	27
K6VHF/R	20
2.3 GHz Mults	
K2EZ/R	14
N6NB/R	11
N7GP/R	6
K6VHF/R	5
KJ7JC/R	5
3.4 GHz QSOs	
K2EZ/R	50
N6NB/R	34
N7GP/R	19
KJ7JC/R	14
WA6IPZ/R	12
3.4 GHz Mults	
K2EZ/R	12
N6NB/R	11
N7GP/R	6
KJ7JC/R	5
AG4V/R	4
W1TAI/R	4
W6TAI/R	4
WA6IPZ/R	4

5.7 GHz QSOs	
N6NB/R	34
WA6IPZ/R	12
NN3Q/R	8
W1TAI/R	8
W6TAI/R	8
5.7 GHz Mults	
N6NB/R	11
W1TAI/R	4
W6TAI/R	4
WA6IPZ/R	4
NN3Q/R	3
10 GHz QSOs	
N6NB/R	34
K6VHF/R	15
N7GP/R	12
WA6IPZ/R	12
NN3Q/R	8
W1TAI/R	8
W6TAI/R	8
10 GHz Mults	
N6NB/R	11
K6VHF/R	5
N7GP/R	5
W1TAI/R	4
W6TAI/R	4
WA6IPZ/R	4

24 GHz QSOs	
N6NB/R	32
WA6IPZ/R	12
W1TAI/R	8
W6TAI/R	8
K6TJ/R	1
24 GHz Mults	
N6NB/R	11
W1TAI/R	4
W6TAI/R	4
WA6IPZ/R	4
K6TJ/R	1
123 GHz QSOs	
N6NB/R	23
W1TAI/R	8
W6TAI/R	8
123 GHz Mults	
N6NB/R	11
W1TAI/R	4
W6TAI/R	4
Light QSOs	
K3EGE/R	6
NN3Q/R	3
W3ICC/R	3
Light Mults	
K3EGE/R	4
NN3Q/R	3
W3ICC/R	3

Limited Rover	
50 MHz QSOs	
KA5D/R	136
W5TN/R	136
K5ND/R	87
NV4B/R	82
N6GP/R	79
50 MHz Mults	
AA5PR/R	34
NV4B/R	33
K5ND/R	26
WB8LYJ/R	22
KC7OOY/R	16
W5TN/R	16
144 MHz QSOs	
KA5D/R	127
W5TN/R	124
N6GP/R	93
N2DXT/R	77
KM4OZH/R	73
144 MHz Mults	
WB8LYJ/R	18
KA5D/R	16
K5ND/R	14
KC7OOY/R	11
W5TN/R	11

222 MHz QSOs	
W5TN/R	103
KA5D/R	101
N6GP/R	59
AF1R/R	24
K5ND/R	23
222 MHz Mults	
KA5D/R	10
W5TN/R	10
N6GP/R	8
AF1R/R	6
KC7OOY/R	5
KM4OZH/R	5
WB8LYJ/R	5
432 MHz QSOs	
KA5D/R	121
W5TN/R	118
N6GP/R	76
N2DXT/R	43
K7AMB/R	32
432 MHz Mults	
KA5D/R	11
WB8LYJ/R	11
W5TN/R	10
N6GP/R	9
KC7OOY/R	6
KM4OZH/R	6
KX6A/R	6
1.2 GHz QSOs	
N2DXT/R	1

Unlimited Rover	
50 MHz QSOs	
KD5IKG/R	120
NØLD/R	65
K5SRT/R	63
KE6QR/R	63
AE5P/R	53
N6RH/R	53
50 MHz Mults	
K5SRT/R	15
NØLD/R	15
KD5IKG/R	12
K6MI/R	11
KE6QR/R	8
144 MHz QSOs	
KD5IKG/R	129
KE6QR/R	87
K5SRT/R	63
NØLD/R	57
AE5P/R	53
K6MI/R	53
N6RH/R	53
144 MHz Mults	
K5SRT/R	14
NØLD/R	14
K6MI/R	11
KD5IKG/R	11
KE6QR/R	9

222 MHz QSOs	
KD5IKG/R	79
NØLD/R	58
K5SRT/R	56
AE5P/R	53
N6RH/R	52
222 MHz Mults	
NØLD/R	13
K5SRT/R	12
KD5IKG/R	10
K6MI/R	8
AE5P/R	6
KT5TE/R	6
N6RH/R	6
432 MHz QSOs	
KD5IKG/R	105
NØLD/R	69
K5SRT/R	65
AE5P/R	54
N6RH/R	53
432 MHz Mults	
NØLD/R	13
K5SRT/R	12
KD5IKG/R	10
K6MI/R	7
AE5P/R	6
KE6QR/R	6
KI6ARW/R	6
KT5TE/R	6
N6RH/R	6

902 MHz QSOs	
K5SRT/R	35
NØLD/R	31
KD5IKG/R	26
K6MI/R	18
KG6CIH/R	10
902 MHz Mults	
K5SRT/R	12
NØLD/R	12
K6MI/R	7
KD5IKG/R	6
KG6CIH/R	2
1.2 GHz QSOs	
K5SRT/R	34
NØLD/R	33
K6MI/R	23
KD5IKG/R	21
KG6CIH/R	12
1.2 GHz Mults	
K5SRT/R	12
NØLD/R	12
K6MI/R	7
KD5IKG/R	5
KG6CIH/R	2
KJ1K/R	2

2.3 GHz QSOs	
K5SRT/R	56
NØLD/R	49
KD5IKG/R	19
K6MI/R	17
KG6CIH/R	9
2.3 GHz Mults	
K5SRT/R	12
NØLD/R	12
K6MI/R	7
KD5IKG/R	6
KG6CIH/R	2
3.4 GHz QSOs	
NØLD/R	39
K5SRT/R	38
K6MI/R	17
KD5IKG/R	8
KG6CIH/R	8
3.4 GHz Mults	
K5SRT/R	12
NØLD/R	12
K6MI/R	7
KD5IKG/R	5
KG6CIH/R	1

5.7 GHz QSOs	
K5SRT/R	25
NØLD/R	25
K6MI/R	17
KG6CIH/R	2
5.7 GHz Mults	
K5SRT/R	9
NØLD/R	9
K6MI/R	7
KG6CIH/R	1
10 GHz QSOs	
K6MI/R	17
KG6CIH/R	7
10 GHz Mults	
K6MI/R	7
KG6CIH/R	2
24 GHz QSOs	
K6MI/R	15
KG6CIH/R	2
24 GHz Mults	
K6MI/R	7
KG6CIH/R	1
123 GHz QSOs	
K6MI/R	7
KG6CIH/R	2

123 GHz Mults	
K6MI/R	7
KG6CIH/R	1
Light QSOs	
KG6CIH/R	2
Light Mults	
KG6CIH/R	1
Single Operator, High Power	
50 MHz QSOs	
K1TEO	315
W4VHF	278
WA2FGK (K2LNS, op)	245
W3SO (W3XOX, op)	221
WZ8D	217
50 MHz Mults	
W4VHF	101
WZ8D	101
WD9EXD	85
K1TEO	77
KØTPP	73
144 MHz QSOs	
K1TEO	239
W3SO (W3XOX, op)	192
K1RZ	166
W2KV	156
W5ZN	149

144 MHz Mults	
W5ZN	80
KE8FD	63
K2TXB	62
W3SO (W3XOX, op)	51
K1TEO	50
222 MHz QSOs	
K1TEO	78
K1RZ	63
N1AV	50
N3RG	41
W5ZN	35
222 MHz Mults	
K1TEO	32
K1RZ	22
W5ZN	21
W5LUA	16
VE3ZV	14
WZ1V	14
432 MHz QSOs	
K1TEO	107
K1RZ	75
W2KV	62
N1AV	52
N3RG	50
432 MHz Mults	
K1TEO	30
K1RZ	25
W3IP	21
W5ZN	20

N8LRG	17
902 MHz QSOs	
N1AV	30
K1RZ	24
K1TEO	24
K7EME	19
W2SJ	19
902 MHz Mults	
K1TEO	10
K1RZ	8
W5ZN	8
N1AV	7
W2FU	6
1.2 GHz QSOs	
N1AV	46
K1TEO	42
K7EME	39
K1RZ	30
W2SJ	27
1.2 GHz Mults	
N1AV	14
K1TEO	13
K7EME	12
K1RZ	11
W5ZN	9

2.3 GHz QSOs	
N1AV	24
K1RZ	18
K1TEO	15
K7EME	15
W2SJ	11
WA2OMY	11
2.3 GHz Mults	
K1RZ	8
K1TEO	8
N1AV	7
K7EME	5
N3RG	5
W2FU	5
W3SZ	5
3.4 GHz QSOs	
K1TEO	12
N1AV	10
W3SZ	9
W2SJ	7
K1RZ	6
3.4 GHz Mults	
K1TEO	8
N1AV	6
W3SZ	5
K1RZ	4
N3RG	4
W2SJ	4

5.7 GHz QSOs	
W3SZ	8
K1TEO	6
N3NGE	5
N3RG	5
WB2RVX	4
5.7 GHz Mults	
W3SZ	5
K1TEO	4
K1RZ	3
N3NGE	3
N3RG	3
WB2RVX	3
10 GHz QSOs	
N1AV	11
K1RZ	8
W3SZ	8
K1TEO	6
N3RG	4
W3IP	4
WØGHZ	4
10 GHz Mults	
N1AV	6
K1RZ	5
W3SZ	5
K1TEO	4
N3RG	4

Light QSOs	
KB3MTW	2
N3NGE	1
W2SJ	1
W3GAD	1
WB2RVX	1
Light Mults	
KB3MTW	1
N3NGE	1
W2SJ	1
W3GAD	1
WB2RVX	1
Single Operator, Low Power	
50 MHz QSOs	
NF3R	171
K2DRH	165
W3KM	164
K3TEF	144
N8RA	144
50 MHz Mults	
K2DRH	85
W3KM	54
NR2C	52
NF3R	49
WG8S	49

144 MHz QSOs	
WA3NUF	132
NF3R	121
K2DRH	101
AF1T	93
N8RA	89
144 MHz Mults	
K2DRH	48
W8DPK	34
KC4KK	31
VA3IKE	31
VE3DS	29
222 MHz QSOs	
AF1T	43
KA3FQS	33
K3JJZ	30
K7YO	25
N7EPD	25
222 MHz Mults	
VE3DS	15
K2DRH	12
AF1T	11
N7EPD	8
KC6ZWT	7
WB2SIH	7

432 MHz QSOs	
AF1T	65
K6FGV	65
K2GMY	50
N7RK	45
KA3FQS	37
432 MHz Mults	
K2DRH	21
KA9CFD	17
VE3DS	15
AF1T	13
AA9JS	8
K4YRK	8
K9MU	8
N7RK	8
WB2SIH	8
902 MHz QSOs	
AF1T	15
KA3FQS	15
N7VD	14
K5TRA	12
WA3NUF	9
902 MHz Mults	
AF1T	6
N7VD	5
VE3DS	5
K5TRA	4
W1MKY	4

1.2 GHz QSOs	
N7RK	27
N7VD	25
AF1T	19
KA3FQS	19
KC3BVL	14
N2SCJ	14
WA3NUF	14
1.2 GHz Mults	
N7VD	6
AF1T	5
N7RK	5
WA3NUF	5
K2DRH	4
K5TRA	4
K7YO	4
N2OA	4
NR2C	4
W1MKY	4
WB3IGR	4
2.3 GHz QSOs	
AF1T	10
N7VD	9
WA3NUF	9
NR2C	7
K5TRA	6
KA3FQS	6
KC3BVL	6
W1MKY	6
2.3 GHz Mults	
AF1T	5

N7VD	4
NR2C	4
W1MKY	4
K5TRA	3
VE3DS	3
WA3NUF	3
3.4 GHz QSOs	
AF1T	8
W1MKY	5
WA3NUF	5
KA3FQS	3
K2DRH	2
3.4 GHz Mults	
AF1T	5
W1MKY	4
K2DRH	2
WA3NUF	2
KA3FQS	1
5.7 GHz QSOs	
AF1T	5
W1MKY	3
NR2C	2
5.7 GHz Mults	
AF1T	4
NR2C	2
W1MKY	2

10 GHz QSOs	
AF1T	8
N9JIM	6
W1MKY	5
K5TRA	2
NØUK	2
WBØLJC	2
10 GHz Mults	
AF1T	4
W1MKY	3
N9JIM	2
K5TRA	1
NØUK	1
VE6SM	1
WBØLJC	1
24 GHz QSOs	
AF1T	2
N9JIM	2
W1MKY	2
24 GHz Mults	
AF1T	1
N9JIM	1
W1MKY	1
123 GHz QSOs	
AF1T	2
W1MKY	2
123 GHz Mults	
AF1T	1
W1MKY	1

Light QSOs	
AF1T	2
W1MKY	2
WB3IGR	2
Light Mults	
AF1T	1
W1MKY	1
WB3IGR	1
Single Operator, Portable	
50 MHz QSOs	
KK4BZ	79
WK9U	74
W4RXR	30
AA6XA	25
WA7JTM	23
50 MHz Mults	
WK9U	45
KK4BZ	21
N8XA	13
NØJK	9
W4RXR	9
144 MHz QSOs	
AA6XA	45
KK4BZ	42
W7JET	37
WA7JTM	35
KF7NP	34

144 MHz Mults	
KK4BZ	10
AB4DX	8
K7TEJ	6
KF7NP	6
N3YMS	6
W4RXR	6
W7JET	6
WA7JTM	6
WD5AGO	6
222 MHz QSOs	
WA7JTM	21
KF7NP	18
W4RXR	15
N3YMS	14
W7JET	11
222 MHz Mults	
W4RXR	6
AA6XA	5
N3YMS	5
WA7JTM	5
KF7NP	4
432 MHz QSOs	
AA6XA	31
WA7JTM	29
KF7NP	27
W7JET	22
N3YMS	16

432 MHz Mults	
KF7NP	7
WA7JTM	7
W4RXR	6
W7JET	6
AA6XA	5
N3YMS	5
WD5AGO	5
902 MHz QSOs	
WA7JTM	10
W7JET	6
WR6Z	6
W4RXR	4
N3YMS	3
902 MHz Mults	
WA7JTM	4
WR6Z	4
W7JET	3
N3YMS	2
W4RXR	2
1.2 GHz QSOs	
WA7JTM	17
KF7NP	14
W7JET	9
WD5AGO	7
AA6XA	4
N3YMS	4
N7LP	4

1.2 GHz Mults	
KF7NP	5
WA7JTM	5
WD5AGO	5
AA6XA	3
W7JET	3
2.3 GHz QSOs	
WD5AGO	9
W9SZ	1
2.3 GHz Mults	
WD5AGO	4
W9SZ	1
3.4 GHz QSOs	
W9SZ	1
3.4 GHz Mults	
W9SZ	1
5.7 GHz QSOs	
WD5AGO	12
5.7 GHz Mults	
WD5AGO	4
10 GHz QSOs	
W9SZ	1
10 GHz Mults	
W9SZ	1

Single Operator, 3 Band	
50 MHz QSOs	
KO9A	236
W3ATV	178
K3RLW	126
KE3JP	126
K1HC	114
50 MHz Mults	
KO9A	78
W3ATV	62
WB2FKO	52
K5VIP	51
KE3JP	44
144 MHz QSOs	
NU6S	120
KO9A	110
K6RO	73
N7IR	70
W3FAY	69
144 MHz Mults	
KO9A	34
N3FB	32
N3AAA	28
VA3ASE	24
KT8O	21
VE3SST	21

432 MHz QSOs	
NU6S	92
N7IR	67
K6RO	55
WB6HYH	29
NQ6X	23
VA3YVE	23
432 MHz Mults	
KO9A	8
N7IR	8
W4TM	8
W5TRL	8
N3AAA	7
1.2 GHz QSOs	
K6NR	1
Single Operator, FM Only	
50 MHz QSOs	
KM4KMU	64
W3HDB	6
W5WGF	6
WG4I	4
KG5UNK	3
50 MHz Mults	
KM4KMU	9
W3HDB	4
W5WGF	4
WG4I	2
KE3AO	1
KG5UNK	1
N1TEN	1

N6NFB	1
W9WB	1
144 MHz QSOs	
KM4KMU	156
KJ7AXA	63
VE3RWJ	49
WG4I	41
NØHDR	36
144 MHz Mults	
KM4KMU	10
KG7AZY	6
N6NFB	6
WG4I	6
KK6OTK	5
222 MHz QSOs	
KM4KMU	39
VE3RWJ	7
VA2DG	4
N1TEN	3
W5WGF	3
222 MHz Mults	
KM4KMU	10
VE3RWJ	3
N1TEN	2
W3HDB	2
W5WGF	2

432 MHz QSOs	
KM4KMU	85
KK6OTK	31
VA3CBU	22
VE3RWJ	19
KJ7AXA	18
432 MHz Mults	
KM4KMU	9
KG7AZY	6
KK6OTK	4
N6NFB	4
W3HDB	4
Limited Multioperator	
50 MHz QSOs	
N2NT	295
K8GP	265
K5QE	156
WA3EKL	151
W2MMD	150
50 MHz Mults	
K5QE	88
N2NT	67
K8GP	56
K4MM	37
WA3EKL	34

144 MHz QSOs	
K8GP	248
N2NT	246
K5QE	122
VE3MIS	122
N3EXA	117
144 MHz Mults	
K5QE	80
K8GP	48
N2NT	43
VE3MIS	30
WA3EKL	26
222 MHz QSOs	
N2NT	61
K8GP	30
W2MMD	26
K5QE	19
VE3MIS	15
222 MHz Mults	
N2NT	20
K5QE	14
K8GP	12
VE3MIS	11
W2MMD	7
432 MHz QSOs	
K8GP	78
N2NT	78
W2MMD	44
VE3MIS	38
WO1S	26

432 MHz Mults	
K5QE	19
K8GP	19
N2NT	19
VE3MIS	19
W2MMD	9
WO1S	9
1.2 GHz QSOs	
WO1S	10
1.2 GHz Mults	
WO1S	4
Unlimited Multioperator	
50 MHz QSOs	
W4ZST	235
N2JMH	218
N8GA	189
N2WK	137
N4QWZ	134
50 MHz Mults	
W4ZST	90
N4QWZ	77
N8GA	71
N2JMH	64
KD2LGX	42

144 MHz QSOs	
N2WK	153
N8GA	137
KD2LGX	128
N2JMH	128
WA3EHD	78
144 MHz Mults	
KD2LGX	55
N8GA	53
N2JMH	40
N2WK	39
N4QWZ	38
222 MHz QSOs	
N2JMH	34
WA3EHD	31
N2WK	29
N8GA	23
N4QWZ	21
222 MHz Mults	
N4QWZ	17
N8GA	13
N2JMH	12
W4ZST	8
KD2LGX	7
432 MHz QSOs	
WA3EHD	46
N2JMH	39
N2WK	38
N8GA	33
N4QWZ	25

432 MHz Mults	
N8GA	19
N4QWZ	18
W4ZST	12
N2JMH	9
WA3EHD	7
902 MHz QSOs	
N2WK	19
N2JMH	15
WA3EHD	12
KD2LGX	5
N4QWZ	5
902 MHz Mults	
N2JMH	6
N4QWZ	5
N2WK	4
KD2LGX	3
WA3EHD	3
1.2 GHz QSOs	
N2JMH	14
N2WK	13
WA3EHD	11
KD2LGX	5
N4QWZ	5
N8GA	5
1.2 GHz Mults	
N2JMH	6
N2WK	4
N4QWZ	4
KD2LGX	3

N8GA	3
WA3EHD	3
2.3 GHz QSOs	
N2WK	10
WA3EHD	8
N2JMH	7
KA1SU	1
2.3 GHz Mults	
N2JMH	4
N2WK	4
WA3EHD	3
KA1SU	1
3.4 GHz QSOs	
WA3EHD	6
N2JMH	3
KA1SU	1
3.4 GHz Mults	
WA3EHD	3
N2JMH	2
KA1SU	1
5.7 GHz QSOs	
N2WK	2
5.7 GHz Mults	
N2WK	2

10 GHz QSOs	
N2JMH	4
N2WK	4
WA3EHD	1
10 GHz Mults	
N2JMH	3
N2WK	3
WA3EHD	1
Light QSOs	
WA3EHD	1
Light Mults	
WA3EHD	1
Checklog	
50 MHz QSOs	
KJ7NOY	8
N3GQF	1
50 MHz Mults	
KJ7NOY	3
N3GQF	1
144 MHz QSOs	
KJ7NOY	20
N3GQF	1
144 MHz Mults	
KJ7NOY	5
N3GQF	1

222 MHz QSOs	
N3GQF	1
222 MHz Mults	
N3GQF	1
432 MHz QSOs	
N3GQF	1
432 MHz Mults	
N3GQF	1
Light QSOs	
N3GQF	1
Light Mults	
N3GQF	1