ARRL 2022 January VHF Contest Full Results

By James R. Duffey, KK6MC (kk6mc@AMSAT.org)

2022 brought 21st-century near-record participation in the January VHF contest. This strong activity occurred despite poor weather over the lower third of the US and flat propagation nearly everywhere. In those respects, just like most January contests.

With 1,175 log entries (including check logs), and 91,654 total QSOs, participation in the 2022 January VHF Contest nearly reached last years 21st-century record of 1,195 log submittals.

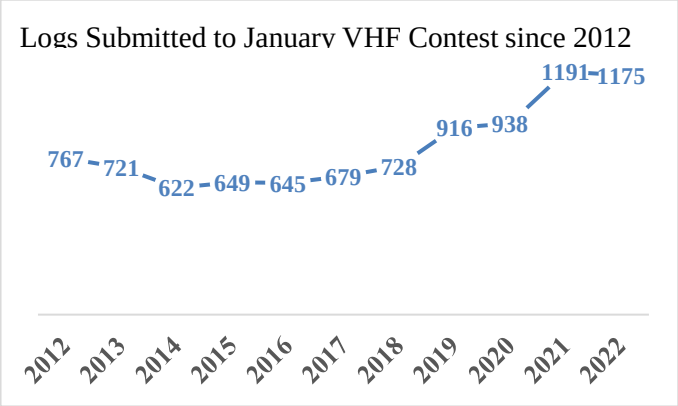


Figure 1 – Activity in the January contest appears to be flattening out after several years of significant increase following the initial use of FT8 in the 2018 January Contest. Social distancing due to Covid-19 increased participation in many contests and January VHF appears to be no exception.

There was a widespread winter storm over much of the Southeast and lower Midwest on Saturday which moved into the Northeast Sunday evening. This reduced activity, particularly among rovers. Several perennial top finishers found their antennas frozen, sometimes in non-productive directions. Many found that their careful antenna tweaking and preparations were for naught, when resonant frequencies and input impedances changed significantly during the contest. In some cases, antennas thawed out in time for at least some productive QSO time in the contest. Over the rest of the country there was good weather and accompanying good turnout, both fixed and rover. Thus, not really too much different from past January contests.

VE3IPS with his 1296 MHz rig operating from a hilltop during -31C weather. He also had 2M, but left the hilltop after 16 QSOs when he lost feeling in his fingers. He recommends a pencil for logging, as at this temperature as his pen froze. (Photo by VE3IPS)

The impact of the use of the WSJT-X modes appears to have begun to converge, at least on 6M, albeit at the expense of traditional analog QSOs. Many FT8 operators are learning how to QSY stations they work on the digital modes to other bands and modes. The number of digital QSOs being made on 2M and up is increasing over the early days of WSJT-X use that initially concentrated activity on 6M. One hopes that this trend continues up the band; and it appears to be, with 432 MHz digital activity increasing.

Propagation was pretty flat in most of the country, typical of January contests, but a few stations experienced strong, although limited-duration Es openings. A number of stations used the FT8 mode of WSJT to capitalize on short and/or variable Es openings, the purpose for which it was intended. Watching the FT8 waterfall shows many openings of limited duration - minutes or less. Prior to the introduction of FT8, it was hard to make use of these short openings, particularly for those in the single op class.

Six- and two-meter antennas icing up at AK4U. High winds, bitter cold, fog, antenna icing, and dead bands from location at Knob Hill VA created a challenge and had Paul looking forward to June. Oh yes, propagation was flat to non-existent. (photo by AK4U)

Although record-setting performances are usually reserved for those years when propagation is good or outstanding, one new overall record was set by W5TRL in the Single Operator Three Band (SO3B) category. Twenty two new Division records were set this year.

The North American QSO Party continues to siphon off VHF contest participants, particularly those for whom HF contests take priority. This, along with the albeit weak sporadic-E propagation being better closer to the solstice, brings calls from many entrants to move the contest earlier in the year, or even into December.

Several operators commented on their use of the on-line scoreboard, particularly for friendly (?) rivals. It inspired them to spend more time at the operating position to maintaan their position and to see what others were doing. It may not be for everyone, but it might be a good incentive to get one's club's score up.

Also, in what may have been a first, a selfdriving car was used by a rover to ease the burden and concerns of operating while in motion.

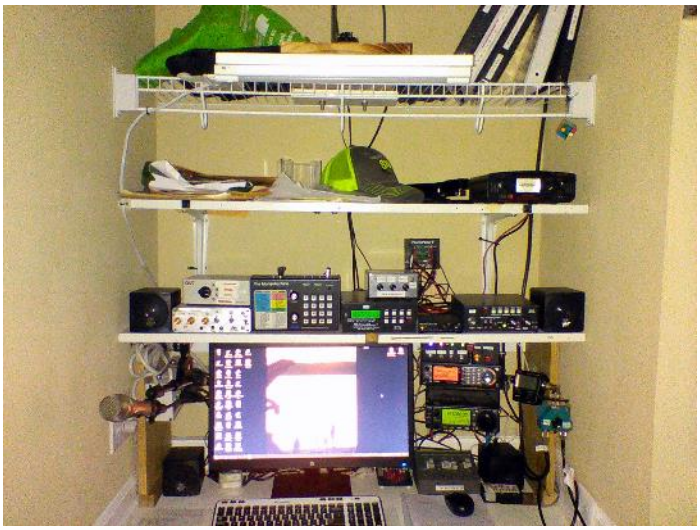
The Winners

Single Operator

Most of the entrants in the VHF contests are in the single operator categories. As a result, the single operator category is the bread and butter of VHF contesting. From the guys with a handy-talkie in the SOFM category, to portable operators on mountain tops, to home stations both barefoot and high power, stations running three bands and those running all the way up to light, there is something for everyone in these categories.

Single Operator FM (SOFM)

The SOFM category offers FM-only VHF operators who have no interest in weak signal work to participate in VHF contesting. Several clubs have held FM-only contests, which should provide a stepping stone to the ARRL VHF contests. Other clubs hold an "activity hour", usually on Saturday evening or Sunday morning, where club members with FM-only capabilities can work the weak signal stations with FM capability. Both can benefit their score from increased QSO points, and depending on locale, more grids. Many of the SOTA operators in the VHF contests who operate in the Single-operator Portable (SOP) category, operate FM on many of the bands to take advantage of established relationships with fixed stations.



KB7QAG didn't let living in an antenna-restricted home hamper his contest entry in the SOFM category. Here is his compact and neat closet station feeding a dual band vertical in the attic. This demonstrates you can do VHF+ contesting from restricted locations. (Photo KB7QAG)

Single Operator, FM Only	
VE3RWJ	1,944
K7ATN	1,096
K2SI	984
AF6GM	605
K1CT	580
W3HDB	580
KM6ZQB	352
WG4I	330
KB1YNT	222
KD2VGM	170

KM4KMU has dominated the SOFM category in recent years, but he moved to the Limited Multioperator category this year, so the competition for SOFM top spot was wide open. VE3RWJ worked 3 bands and 12 multipliers to take first place. K7ATN finished in second with a four band effort, resulting in 8 multipliers. K2SI finished closely behind in third with 12 mults on three bands.

Single Operator Portable

Historically, the SOP category has only had a few hardy entries in the January VHF contests. But the increasing popularity of Summits On The Air (SOTA) and Parks On The Air (POTA) programs have motivated these operators, particularly in the warmer climes, to get out for these activities during the VHF contests, to make their efforts pay double or triple dividends. Of particular interest is the SOTA effort in Arizona organized by WA7JTM. Peter organizes a dozen or more SOTA ops to activate peaks in Arizona. This has contributed significantly to the overall growth and success of VHF contesting in Arizona in particular and the Southwest in general.

Single Operator, Portable	
WA5DM	6,264
WA7JTM	4,728
KK4BZ	4,608
AA6XA	3,818
AA4Q	3,288
KI7QEK	1,575
NØJK	1,457
VA2VT	765
WB2AMU	546
AB4DX	425

WA5DM used a big 6M opening on Saturday afternoon from the West Gulf and only four band operation to pass WA7JTM, who has dominated the this category. WA7JTM finished second, hauling 40 pounds of gear and antennas several miles up the mountain to put six bands on the air from SOTA summit W7A/MN-119. Peter uses a mix of SSB, CW, and FM. He noted that activity was down this year compared to previous years. In the Roanoke Division, KK4BZ finished a close third using an entirely different approach, three bands with big antennas. AA6XA finished fourth with a strong effort from SOTA peak Loma Alta, W6/NC-350, in Marin County, CA. Jeff carried up equipment for 6M, 2M, 222 MHz, 432 MHz, 902 MHz, 1296 MHz, and 10368 MHz. He was disappointed not to have worked anyone on 902 MHz or 10.3GHz. AA4Q finished fifth, operating from SOTA summit W7A/AW-040 with six bands. Bill was part of the AZ VHF Contest/SOTA effort.

K7CNT operating in the SOP category at 6000 ft asl in Windy Point Campground in western AZ. (photo by K7CNT)

NØJK's homebrew 2-element beam set up for a SOP operation from EM28 in NE Kansas. Bucking the poor propagation trend, he enjoyed a four hour Es opening on Saturday afternoon and another short opening on Sunday morning. He made the best of his 10W station. (Photo by NØJK)

Single Operator 3 Band (SO3B)

The SO3B category is very popular and has been since its inception. Conceived as a way to get the many hams with a "DC-to-Daylight" rig into competitive contesting, many hoped that, after having tasted of the competitive nature of VHF contesting, they would add additional bands and enter other categories. It turns out that the many entrants, both new and veterans alike, find the competitive nature of the SO3B to their liking. But, four of the top ten SO3B scores would be top ten scores in the SOLP category! So the ability to compete in categories other than SO3B is there. If the SO3B ops added even one more additional band, say 222 MHz, they would be even more competitive. That is something to think about for those SO3B operators looking for a new challenge or to expand their horizons.

Operating from EM10, W5TRL took advantage of some 6M Es to narrowly win the SO3B category over KO9A operating in the Central Division. W5TRL set a new January contest SO3B record with his effort. While W5TRL had fewer QSOs than KO9A, he had more multipliers, making up the difference and underscoring the point that both are important factors to consider in planning strategy. KO9A had an unusual double whammy, both whammies good, a good Es opening on Saturday and a good tropo opening on 2M and 432 MHz. Jim also used the digital modes on 432 MHz to good ends, including an airplane scatter QSO! It pays to always be on the lookout for propagation opportunities, no matter how unusual. KE3JP finished third, winning the always competitive Atlantic Division. N3AAA finished fourth and N8XQM placed fifth from Ohio.

Single Operator, 3 Band	
W5TRL	49,590
KO9A	48,620
KE3JP	44,226
N3AAA	40,767
N8XQM	28,188
KK4MA	27,140
AB8M	22,058
AA5AM	21,285
VA3IKE	16,182
K1TO	15,189

KO4ECD noted the 24 inches of snow predicted for his usual mountaintop operating locations and set up a SO3B station on his back deck in an HOA community. He scored 6162 points with this setup, proving that one can operate and have fun even with HOA restrictions. (Photo by KO4ECD)

WX4DAT entered his first VHF contest in the SO3B category with this low budget, but effective station, showing that you can put together a contest station without expending a lot of funds . (Photo WX4DAT)

Single Operator, Low Power (SOLP)

The SOLP category is the most popular and one of the most competitive categories in the January contest, leading the next closest category, SOHP, by a large margin. The introduction of the digital modes has prompted many SOLP operators to rethink the optimum use of particular modes and time spent operating each.

Single Operator, Low Power	
AF1T	92,862
WA3NUF	73,749
N3RG	50,948
VE3DS	41,454
N2WK	41,440
NF3R	32,470
NR2C	30,438
N2SCJ	25,920
N2MKT	23,290
WB5TUF	22,848

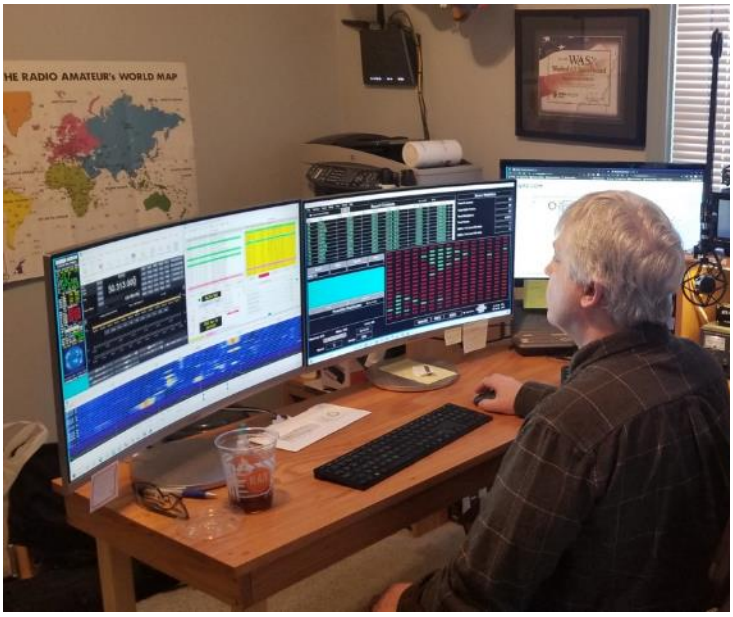
With perennial SOLP top scorer K2DRH unable to compete this year, AF1T took top place in the SOLP category, in no small part due to his 14 band effort! Dale also aggressively hunts for QSOs and often gets people on the air that otherwise would not be. WA3NUF is a familiar figure in the top SOLP standings over the years. After disappointment in his 2021 showing, Phil spent his pre-contest time maintaining and upgrading his station and realigning his operating plan, to spend more time on the analog modes and less on the digital modes. All of this effort led to a 60/40 analog/digital split in QSOs and paid off in a much better score this year. Phil noted increased 222 MHz and 432 MHz FT8 activity, which helped his QSO point total and grid squares worked. Phil's antennas finally succumbed to icing during the last hour of the contest and he had to quit early.


Pictures of K5ND/R often show up in VHF contest writeups, usually in an interesting grid in TX, but here he is at his home shack for the January 2022 VHF contest. Jim decided to operate this one from home and turned in an impressive SOLP score of 22,504, due in large part to an Es opening on Saturday. (Photo by K5ND)


K5ND used his rover antenna stack pretty much as-is at his home station, with the exception of the 6M Yagi in the background on a mast with requisite Armstrong rotator. Jim's impromptu setup shows that one doesn't need antennas up high to do well. (Photo by K5ND)

N3RG finished third with a 10-band effort. He concentrated on the analog modes with a roughly 90/10 split between analog and digital QSOs. VE3DS, a familiar fixture in January contests, finished fourth in his 53rd (!)

January contest. He mounted an 8 band effort with significant use of FM to pick up many casual contesters or non-contesters. N2WK finished only 14 points behind VE3DS in a tightly contested race for fifth place. Wayne lamented the lack of SSB and CW stations on 6M and 2M that he could work from his QTH.



KE8JCD operating his well-equipped station in SOLP from Michigan. (Photo KE8JCD)

Single Operator High Power (SOHP)

The SOHP category is the "king of the single operator classes". These stations run high power and usually have capabilities on ten bands or more. They usually are committed to operation throughout most of the contest and hence serve as beacons, so that others know that the band is indeed open. SOHP operators usually do a good job tracking rovers and in doing so can alert others to their presence. It is a big effort to put a SOHP on the air and maintain it, but it is a boon to all who work the contest.

K1TEO overcame high noise on 6M and 2M to run away with the SOHP category. He was helped by short Es openings on both Saturday and Sunday as well as good meteor scatter conditions on Saturday night through Sunday morning. Jeff found that FT8 was a good way to deal with the noise; it didn't get rid of it, but with the binary decode/no-decode nature of the digital modes it made it less frustrating

Single Operator, High Power	
K1TEO	296,172
N1AV	157,852
K1RZ	142,713
W3IP	101,088
K1KG	57,420
WZ1V	55,002
N3NGE	54,292
W1FKF	50,868
KC2TN	50,505
K2TER	42,238


K9YR often operates as a rover but decided to sit this one out at home in the SOHP category. This photo shows only a portion of Jeff's well equipped VHF position in his warm basement in EN52. (Photo by K9YR)

In his best January contest results to date, N1AV finished second with a concerted effort from Arizona, which included operating the full contest, utilizing a number of different modes on ten bands; some weak Es on Saturday afternoon, EME, meteor scatter, FT8, SSB, and CW. Jay spent his autumn repairing antenna damage from a microburst in August, and took that opportunity to also upgrade feed lines. Jay was instrumental in forming the AZ VHF Society, which has supercharged VHF contest activity in AZ and the Southwest.

In October 2021, N1AV's VHF antenna stack was hit by a microburst, leaving him little time to recover for the January Contest. (Photo by N1AV)

Jay, N1AV, completed the final repairs on his VHF+ stack and upgraded his feedline just in time for a second place SOHP finish. (Photo by N1AV)

On the strength of several nearly 700km QSOs on 2M and 432 MHz, as well as significant rover activity, K1RZ put in a solid third place finish. A snow storm came in on Sunday afternoon, leading to antenna icing which caused Dave to pull the plug early, missing the last few hours of the contest.

W3IP used a 60/40 split of digital/analog QSOs to take fourth place. Like many in the northeast, W3IP experienced icing in the last few hours of the contest. A frozen rotor and a 6:1 SWR on the 6M antenna forced W3IP to quit a half-hour early. W3IP has suffered equipment problems due to poor weather in 7 out of the last 11 January contests., yet still remains a perennial top ten SOHP contender.

High noise levels made weak signal work hard for K1KG, but he managed to take fifth place in a tight contest in the middle of the Top-10. K1KG had a 50/50 split of QSOs between digital and analog, but found FT8 and FT4 tough going at times, with QRM from local digimode operators. This is a reminder for us all to be a good neighbor and watch those drive levels.

Limited Multioperator

K5QE, manned by K5QE, KA6U, KI5HMB, N5KDA, and N5YA had a very good contest, regaining the top spot in the Limited Multioperator category, with a close victory over second-place N2NT. On way to their top score, they took advantage of a two hour 6M Es opening on Saturday afternoon and supplemented it with good conditions on 2M. K5QE followed the rules with a four band operation, but substituted 1296 MHz for 222 MHz, 1296 providing a few more QSO points for the score than if they had operated 222 MHz.

Limited Multioperator	
K5QE	150,750
N2NT	138,467
W4NH	59,332
VE3MIS	49,731
WD9EXD	47,642
W3SO	47,368
WA3EKL	12,600
N3EXA	8,496
N3PUU	7,904
WA8MCD	7,688

N2NT, operated by N2NC, N2NT, and WW2Y, took advantage of some mild January weather prior to the contest to perform some 2-meter antenna work, paying off in a second place finish. On the way to their high score,

the N2NT gang operated the analog modes, SSB and CW, for the first several hours of the contest. They then went to FT8 in the evening. They concluded that FT8 increased the number of QSOs they made, with lots of really weak signals being worked on 6M and 2M FT8 that would not have been workable on the analog modes.

W4NH, operated by KI4US, W4ZST, W5TDY, and WG8S, finished third despite having no strong openings.

VE3MIS, operated by 9Z4FI, VA3ELE, VA3HES, VA3TO, and VE3MDX, finished fourth by nearly doubling their score over last year's contest. The operators were a mix of in-person and remote operators in what is becoming an increasing trend these days among multioperator stations. One hopes that trend helps to increase the declining multioperator activity. They leveraged strong local FM simplex activity in increasing their score and note that the FM activity is growing and is a fruitful place to increase one's QSO points. Like others, they noted the dearth of analog stations calling CQ, while, at the same time, there were lots of CQs on FT8. Peter also attributes their success to the rovers who braved the bone-chilling cold Saturday night.

WD9EXD, with W9AKW and WD9EXD at the helm, followed closely in fifth place. W3SO, operated by KC3FSP, W3BTX, and W3XOX, finished less than 200 points behind WD9EXD in a strong effort, operating on only two bands. While W3SO also lamented the lack of analog stations to work, they noted that there were a number of new calls in the FT8 logs that they had not worked in a VHF contest before.

Unlimited Multioperator

The Unlimited Multioperator Category provides many operators opportunities to work multiple bands at varying times under varying conditions during the contest. The operators are usually sharp with good skills at pulling out weak stations. The UM class provides for many others in the contest the opportunity to excel.

N8GA in Ohio, operated by KB8ZR, N8UR, N8ZM, W8BFT, and WB8ART took first place in the unlimited category with a strong effort on only five bands, 50 MHz, 144 MHz, 222 MHz, 432 MHz, and 1.2 GHz.

Unlimited Multioperator	
N8GA	95,496
K5TR	86,825
N4SVC	81,087
KE8FD	72,250
KV1J	38,700
KE1LI	30,668
KE8RV	26,104
WA3EHD	21,252
N4BRF	12,144
W3RFC	11,024

K5TR, who usually roves in the January contest, along with 6M operator W5DMB, took second place in the UM category with a strong showing on seven bands. For K5TR, six meters was much better than expected for the January contest, while the higher bands were very flat, as is usual for January. George noted that there was a lack of activity from the two big Texas metropolitan areas, Dallas/Fort Worth and Houston. If it were not for rovers, those grids would have been rare! K5TR also noted that one of the big high power stations in Texas called CQ with FT8 on the 144.2 calling frequency for two hours on Sunday afternoon, making analog QSOs by nearly anyone else on 2M difficult. While probably not intentional, it was hard to get the operator's attention and inform him of the problem on FT8 with its limited message structure. So, the lesson to be learned is to always check and double check your operating frequency, before you call and during your calling, particularly if you are running high power to good antennas.

N4SVC, operated by KD4AMP and N2CEI, placed third with a six band effort from EM80 in Florida. KE8FD, operated by AA8MA and KE8FD, finished fourth with a 5 band effort from EN80 in Ohio.

KV1J, operated by KO1I and KV1J, finished fifth, operating from FN44 in Maine. Cold temperatures caused some issues with the 6M radio and computer being in an unheated space, although the 6M op remoted in from a warm house. That caused a slow start, but bands were flat with no great openings.

Rovers

The rover categories play an important role, not only as a separate competitive category, but also in supporting other contest participants. They provide multiplier grids where there are normally few, if any, active VHF stations, and also provide more QSO points in grids where there are active VHFers. Rovers often have bands that are not often on the air.

KA5D/R with KB5PRZ as driver, W5TN/R, K2EZ/R, and KD5IKG/R ready to rove in EL08. This group not only put up impressive scores of their own, but also put many grid band combinations into fixed station's logs (Photo by KA5D)

Putting together and operating a rover is not an easy task, particularly for the January contest in northern climes. With limited power and space, and opportunities for mounting antennas often tight, optimizing a rover is a bit of an art as well as a technological challenge. Given these constraints, it is not surprising that rovers have been slower to adopt the digital modes.

Competition for QSOs can be fierce in Northern AZ. KK6MC/R stopped for gas in DM44 on way to DM45, a mile north of this spot. (Photo by KK6MC)

This is what roving in the January contest is all about! K2ET/R all setup and ready to rove in WNY with a nod to the thermometer. The log-periodic makes for a compact antenna tree. (Photo by K2ET)

Classic Rover

The introduction of the Rover Category in 1992 revolutionized VHF contesting. That category continues today in the Classic Rover category. There are operators who roved when the category first became available and continue to rove today. Participation in the Classic Rover category remains strong, although over the years, the Limited Rover category has siphoned off many operators and participation in the Classic Rover category is now less than in the Limited Rover category. This has reduced the number of QSOs and multipliers available on the microwave bands to other contestants. In many areas the Classic Rovers provide the majority of grids and microwave contacts to all the contest operators. Many times during contests Rovers, Classic or otherwise, are the only activity from many grids.

This is N7OW/R near the Maricopa convergence of DM32/DM33/DM42/DM33. Ryan operated all bands 50MHz to 10GHz to an impressive Classic Rover score of 76,715. The 10GHz setup on the tripod resulted in putting 18 QSOs in his log. (Photo by N7OW)

K6VHF/R 10 band Rover in Arizona. (Photo by K6VHF)

Classic Rover	
N7GP/R	271,660
K6VHF/R	116,130
KJ7JC/R	78,822
N7OW/R	76,715
KF2MR/R	56,482
AC7FF/R	48,144
VE3OIL/R	34,040
K2ET/R	28,600
NN3Q/R	25,432
W3ICC/R	19,844

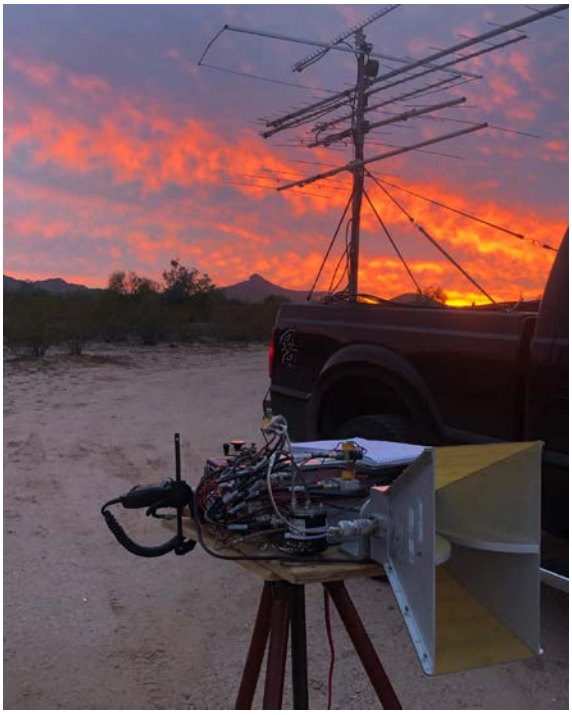
The Arizona rover swarm dominated the first four places in the Classic Rover category. N7GP/R took first place in the Classic Rover category, operating on 10 bands from five grids, including the relatively rare DM31 at the beginning of the contest. Some of you may know Tom as WA8WZG, a long time veteran of VHF contesting and contesting in general. Tom has put together a formidable rover and mentored other AZ rovers.

K6VHF/R, Alex, finished second with a strong 10 band effort from seven grids, including the relatively rare DM41. He made 479 QSOs in total, only being eclipsed by the impressive 931 Qs logged by N7GP/R.

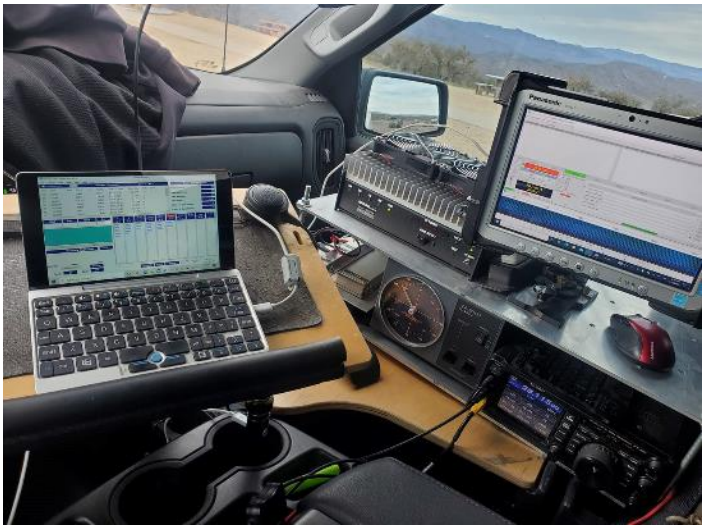
Although the K6VHF/R operating position looks complicated, it is all controlled with a simple “one knob switches all” interface he built and designed himself to simplify QSYing and moving from one mode to another. Alex has incorporated a dedicated position for the digital modes into his rover. (Photo by K6VHF)

KJ7JC/R used the contest as a shakedown cruise for his refurbished communications van, which did a good job in helping him to a third place finish. After overcoming some early problems with the generator failing, he roved from four grids on 10 bands.

KJ7JC/R and N7OW/R meet up in DM43. Two of the Arizona rover swarm, their 10 band stations helped them score high and put many grid/band combinations into several Arizona fixed station's logs. (Photo by N7OW)



N7GP/R not only took first place in the Classic Rover category, he enjoyed a great sunset as well! Tom and his 10-band rover operated from the rare DM31 grid, caught some Es, made QSOs with other Arizona rovers, worked some meteor scatter on Sunday morning, and operated all but four hours of the contest to achieve this feat. (N7GP photo)



Inside N7OW/R, which is very simple and clean for an 8-band rover station. (Photo by N7OW)

N7OW/R operated eight bands from seven grids, including the relatively rare DM23 and finished fourth, closely behind KJ7JC/R.

KF2MR/R endured -7F temperatures to finish in fifth place by operating on eight bands from six grids, including two from which he had not operated before. By Sunday afternoon the temperature had warmed up to a balmy 28F, but the beginnings of a blizzard forced him to go QRT a bit early. AC7FF/r finished in 6th place behind AF2MR/r, operating from four grids on seven bands.

Limited Rover

The Limited Rover category was created in 2008 as a way for operators with limited band capabilities to compete in the VHF/UHF contests while building up their rover capabilities until they could compete in the Classic Rover category. Since its inception, the Limited Rover category has become an end in and of itself, eclipsing the Classic Rover category in activity. While the increased activity is certainly welcome, Limited Rovers should consider adding new bands and moving up to the Classic Rover category, which provides new opportunities for competition, new challenges, and provides for more QSOs and multipliers for everyone.

KF8QL/R braved western Michigan January weather to rove on four bands with this simple setup. (KF8QL photo)

Limited Rover	
KA5D/R	76,152
W5TN/R	70,620
N6GP/R	20,800
N6RH/R	10,530
AE5P/R	10,200
KT5TE/R	10,170
W6YX/R	6,786
N9YH/R	6,160
KM4OZH/R	5,700
VE3GKT/R	3,255

KA5D/R, with operators KA5D and KB5PRZ, parlayed a great opening on Saturday, along with QSOs with other rovers, to put in a good score, to place first in the Limited Rover Category from 10 grids in Texas. W5TN/R overcame high winds at the beginning of the contest to place second, taking advantage of a good opening on Saturday as well as QSOs with other active rovers in Texas. N6GP/R finished third on an ambitious rove covering 9 grids. Tim started his rove in the LA Basin on Saturday, making his way to the Maricopa convergence and later to Flagstaff in AZ on Sunday, operating from several rare grids on the way. KK6MC/R, who also ended up his rove in Flagstaff, appreciated Tim's help in tearing down his antennas on Monday morning.

The competition for fourth place was stiff, with N6RH/R, AE5P/R and KT5TE/R all finishing within a few hundred points from each other.

KW4XK/R enjoyed the nice southern California weather for his first Limited Rover outing in LAX. This is probably one of the few spots where the weather won't be much different in June. (photo by KW4XK)

Unlimited Rover

The Unlimited Rover category has never gotten much traction since its inception, with activity lagging significantly behind the Classic and Limited Rover Categories. This category, in part, was conceived as an option for those rovers who engaged in coordinated roving activities, and, in addition, to allow for nonconventional rover activities. This changed this year, with at least two groups who undertook coordinated roving entering in the Classic Rover category and one entry who only operated from one grid, which was allowed for the first time in this contest.

Unlimited Rover	
KD5IKG/R	99,275
K2EZ/R	48,557
KG6CIH/R	26,100
K6MI/R	21,471
K9JK/R	13,365
KCØP/R	7,776
NØHZO/R	6,572
N6ZE/R	6,144
AL1VE/R	2,622
KC1MUU/R	2,185

KD5IKG/R, shown here in STX, added several microwave bands to his rover on his way to achieving his highest score ever in the January contest and a first place finish in the Unlimited Rover category. (photo by KD5IKG)

KD5IKG/R took first place in the Unlimited Rover Category roving from 10 grids in south Texas. A high noise level precipitated a fix on Saturday night during a break in contest activity. That effort significantly reduced Tim's noise and improved his DX performance on Sunday. Tim leveraged QSOs with other rovers on his way to the high score in this category on eight bands. He did lament the fact that he could not make a QSO on 5.7GHz to test out his new capability on this band.

K2EZ/R, who has been a consistent top ten finisher in the Classic Rover division, moved over to the Unlimited Rover Category in this contest to take second place. Andrea operated on 8 bands from 6 grids. K2EZ/R was a part of a group of several rovers that operated from South Texas.

KG6CIH/R operated on 14 bands from six grids on his way to finishing third in the Unlimited Category. Despite the 6 call, KG6CIH/R roved from the northeast and waited to begin the contest until Sunday, due to the bitter cold on Saturday. KG6CIH/R set a new New England Division record for January.

K6MI/R finished in fourth place operating on 11 bands from four grids. On the strength of a five band effort from four grids, K9JK/R finished in fifth place. John made his rover travel straightforward by rotating through the four grids at a grid corner.

The Records

With typical flat conditions and poor weather over much of the country, one would not expect new records to be set, particularly overall January contest records. But W5TRL set a new SO3B record for the January contest in 2022, scoring 49,590 points from South Texas.

N6GP/R set a new Southwestern Division Limited Rover record where the old record was not only well-established, but also high. KA5D/R also set a new Limited Rover record in the West Gulf Division.

K9JK/R set a new Rover Unlimited record in the Central Division, as did KG6CIH/R in the New England Division, both with significant scores.

N1AV set a new SOHP record in the Southwestern Division on his way to finishing second overall nationwide.

VE3DS set a new SOLP record in the Canadian Division.

SO3B operators continue to push the limits of the category with ten stations setting new Division records; KE3JP in the Atlantic Division, N8XQM in the Great Lakes Division, WA3AFS in the Hudson Division, K0PHP in the Midwest Division, and KK4MA in the Roanoke division, KB0NAV in the Rock Mountain Division, W5TRL in the West Gulf Division, and VA3IKE in the Canada Division.

Club Competition

The club competition is healthy, with 48 entries this year, which is good for the contest, as club competition, in part, drives overall participation. The Pack Rats (Mt Airy VHF Radio Club) took top honors in the Unlimited category, with the Potomac Valley Radio Club coming in second. These two clubs have long traditions of turning out members for the January VHF contest; this year the Pack Rats turned out 61 club member entries, while the PVRC turned out 53. Between the two clubs, that accounts for nearly 10% of all contest entrants! Many contest operators benefit from active club participation, not just club members or those in the club territory. Support your VHF club!

Club	Score	Entries
Unlimited		
Mt Airy VHF Radio Club	1,272,816	61
Potomac Valley Radio Club	349,877	53
Medium		
Arizona VHF Society	792,917	18
Rochester VHF Group	352,983	22
Roadrunners Microwave Group	285,995	5
North East Weak Signal Group	274,948	17
The Ontario VHF Association	239,592	22
Society of Midwest Contesters	97,538	20
Florida Weak Signal Society	93,103	3
Pacific Northwest VHF Society	90,391	38
Fourlanders Contest Team	80,895	9
Northern Lights Radio Society	63,187	15
Contest Club Ontario	58,419	10
Texas DX Society	57,781	3
Frankford Radio Club	51,764	15
Kentucky Contest Group	50,072	5
Yankee Clipper Contest Club	48,362	12
Southern California Contest Club	44,951	12
Florida Contest Group	44,022	12
Arizona Outlaws Contest Club	35,016	14
DFW Contest Group	30,488	6
Northern California Contest Club	29,640	13
Badger Contesters	25,753	8
Swamp Fox Contest Group	13,993	3
Carolina DX Association	13,222	7
Mad River Radio Club	11,565	5
Gloucester Co ARC	10,650	5
Michigan VHF-UHF Society	9,926	4
South Jersey Radio Assn	7,485	4
Hudson Valley Contesters and DXers	6,287	5
Minnesota Wireless Assn	4,550	12
Western Canada Weak Signal Assoc	3,218	4
Tennessee Contest Group	2,693	6
South East Contest Club	2,287	4
Rochester (NY) DX Assn	1,132	4
Grand Mesa Contesters of Colorado	838	4
Oklahoma DX Assn	822	3
Oklahoma City Autopatch Association	804	3
Great Places Contest Club	742	3
Northeast Maryland Amateur Radio Contest Society	738	3
Local		
Stoned Monkey VHF ARC	40,264	5
Eastern Connecticut ARA	32,951	4
Chippewa Valley VHF Contesters	23,138	5
Bristol (TN) ARC	10,926	4
Meriden ARC	4,314	3
CTRI Contest Group	2,446	3
Providence Radio Assn	695	3
Bergen ARA	294	3

The Arizona VHF Society is relatively new on the scene, but they put together an impressive score based on the combination of strong coordinated rover turnout, very capable SOHP stations, and dedicated SOLP ops. The Rochester VHF Group, always a contender in the Medium competition and good at turning out members through several club contest activities, finished second with 22 club members submitting entries.

The Stoned Monkey VHF Amateur Radio Club took the local competition with the Eastern Connecticut ARA finishing second. It is impressive what these small clubs can do score-wise while limited to 10 entries or less.

Reflections on the 2022 January VHF Contest

A great deal has changed in the January VHF contest since I began writing these contest summaries in 2017. The January 2017 VHF contest saw the first use of MSK144, allowing for rapid contest turnaround meteor scatter QSOs with 6 dB to 8 dB increased sensitivity over the previous FSK441 meteor mode. MSK144 saw increased use when contest activity was low. Many contestants saw that they could significantly increase their multipliers by spending a few hours operating meteor scatter with even modest equipment on Sunday morning.

2018 saw the introduction of the FT8 mode with WSJT-X, which was rapidly adopted by many contest entrants, including many first time and casual operators. While FT8 was designed to effectively take advantage of short Es openings, it was also effective for other weak scatter modes and was soon adopted by many operators. The availability of the FT8 mode drew many new ops to VHF contesting.

VHFers were not immune to the Covid-19 pandemic which hit shortly after the January 2020 contest. The resultant stay-at-home philosophy, social distancing, and quarantining resulted in increased contest activity first seen in the 2021 January contest and continuing in 2022.

Provisions allowing self-spotting and arranging for real time QSO scheduling (assistance if you will) were first introduced in the 2015 January contest and, after a couple of years, people had pretty much figured out the best way to use these resources. While controversial at first, these spotting and assistance provisions have received acceptance amongst most contesters and have especially served to improve and increase rover activity in the less densely VHF populated grids.

As a result of these circumstances, and other less impactful concerns, log entries increased from the mid-600s pre-2017 to 1175 in 2022. The 2021 and 2022 entries are about the same, so it appears that the effects from the use of WSJT-X and spotting/assistance may be flattening out. These trends are clearly shown in Figure JRD2. How much the Covid-19 pandemic contributed to the increased entries and how many of the Covid-19 incentivized contestants have found the contest experience rewarding enough to continue, remains to be seen.

Figure 2 shows the trends in time for logs with no digital QSOs (analog only), those with some digital QSOs, and those with 100% digital modes. The total number of logs submitted appears to be leveling off after several years of steady growth. On the other hand, the total number of logs submitted with any digital QSOs is still increasing, as is the number of logs with all digital QSOs. The number of logs with analog-only QSOs has decreased, with the current level of overall activity sustained by the increasing digital operation. This has caused some consternation among many traditional VHF contesters who have used the analog modes to achieve high run rates when the band is open and to move other stations, mostly local, up the bands for more multipliers. The digital run rate is fixed by the turnaround time of the mode being used, with FT4 being faster than FT8, and while it is not as straightforward to move people up the bands on the digital modes, it can be done, and the competitive VHF contesters are finding ways to do it.

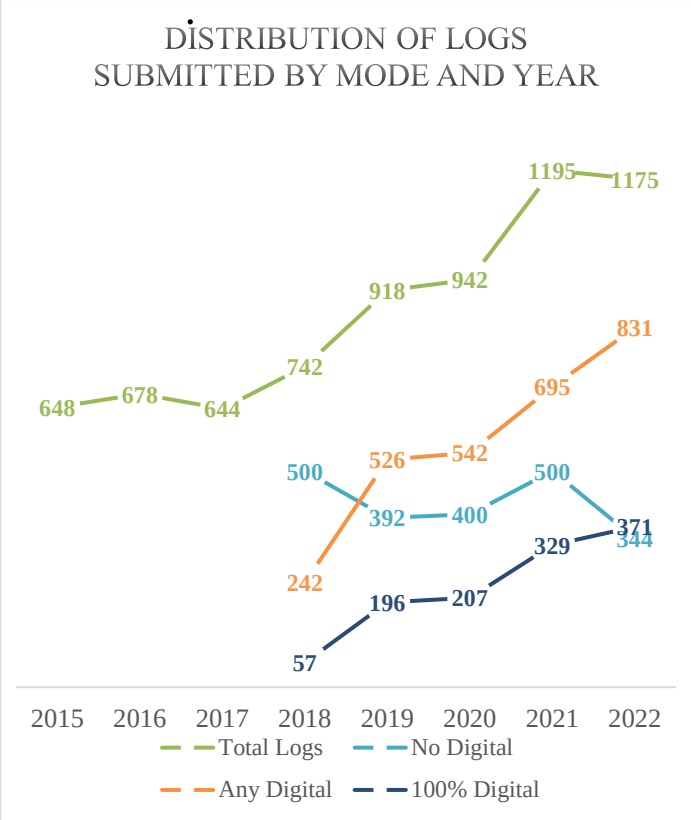


Figure 2 – The trend in January VHF contest activity is increasing, with total activity flattening out, digital activity increasing, and analog activity decreasing.

Six meters dominates activity in the January contest as shown in **Figure 3**. This is due in large part to the use of WSJT-X, and the widespread availability of HF transceivers that have 6M capability. After the introduction of FT8, there was some concern that the increased digital activity on 6M would decrease activity on the higher bands. While this was initially true, activity on the higher bands has largely recovered. 222MHz is still underutilized, however, and this may be, in part, due to the SO3B category siphoning off competitors who would

normally be enticed to use 222MHz, but can be competitive in the SO3B category without the investment of time and money to get on another band. Also, 222MHz requires a bit more effort to get on, but this can be overcome. 222MHz is a good addition to any VHF station, with relatively compact antennas and noise levels which are substantially lower than 2M or 6M.

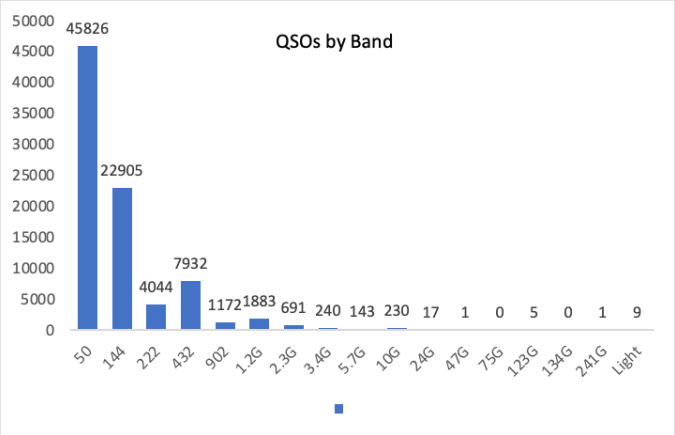


Figure 3 – Six meters dominates activity in the January contest. The low 222MHz activity is concerning and probably largely due to the popularity of the SO3B category. The microwave activity is largely driven by rover activity, of which there was a lot this contest.

Table 2 shows the January 2022 VHF contest activity by band and mode. This is a "wall of data", and is provided for those who want to dig deeper into the contest trends. The salient features of this table are represented in other accompanying graphs. While the contest rules do not call out mode information as part of the log submission, most logging programs include it as a "freebie" in the Cabrillo log. So, while the data in the table shows general trends accurately, the numbers can be in error by a bit. The most likely potentially misleading data is counting some digital modes as phone and counting CW as phone. The digital numbers are more likely to be representative of actual operation as WSJT-X generates its own log, which many just fold into the submitted Cabrillo log.

Table 2 - Activity by band and mode

QSO breakdown by band and mode										
Band	**CW**	**FM**	**PH**	**Total Analog**	**DG**	**RY**	**Total Digital**	**% Digital**	**Band Total**	**% of All Qs on this band**
50	624	412	9737	10773	33398	5323	38721	78.23%	49494	54.00%
144	421	2396	9240	12057	11256	1630	12886	51.66%	24943	27.21%
222	120	624	3214	3958	233	70	303	7.11%	4261	4.65%
432	228	1206	5472	6906	1194	301	1495	17.80%	8401	9.17%
902	102	111	996	1209	9		9	0.74%	1218	1.33%
1.2G	218	115	1525	1858	60	34	94	4.82%	1952	2.13%
2.3G	110	17	583	710	2	1	3	0.42%	713	0.78%
3.4G	50	13	180	243	1		1	0.41%	244	0.27%
5.7G	63	13	72	148	1		1	0.67%	149	0.16%
10G	75	10	155	240	1		1	0.41%	241	0.26%
24G		11	8	19				0.00%	19	0.02%
47G			1	1				0.00%	1	0.00%
75G	1			1				0.00%	1	0.00%
123G		2	3	5				0.00%	5	0.01%
241G	2			2				0.00%	2	0.00%
LIGHT	2	2	6	10				0.00%	10	0.01%
Total	2016	4932	31192	38140	46155	7359	53514	58.39%	91654	

Table 3 – Overall, Rover, and Club Activity

Year	**Logs submitted**	**Total QSOs**	**QSOs per entrant**	**Rover logs**	**Rover QSOs**	**QSOs per Rover**	**Club Entries**
2022	1175	91654	78	80	11624	145	48
2021	1191	84466	71	88	14333	163	50
2020	938	64757	69	90	12054	134	42
2019	916	56831	62	77	8990	117	31
2018	728	56089	77	73	12653	173	29
Average	990	70669	71	82	12008	146	40
2014-2017 Averages (pre-FT8)							
	878	61046	70	77	11217	146	33

Rover and club activity is critical to overall VHF contest success. **Table 3** contains club and rover activity, along with general activity for the January contests since the introduction of FT8 and the averages for the years 2014 to 2017, prior to the introduction of FT8 (and FT4) into the WSJT-X suite. That data shows that, while the total number of logs and QSOs have increased substantially, the QSOs per entrant has only increased a little. The number of club entries has increased significantly, which is good news, and, I think, to be expected as the increase in club participation likely comes from new-to-VHF contesting users of WSJT-X, which generates a Cabrillo log readily formatted for submission and immediate acceptance. These new competitors may balk at setting up a dedicated contesting logging program such as N1MM.

Rover activity seems to have increased slightly for the post WSJT-X era over the pre WSJT-X era. Rover activity in January is very weather dependent, and that variable is not included in this data, so it is hard to draw specific conclusions, but this is one area that should be noted going forward. It is a bit more difficult to incorporate a computer into a rover, so this roughly stagnant level of activity may be expected. There are a number of rovers who operate WSJT-X, though, and their increased capability as far as DX goes is clear, and clearly appreciated by those who make QSOs with them at distances in excess of what was possible by rovers in January without the digital modes.

In the October 2009 QST, W9GKA authored a thorough statistical study of things that drive VHF contesting activity. Club activity levels, along with regulatory changes, were the two biggest factors driving VHF contest activity since its inception. There were others, but a look at the club activity is a good indication of the health of VHF contests. By this indication, the January contest is healthy with a significant number of logs being submitted with club affiliation, and a significant amount of those logs apparently coming from digital operators.

What is the best way to incorporate WSJT-X into your contesting?

While there are still growing pains with the widespread use of digital modes in VHF contests, there are many who have been successful in incorporating the digital modes into their contesting plans.

One of the complaints about the use of digital modes, FT8 in particular, is that operators use it when signals are strong. It is important to note that the WS in WSJT-X stands for "Weak Signal". When signals are strong, there are more effective (meaning being able to make QSOs faster and with more content) ways than with the WSJT-X suites of FT8 or FT4. The SNR displayed in the software tells you whether or not you are in a weak signal condition, so you don't have to guess. If the SNR is -5dB to 5dB, you can probably make the QSO with little trouble on CW and should try to do so. SNRs above 5dB will support SSB QSOs, and you should try to go to the calling frequency or a bit higher to check out activity on phone. So, when you see SNRs this high or higher, go to the analog modes. You can make more QSOs faster this way. It may seem trite, but, "When the SNR is high, it is time to QSY."

Make use of the new provision in WSJT-X to QSY other stations to other bands. It can be done. Notify those operators, whom you know and who will work on FT8 or FT4, that you will QSY up the bands you both have, after you work each other on 6M. You can also use the TX5 macro in WSJT-X to send QSY messages.

Take time out to periodically check the CW and SSB calling frequencies and send a CQ or two. I do this on the hour and half hour and if operators in your area who work only the analog modes know this, they will look for you. After the initial QSO, QSY up the bands that you have. It is probably a good idea to publicize this through club newsletters or nets.

Making QSOs with FT4 is twice as fast as with FT8, so try FT4 in a contest. The rate is higher without giving away much in the way of SNR. For some reason FT4 has been slow to take off, but it is an effective and efficient mode.

You are not confined to the default operating frequencies in WSJT-X and can move to others. You can also expand the 3kHz bandwidth to 5 kHz, which is particularly useful if you have an SDR radio.

If you have only used the FT modes in WSJT-X, you should look into the meteor scatter capability MSK144 that WSJT-X provides. No major changes to the rig and interfaces are required; it is as simple as selecting MSK144 as the mode. Meteors that support communication are available any time day or night, but are best in the early morning. So, get on the MSK144 Sunday morning and make some long haul QSOs. Even modestly equipped stations can make meteor scatter QSOs; 100W to a two or three element Yagi will yield results with similarly equipped or better equipped stations. The big gun stations usually work meteor scatter when traditional propagation modes are flat or nonexistent. Take a lesson from them.

The Q65 modes included in WSJT-X are useful for weak scatter signals and are worth investigating. As there are several Q65 modes, this mode may be best tried with

skeds. These skeds can be done during the contest as long as no QSO information is passed by non-amateur means. That is important.

If you have good antennas and some power, explore the EME capabilities of WSJT-X.

There was at least one report of someone operating FT8 on the SSB calling frequency for a prolonged time. Please do not do that. It will result in few if any QSOs and you will make the calling frequency useless for SSB QSOs. So take care where you operate.

Make sure your WSJT-X signal is clean or otherwise your signal will spread and make much of the digital band useless to others, both locals and those at a distance. Know where levels are set on your computer, on the WSJT-X software, the computer/radio interface, and the rig. Watch your ALC level. It should not, and need not, be high. One of the ways to deal with local WSJT-X QRM is to operate on the same sequence, but this requires everyone's compliance.

Log submission and checking

Submitting a log is the important last task in entering a contest. Your participation in the contest is not really complete without submitting a log. 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, if necessary. It helps the log checkers do a more accurate job and improves the integrity of the contest. It builds data for analysis of contests to make them better. For VHF/UHF/microwave 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 or you can use one of the web based log submittal forms. 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 web log submission page. Or, if you do not have access to a computer or the internet, 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 dupes. 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. Try to do it right the first time.

It is important to log all the QSOs that you make, even if they don't count for your entry. So, for example, if you are operating SO3B and decide to give someone a QSO on 1296, although it doesn't count for you, it will for the other op. You can flag QSOs you don't want counted towards your entry by marking them with "X-QSO:" instead of "QSO:" in that line of your Cabrillo submission. But you should include them in your log. While WSJT-X has reduced the number of logging errors it is still important to be vigilante when you make a QSO and correctly log it.

You should perform all the QSO logging during the contest. Logging is an integral part of the contest activity and should be performed during the contest.

Your final score as reported here or in QST 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" (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); and failing to hit enter after the QSO is complete to log it, particularly if using "QSY clears entry" mode in your logging program. A Golden Log, that is one that has no errors, while a task that requires tedious attention to detail, is worth striving for.

Oh yes, turn in those logs in a timely fashion, before they are due.

Golden Logs

Logs with no errors are a worthy goal of any competitor and something worth striving for. In the heat of contesting it is easy not to take the usual care in entering a call, or recording the band correctly. Also, as the number of QSOs increases, the chances for increased errors creeps in. The operator who takes the care to log without errors is a boon

to other contest participants, as anyone who has ever had a QSO rejected for "Not in Log" (NIL) can attest. Table 2 lists those operators who submitted logs with more than 50 QSOs and no logging errors. Way to go!

Golden Logs - Logs with no errors and more than 50 QSOs

Callsign	Category	Section	Score	QSOs
N6UTC/R	R	LAX	10758	208
N9YH/R	RL	IL	6160	205
K9US	SOHP	IN	11147	157
VE3SMA	SOLP	GTA	10258	153
WA3GFZ	SOLP	EPA	8022	139
N2BEG	SOLP	SNJ	3289	105
N2CB	SOHP	MI	7416	103
WQ0P	SOHP	KS	5247	95
K7TNT	SOHP	WY	5551	91
N7DA/R	RL	SDG	2040	87
6F6F	SOLP		4300	86
KB8VAO	SOLP	OH	3608	73
KX7L	SOLP	WWA	1120	70
W1TR	SOLP	CT	2568	70
WB2SIH/R	RL	ENY	2449	70
N0UBL	SOLP	MO	2967	69
N5KO	SOHP	SCV	1300	65
K8BB	SOLP	MI	1914	62
K8WU	SOLP	MI	1950	62
VE6KC	SOLP	AB	1638	62
WA2VJL	SOLP	STX	2666	62
KA0PQW	SOLP	MN	1920	59
N1JHJ	SOLP	NH	1513	59
W6DR	SOHP	SCV	826	59
K1ZE	SOHP	CT	1950	57
AB5HL	SOLP	NTX	2240	56
KE2D	SOHP	SNJ	648	54
WA1NVC	SOLP	EMA	1288	54
WZ5M	SOHP	LA	1782	54
N9BNN	SOHP	IN	2240	53
KF5BA	SOLP	MS	1456	52
KE6QR	SOLP	EB	1098	51
VE3EJ	SOHP	GTA	1479	51

Logs Submitted

The 1179 logs submitted for the 2022 January VHF contests is only slightly below the 1195 submitted for the 2021 contest.

Category	Entries
R	27
RL	42
RU	11
SOHP	256
SOLP	458
SOP	37
SO3B	257
SOFM	46
LM	20
UM	16
CHECKLOG	5

Logs Submitted by Category

Summary

The January VHF Contest is alive and healthy, although going through some significant transitions in participation, operating styles, and technology. This is the fifth year of the January Contest that operators have used WSJT-X and its popular modes including FT8, MSK144, and FT4. These modes, which extend the state-of-the-art of weak signal communications have had a profound effect on the contest, increasing entrants by almost 80%, increasing available QSOs under flat conditions, which are common in January, and getting new operators interested in VHF+ contesting. This is the seventh year that assistance has been available to all operators. This unrestricted assistance has had significant impact on contest activity, particularly with respect to rovers in sparsely populated, VHF-wise, areas.

Take stock of what worked for you and what didn't work for you in this contest. Decide how to improve on what worked and reduce the impact of what didn't work. Ask for help from club members or local VHF gurus if necessary.

Weather outside was cold at W2CCC – W2 Cold Contest Club. And, from the looks of it, a bit chilly inside as well! (Photo W2CCC)

The 2023 January VHF Contest will be held January 21-23, 2023, so start planning now. If you didn't get your fill of VHF+ contesting in this January's contest, the June VHF Contest will be held June 10-12, 2023, the 222 MHz and Up Distance Contest, August 5 and 6, 2023, and the September VHF Contest, September 9-11, 2023. Each of these contests have their own flavor and propagation. Enter them all!

Acknowledgements

Thanks to John, K9JK, for supplying portions of the log analysis data.

REGIONAL LEADERS

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)	
Classic Rover									
N7GP/R	271,660	KGØKJ/R	1,530	VE3OIL/R	34,040	AG4V/R	10,150	KF2MR/R	56,482
K6VHF/R	116,130	KØUH/R	297	K9TMS/R	14,028	W8BRY/R	2,352	K2ET/R	28,600
KJ7JC/R	78,822	K4IU/R	297	N9REP/R	13,356	W5VY/R	1,404	NN3Q/R	25,432
N7OW/R	76,715	AF4JF/R	2			KO4ARL/R	855	W3ICC/R	19,844
AC7FF/R	48,144							N5BNO/R	8,092
Limited Rover									
N6GP/R	20,800	KA5D/R	76,152	N9YH/R	6,160	AE5P/R	10,200	AF1R/R	3,040
W6YX/R	6,786	W5TN/R	70,620	VE3GKT/R	3,255	KM4OZH/R	5,700	WB2SIH/R	2,449
K6LMN/R	2,250	N6RH/R	10,530	KF8QL/R	1,275	NV4B/R	1,674	KA2YRA/R	1,170
KG6BXW/R	2,241	KT5TE/R	10,170	VA3CBU/R	869	KN4SYO/R	135	WS3O/R	333
N7DA/R	2,040	KI5FIQ/R	3,120	KB9RUG/R	208	N7IVV/R	15	N1SFE/R	234
Unlimited Rover									
K6MI/R	21,471	KD5IKG/R	99,275	K9JK/R	13,365			KG6CIH/R	26,100
N6ZE/R	6,144	K2EZ/R	48,557					KC1MUU/R	2,185
AL1VE/R	2,622	KCØP/R	7,776					WB2VVQ/R	297
		NØHZO/R	6,572						
Single Operator, High Power									
N1AV	157,852	K5LLL	35,300	K8ROX	31,122	W3IP	101,088	K1TEO	296,172
VE4MA/K7	16,598	W5PR	34,686	VE3ZV	30,750	K1HTV	31,924	K1RZ	142,713
N7EPD	12,083	W5LO	30,744	WØUC	25,482	N3MK	31,185	K1KG	57,420
K6KLY	11,472	WØGHZ	10,692	VE3WY	23,634	K4SO	31,007	WZ1V	55,002
KE7SW	8,820	KFØM	9,424	N2BJ	19,710	WA4GPM	26,400	N3NGE	54,292

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													
N7IR	18,921		WB5TUF	22,848		VE3DS	41,454		W4TM	9,860		AF1T	92,862
W6TV (W6YEP, op)	9,504		K5ND	22,504		VE3SMA	10,258		K4MY	9,030		WA3NUF	73,749
N7RK	9,450		K5TRA	17,098		VA3ZV	10,117		WD5HJF	6,975		N3RG	50,948
WZ8T	7,812		KM5RG	15,910		K9DJT	9,030		W2UA	6,903		N2WK	41,440
N7VD	7,385		NØLL	14,288		N9YK	6,783		AA4DD	6,726		NF3R	32,470
Single Operator, Portable													
WA7JTM	4,728		WA5DM	6,264		VE3IPS	66		KK4BZ	4,608		VA2VT	765
AA6XA	3,818		NØJK	1,457		VE3RQX	12		AB4DX	425		WB2AMU	546
AA4Q	3,288		NØSUW	256		VA3FGL	10		AC3H	288		AE1AA	344
KI7QEK	1,575		WØKI	48					K4EEO	198		KB3SIG	72
K7CNT	300		KIØG	1								KQ2RP	21
Single Operator, 3 band													
N7QOZ	3,014		W5TRL	49,590		KO9A	48,620		KK4MA	27,140		KE3JP	44,226
K5DTC	2,112		AA5AM	21,285		N8XQM	28,188		K1TO	15,189		N3AAA	40,767
NR7Y	2,006		K3NT	4,136		AB8M	22,058		KO4ECD	6,162		W3ATV	13,310
K6RO	1,953		KØPHP	3,773		VA3IKE	16,182		K5VIP	4,400		W3FAY	12,258
AA2IL	1,936		K5DHY	3,773		KA8CNI	12,728		K3FR	4,170		N3DGE	8,040
Single Operator, FM only													
K7ATN	1,096		KAØRTM	152		VE3RWJ	1,944		WG4I	330		K2SI	984
AF6GM	605		KAØRTB	148		VE3AYR	93		K4YCR	24		W3HDB	580
K1CT	580		KEØIZE	114		AA9IL	24		K4NRT	15		KB1YNT	222
KM6ZQB	352		KEØEXE	38		VA3DXZ	6		KJ4DWX	12		KD2VGM	170
KK7BFY	117		W5BHT	28		VA3AMX	2		NN4RB	1		VA2DG	115

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													
W6DMW	5,560		K5QE	150,750		VE3MIS	49,731		W4NH	59,332		N2NT	138,467
WO1S	1,840		KEØVKO	481		WD9EXD	47,642		W4YCC	5,643		W3SO	47,368
			NØLD	204		WA8MCD	7,688		WB4WXE	3,354		WA3EKL	12,600
									KM4KMU	3,192		N3EXA	8,496
									KO4IUM	705		N3PUU	7,904
Unlimited Multioperator													
VE6AO	1,027		K5TR	86,825		N8GA	95,496		N4SVC	81,087		KV1J	38,700
			KC5MVZ	4,840		KE8FD	72,250		N4BRF	12,144		KE1LI	30,668
						KE8RV	26,104		K2JB	5,208		WA3EHD	21,252
									N4DXY	1,728		W3RFC	11,024
												W2CCC	9,480

Division Winners

	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	Limited Multioperator	Unlimited Multioperator
Atlantic	KF2MR/R	WS3O/R		K1RZ	WA3NUF	KB3SIG	KE3JP	K2SI	W3SO	WA3EHD
Central	K9TMS/R	N9YH/R	K9JK/R	WØUC	K9DJT		KO9A	AA9IL	WD9EXD	
Dakota	KGØKJ/R	NØSPN/R	KCØP/R	WØGHZ	KAØPQW	NØSUW	KUØHN	KAØRTM	KEØVKO	
Delta	AG4V/R	AE5P/R		WZ5M	WD5HJF		WT4R	K4NRT		
Great Lakes		KF8QL/R		K8ROX	KE8JCD		N8XQM		WA8MCD	N8GA
Hudson		WB2SIH/R		W2KV	NA2NY	WB2AMU	WA3AFS	W2FTL	N2NT	
Midwest	AF4JF/R			KFØM	NØLL	NØJK	KØPHP	KEØIZE		
New England		AF1R/R	KG6CIH/R	K1TEO	AF1T	AE1AA	K1AFC	KB1YNT	W1FM	KV1J
Northwestern	WA6OEM/R	K7BDB/R	AL1VE/R	N7EPD	WZ8T	KA7UCI	N7QOZ	K7ATN		
Pacific		W6YX/R	K6MI/R	K6KLY	W6TV (W6YEP, op)	AA6XA	N4DLA	K6KQV	W6DMW	
Roanoke	W8BRY/R	KM4OZH/R		W3IP	WA4LDU	KK4BZ	KK4MA	K4YCR	W4YCC	K2JB
Rocky Mountain		AA5PR/R		K7TNT	NJ7A	WØKI	KBØNAV	NØEMU		
Southeastern		NV4B/R		WA4GPM	W4TM	AB4DX	K1TO	WG4I	W4NH	N4SVC
Southwestern	N7GP/R	N6GP/R	N6ZE/R	N1AV	N7IR	WA7JTM	K6RO	AF6GM	WO1S	
West Gulf		KA5D/R	KD5IKG/R	K5LLL	WB5TUF	WA5DM	W5TRL	W5BHT	K5QE	K5TR
Canada	VE3OIL/R	VE3GKT/R		VE3ZV	VE3DS	VA2VT	VA3IKE	VE3RWJ	VE3MIS	VE6AO

QSO & MULTIPLIER LEADERS

Classic Rover	
50 MHz QSOs	
N7GP/R	152
K2ET/R	66
K6VHF/R	66
W3ICC/R	54
KF2MR/R	53
VE3OIL/R	53
50 MHz Mults	
N7GP/R	26
AG4V/R	23
VE3OIL/R	17
K6VHF/R	12
KK6MC/R	11
144 MHz QSOs	
N7GP/R	112
VE3OIL/R	87
K2ET/R	76
KF2MR/R	68
N6UTC/R	64
144 MHz Mults	
VE3OIL/R	20
K2ET/R	14
W5VY/R	10
KF2MR/R	9
NN3Q/R	9

222 MHz QSOs	
N7GP/R	104
KF2MR/R	64
K9TMS/R	51
N9REP/R	48
K6VHF/R	47
222 MHz Mults	
KF2MR/R	9
N7OW/R	8
N7GP/R	7
VE3OIL/R	7
K6VHF/R	6
KJ7JC/R	6
432 MHz QSOs	
N7GP/R	134
K6VHF/R	81
AC7FF/R	59
N7OW/R	59
KF2MR/R	54
432 MHz Mults	
KF2MR/R	8
N7OW/R	8
AC7FF/R	7
N7GP/R	7
VE3OIL/R	7
902 MHz QSOs	
N7GP/R	110
K6VHF/R	58
N7OW/R	51
KF2MR/R	39
AC7FF/R	38

902 MHz Mults	
N7OW/R	8
K6VHF/R	7
N7GP/R	7
AC7FF/R	6
KF2MR/R	6
KJ7JC/R	6
1.2 GHz QSOs	
N7GP/R	120
K6VHF/R	66
N7OW/R	52
AC7FF/R	46
KF2MR/R	44
KJ7JC/R	44
1.2 GHz Mults	
N7OW/R	8
K6VHF/R	7
KF2MR/R	7
N7GP/R	7
AC7FF/R	6
KJ7JC/R	6
2.3 GHz QSOs	
N7GP/R	105
K6VHF/R	51
N7OW/R	43
AC7FF/R	36
KJ7JC/R	35
2.3 GHz Mults	
N7GP/R	7
AC7FF/R	6

K6VHF/R	6
N7OW/R	6
KF2MR/R	5
KJ7JC/R	5
W3ICC/R	5
3.4 GHz QSOs	
N7GP/R	33
KJ7JC/R	24
AC7FF/R	23
KF2MR/R	10
K6VHF/R	9
3.4 GHz Mults	
AC7FF/R	5
KJ7JC/R	5
K6VHF/R	4
KF2MR/R	4
N7GP/R	4
5.7 GHz QSOs	
N7GP/R	26
KJ7JC/R	21
K6VHF/R	19
NN3Q/R	6
5.7 GHz Mults	
K6VHF/R	4
KJ7JC/R	4
N7GP/R	4
NN3Q/R	2
10 GHz QSOs	
N7GP/R	35
K6VHF/R	25

KJ7JC/R	21
N7OW/R	18
NN3Q/R	6
10 GHz Mults	
K6VHF/R	6
N7OW/R	6
KJ7JC/R	4
N7GP/R	4
NN3Q/R	2
24 GHz QSOs	
VE3OIL/R	1
W3ICC/R	1
24 GHz Mults	
VE3OIL/R	1
W3ICC/R	1
123 GHz QSOs	
VE3OIL/R	1
123 GHz Mults	
VE3OIL/R	1
Light QSOs	
VE3OIL/R	1
W3ICC/R	1
Light Mults	
VE3OIL/R	1
W3ICC/R	1
Limited Rover	
50 MHz QSOs	

W5TN/R	217
KA5D/R	202
N6GP/R	81
N6RH/R	62
AE5P/R	60
50 MHz Mults	
KA5D/R	68
W5TN/R	60
NV4B/R	16
WB2SIH/R	14
N6GP/R	12
NØLD/R	12
144 MHz QSOs	
N6GP/R	98
KA5D/R	95
W5TN/R	93
KM4OZH/R	92
W6YX/R	79
144 MHz Mults	
W5TN/R	16
KA5D/R	15
N6GP/R	10
VE3GKT/R	10
WB2SIH/R	10
222 MHz QSOs	
W5TN/R	89
KA5D/R	87
N6RH/R	57
KT5TE/R	56
AE5P/R	55

222 MHz Mults	
KA5D/R	10
W5TN/R	10
N6GP/R	9
AE5P/R	6
KT5TE/R	6
N6RH/R	6
432 MHz QSOs	
KA5D/R	104
W5TN/R	97
N6GP/R	80
N6RH/R	61
AE5P/R	58
432 MHz Mults	
KA5D/R	11
W5TN/R	11
N6GP/R	10
W6YX/R	7
AE5P/R	6
KT5TE/R	6
N6RH/R	6
Unlimited Rover	
50 MHz QSOs	
KD5IKG/R	145
K9JK/R	76
AL1VE/R	56
K2EZ/R	55
N6ZE/R	48
50 MHz Mults	
KD5IKG/R	33
K6MI/R	16

AL1VE/R	11
K2EZ/R	10
KC1MUU/R	8
144 MHz QSOs	
KD5IKG/R	109
K9JK/R	69
K2EZ/R	61
N6ZE/R	61
K6MI/R	40
144 MHz Mults	
KD5IKG/R	13
K6MI/R	9
K2EZ/R	7
KC1MUU/R	7
K9JK/R	6
KCØP/R	6
222 MHz QSOs	
KD5IKG/R	96
K2EZ/R	60
K9JK/R	52
N6ZE/R	28
KG6CIH/R	17
222 MHz Mults	
KD5IKG/R	10
K2EZ/R	6
K6MI/R	4
K9JK/R	4
KG6CIH/R	4
N6ZE/R	4
432 MHz QSOs	

KD5IKG/R	100
K2EZ/R	62
K9JK/R	60
N6ZE/R	30
KCØP/R	28
432 MHz Mults	
KD5IKG/R	10
K2EZ/R	7
K6MI/R	7
KCØP/R	5
NØHZO/R	5
902 MHz QSOs	
K9JK/R	32
K2EZ/R	22
KD5IKG/R	22
KG6CIH/R	15
KCØP/R	12
902 MHz Mults	
K2EZ/R	6
KD5IKG/R	5
K9JK/R	4
KCØP/R	4
KG6CIH/R	4
NØHZO/R	4
1.2 GHz QSOs	
K2EZ/R	21
KD5IKG/R	16
KG6CIH/R	15
KCØP/R	14
NØHZO/R	14
5.7 GHz QSOs	

1.2 GHz Mults	
K2EZ/R	6
KCØP/R	5
KD5IKG/R	5
NØHZO/R	5
K6MI/R	4
KG6CIH/R	4
2.3 GHz QSOs	
K2EZ/R	20
KD5IKG/R	17
KG6CIH/R	13
K6MI/R	5
N6ZE/R	1
2.3 GHz Mults	
K2EZ/R	6
KD5IKG/R	5
KG6CIH/R	4
K6MI/R	1
N6ZE/R	1
3.4 GHz QSOs	
K2EZ/R	17
KD5IKG/R	16
KG6CIH/R	11
K6MI/R	5
3.4 GHz Mults	
K2EZ/R	5
KD5IKG/R	4
KG6CIH/R	4
K6MI/R	1
5.7 GHz QSOs	

KG6CIH/R	7
K6MI/R	5
N6ZE/R	1
5.7 GHz Mults	
KG6CIH/R	2
K6MI/R	1
N6ZE/R	1
10 GHz QSOs	
KG6CIH/R	9
K6MI/R	5
10 GHz Mults	
KG6CIH/R	3
K6MI/R	1
24 GHz QSOs	
K6MI/R	5
KG6CIH/R	2
24 GHz Mults	
K6MI/R	1
KG6CIH/R	1
123 GHz QSOs	
KG6CIH/R	2
123 GHz Mults	
KG6CIH/R	1
Light QSOs	
K6MI/R	1
KG6CIH/R	1

Light Mults	
K6MI/R	1
KG6CIH/R	1
Single Operator, High Power	
50 MHz QSOs	
K1TEO	301
N3FTI	301
W5PR	272
K1HTV	253
W5LO	249
50 MHz Mults	
W5LO	126
W5PR	115
K8ROX	87
W4TAA	82
K9OM	80
144 MHz QSOs	
W3XTT	237
K1TEO	234
WZ1V	138
W2KV	136
W3IP	128
144 MHz Mults	
W3XTT	78
K1TEO	47
K2TXB	40
VE3WY	39
K1RZ	38
W3IP	38

222 MHz QSOs	
K1TEO	74
K1RZ	55
N2JMH	47
WZ1V	41
N3NGE	36
222 MHz Mults	
K1TEO	29
K1RZ	23
N2JMH	18
WZ1V	18
W3IP	15
432 MHz QSOs	
K1TEO	100
K1RZ	90
W3IP	60
W2KV	50
WZ1V	50
432 MHz Mults	
K1TEO	34
K1RZ	32
KU4XO	29
W3IP	26
W3TI	21
902 MHz QSOs	
N1AV	32
K1RZ	24
K1TEO	22
VE4MA/K7	17
KC2TN	13

902 MHz Mults	
K1TEO	15
K1RZ	12
N1AV	8
K1KG	7
VE3ZV	6
VE4MA/K7	6
1.2 GHz QSOs	
N1AV	59
K1TEO	45
K1RZ	33
VE4MA/K7	22
WB2RVX	21
1.2 GHz Mults	
N1AV	26
K1TEO	19
K1RZ	13
N8LRG	13
WZ1V	10
2.3 GHz QSOs	
N1AV	28
K1TEO	16
VE4MA/K7	16
K1RZ	13
WA2OMY	13
2.3 GHz Mults	
K1TEO	10
N1AV	8
K1RZ	7
VE3ZV	6
K1KG	5

N3NGE	5
VE4MA/K7	5
3.4 GHz QSOs	
N1AV	13
K1KG	5
VE3ZV	5
WA2OMY	5
K1TEO	4
K2TER	4
3.4 GHz Mults	
K1KG	5
K1TEO	4
N1AV	4
VE3ZV	4
K2TER	3
5.7 GHz QSOs	
N1AV	11
VE4MA/K7	7
N3NGE	5
K1KG	3
K1RZ	2
W1FKF	2
WA2OMY	2
5.7 GHz Mults	
N1AV	4
N3NGE	4
VE4MA/K7	4
K1KG	3
K1RZ	2
10 GHz QSOs	

N1AV	16
K1RZ	7
VE4MA/K7	6
W1FKF	4
WØGHZ	4
10 GHz Mults	
N1AV	6
VE4MA/K7	4
K1KG	3
K1RZ	3
K2TER	3
N3NGE	3
24 GHz QSOs	
W1FKF	1
W3GAD	1
24 GHz Mults	
W1FKF	1
W3GAD	1
47 GHz QSOs	
W1FKF	1
47 GHz Mults	
W1FKF	1
Light QSOs	
W2SJ	1
W3GAD	1
Light Mults	
W2SJ	1
W3GAD	1

Single Operator, Low Power	
50 MHz QSOs	
WB5TUF	223
NF3R	206
K5ND	182
KM5RG	149
N8RA	141
50 MHz Mults	
WB5TUF	97
K5ND	78
NØLL	78
AE5FM	72
KM5RG	71
144 MHz QSOs	
NW2M	145
N2SCJ	139
NF3R	136
WA3NUF	122
N8RA	116
W3KM	116
144 MHz Mults	
WE9R	35
N9YK	34
NW2M	33
N8RA	31
N2SCJ	29
N2WK	29
NF3R	29
VA3ZV	29

222 MHz QSOs	
AF1T	53
WA3NUF	40
N3RG	34
KA3FQS	32
N6VI	29
222 MHz Mults	
AF1T	14
VE3DS	13
N2MKT	11
N3RG	10
N8RA	10
WA3NUF	10
432 MHz QSOs	
AF1T	73
WA3NUF	57
N7RK	53
N7IR	50
N3RG	44
432 MHz Mults	
VE3DS	16
AF1T	14
N3RG	12
WA3NUF	12
N2WK	9
N7RK	9
NF3R	9
902 MHz QSOs	
N2WK	22
AF1T	19
WA3NUF	16

N3RG	14
VE3DS	12
902 MHz Mults	
AF1T	9
VE3DS	8
N2WK	7
N3RG	6
N7VD	5
1.2 GHz QSOs	
N7IR	33
N7RK	28
AF1T	27
N3RG	26
WA3NUF	24
1.2 GHz Mults	
VE3DS	12
N3RG	10
AF1T	9
WA3NUF	7
N2MKT	6
N7IR	6
2.3 GHz QSOs	
WA3NUF	17
N2WK	15
AF1T	12
KA3FQS	7
N7VD	7
2.3 GHz Mults	
AF1T	7
WA3NUF	6

N2WK	5
N3RG	4
N7VD	4
VE3DS	4
W6TV (W6YEP, op)	4
3.4 GHz QSOs	
AF1T	8
WA3NUF	6
N2WK	4
W6TV (W6YEP, op)	4
KA3FQS	3
3.4 GHz Mults	
AF1T	5
W6TV (W6YEP, op)	4
N2WK	3
N3RG	2
VE3DS	2
W3SZ	2
WA3NUF	2
5.7 GHz QSOs	
AF1T	8
W6TV (W6YEP, op)	4
N2WK	2
N3RG	2
WA3NUF	2
5.7 GHz Mults	
AF1T	5

W6TV (W6YEP, op)	4
N2WK	2
N3RG	2
W3SZ	1
WA3NUF	1
WA6EJO	1
10 GHz QSOs	
AF1T	8
W6TV (W6YEP, op)	4
K5TRA	3
NJ7A	3
WJ7L	3
10 GHz Mults	
AF1T	5
W6TV (W6YEP, op)	4
K5TRA	2
N3RG	2
W3SZ	2
WA7GIE	2
WJ7L	2
24 GHz QSOs	
W6TV (W6YEP, op)	4
AF1T	2
24 GHz Mults	
W6TV (W6YEP, op)	4
AF1T	1

123 GHz QSOs	
AF1T	2
123 GHz Mults	
AF1T	1
241 GHz QSOs	
AF1T	1
241 GHz Mults	
AF1T	1
Light QSOs	
AA3JH	1
Light Mults	
AA3JH	1
Single Operator, Portable	
50 MHz QSOs	
WA5DM	79
KK4BZ	53
NØJK	48
AE1AA	26
WA7JTM	23
50 MHz Mults	
WA5DM	45
NØJK	30
KK4BZ	16
K4EEO	11
AB4DX	9
144 MHz QSOs	

AA6XA	64
KK4BZ	62
WA7JTM	33
KI7QEK	23
AA4Q	22
144 MHz Mults	
KK4BZ	13
VA2VT	9
AA6XA	7
AC3H	7
K7CNT	7
222 MHz QSOs	
WA7JTM	13
AA4Q	9
KI7QEK	8
WA5DM	5
VA2VT	4
222 MHz Mults	
AA4Q	3
WA5DM	3
AA6XA	2
KI7QEK	2
WA7JTM	2
WB2AMU	2
432 MHz QSOs	
AA6XA	19
WA7JTM	19
KK4BZ	17
AA4Q	15
WA5DM	11

432 MHz Mults	
WA7JTM	6
AA4Q	5
AA6XA	4
WA5DM	4
K7CNT	3
KI7QEK	3
KK4BZ	3
902 MHz QSOs	
WA7JTM	6
KI7QEK	4
AA4Q	2
VA2VT	1
WA6WDY	1
902 MHz Mults	
WA7JTM	3
AA4Q	2
KI7QEK	2
VA2VT	1
WA6WDY	1
1.2 GHz QSOs	
WA7JTM	15
AA6XA	11
AA4Q	10
KI7QEK	7
AC3H	2
VE3IPS	2
1.2 GHz Mults	
AA6XA	5
AA4Q	4
WA7JTM	4

KI7QEK	2
AC3H	1
K6CLS	1
VA2VT	1
VE3IPS	1
VE3RQX	1
2.3 GHz QSOs	
KB3SIG	1
2.3 GHz Mults	
KB3SIG	1
3.4 GHz QSOs	
KB3SIG	1
3.4 GHz Mults	
KB3SIG	1
Light QSOs	
KB3SIG	1
Light Mults	
KB3SIG	1
Single Operator, 3 Band	
50 MHz QSOs	
W5TRL	273
KE3JP	236
KO9A	205
AA5AM	195
K1TO	186
50 MHz Mults	

W5TRL	122
KK4MA	87
AA5AM	84
K1TO	83
KO9A	81
144 MHz QSOs	
KE3JP	132
AB8M	116
N3AAA	114
KO9A	100
N3DGE	84
144 MHz Mults	
N3AAA	43
VA3IKE	38
AB8M	36
KE3JP	36
N8XQM	36
432 MHz QSOs	
KO9A	37
AB8M	33
W3ATV	30
N7QOZ	28
K5DTC	27
432 MHz Mults	
KO9A	15
AB8M	14
KX9X	12
N8XQM	11
N3AAA	10

Single Operator, FM Only	
50 MHz QSOs	
K2SI	14
AF6GM	11
K7ATN	9
KD2VGM	6
KM6ZQB	3
50 MHz Mults	
K2SI	4
AF6GM	3
WG4I	2
K4YCR	1
K7ATN	1
K7IMA	1
KB1YNT	1
KD2VGM	1
KM6ZQB	1
NE3I	1
VA2DG	1
W3HDB	1
144 MHz QSOs	
K7ATN	65
VE3RWJ	59
K2SI	43
W3HDB	35
KB1YNT	28
144 MHz Mults	
KEØIZE	6
AF6GM	4
K1CT	4
K2SI	4

K7ATN	4
VE3RWJ	4
W2FTL	4
W3HDB	4
222 MHz QSOs	
VE3RWJ	10
K1CT	9
KM6ZQB	7
K7ATN	6
AA9IL	4
NE3I	4
VA2DG	4
222 MHz Mults	
K1CT	4
VE3RWJ	4
AA9IL	2
KM6ZQB	2
KO6BT	2
W3HDB	2
WG4I	2
432 MHz QSOs	
VE3RWJ	42
K7ATN	29
AF6GM	15
K2SI	14
KAØRTB	13
KAØRTM	13
432 MHz Mults	
AF6GM	4
K2SI	4
VE3RWJ	4

K6KQV	3
KM6ZQB	3
W3HDB	3
WG4I	3
Limited Multioperator	
50 MHz QSOs	
K5QE	356
N2NT	289
W4NH	228
W3SO	208
WD9EXD	138
50 MHz Mults	
K5QE	139
W4NH	111
WD9EXD	86
W3SO	73
N2NT	57
144 MHz QSOs	
N2NT	285
W3SO	178
K5QE	133
VE3MIS	116
WA3EKL	100
144 MHz Mults	
K5QE	78
W3SO	51
WD9EXD	49
N2NT	46
VE3MIS	31

222 MHz QSOs	
N2NT	71
VE3MIS	31
N3EXA	21
WD9EXD	16
W4NH	8
222 MHz Mults	
N2NT	23
VE3MIS	19
WD9EXD	14
W4NH	5
KM4KMU	3
N3EXA	3
WB4WXE	3
432 MHz QSOs	
N2NT	109
VE3MIS	76
K2AA	39
W4NH	32
K5QE	31
432 MHz Mults	
VE3MIS	35
N2NT	25
W4NH	19
K5QE	17
WD9EXD	17
1.2 GHz QSOs	
K5QE	18
W6DMW	7
1.2 GHz Mults	

K5QE	16
W6DMW	5
Unlimited Multioperator	
50 MHz QSOs	
N4SVC	277
K5TR	252
N8GA	227
KV1J	206
KE1LI	193
50 MHz Mults	
N4SVC	117
N8GA	100
K5TR	92
KE8FD	67
KV1J	56
144 MHz QSOs	
KE1LI	140
KE8FD	136
N8GA	134
W3RFC	114
KE8RV	95
144 MHz Mults	
KE8FD	57
N8GA	48
KE8RV	35
N4SVC	34
KE1LI	30
222 MHz QSOs	
K5TR	26
KE8FD	21
N8GA	20
WA3EHD	17
KE1LI	16
KV1J	16
222 MHz Mults	
KE8FD	17
K5TR	12
N8GA	12
KV1J	9
KE1LI	8
432 MHz QSOs	
N8GA	51
KE8FD	47
K5TR	44
N4SVC	26
WA3EHD	25
432 MHz Mults	
KE8FD	28
N8GA	22
K5TR	14
N4SVC	12
KE8RV	11
902 MHz QSOs	
K5TR	12
WA3EHD	12
N4SVC	6
KV1J	4
VE6AO	2
W3RFC	2
902 MHz Mults	
K5TR	6
N4SVC	4
KV1J	3
VE6AO	2
WA3EHD	2
1.2 GHz QSOs	
WA3EHD	14
N4SVC	10
K5TR	7
KC5MVZ	5
N8GA	5
VE6AO	5
1.2 GHz Mults	
N4SVC	6
W2CCC	4
K5TR	3
KV1J	3
VE6AO	3
2.3 GHz QSOs	
WA3EHD	7
K5TR	5
KV1J	1
2.3 GHz Mults	
K5TR	3
WA3EHD	2
KV1J	1
3.4 GHz QSOs	
WA3EHD	5
3.4 GHz Mults	
WA3EHD	2
10 GHz QSOs	
K5TR	2
W2CCC	1
10 GHz Mults	
K5TR	1
W2CCC	1
Light QSOs	
WA3EHD	1
Light Mults	
WA3EHD	1