# ARRL International DX Contest CW 2017 Results

***By Matt Wilhelm, w1msw@arrl.net***

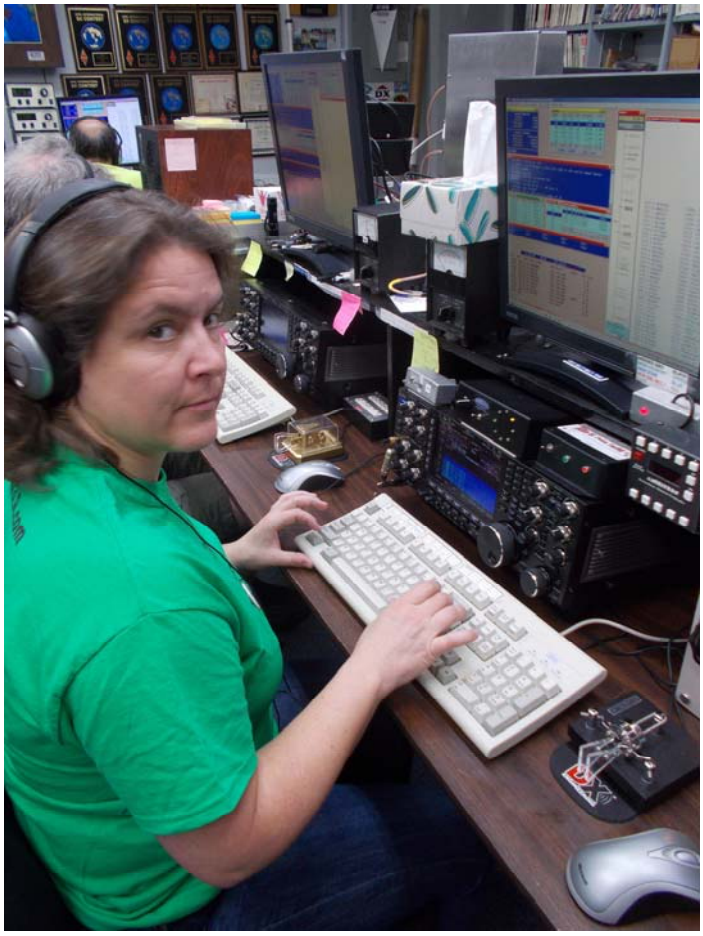
**Low-band aficionados rejoice, your time is here. While the 2017 ARRL International DX Contest CW offered some surprising results despite dodgy solar conditions, it did make clear the trend away from high-band supremacy has begun.**

"OK, time for us all to accept and adapt, this is the new normal for the next few years... suck it up and build bigger low band antennas!" said John, W2GD, of his dominant win in the DX Single Operator Unlimited Low Power category.

As the contest season raced down the back slope of Cycle 24, several of the major HF contests fell victim to worsening solar conditions. But there was good fortune for this contest and the propagation gods took mercy on its participants who submitted nearly 4,000 logs with more than 1.5M contacts to many DX locations around the world.

Just more than half the logs submitted came from 130 DX entities outside of the continental US and Canada. More than 1,600 logs were received from W/VE stations and all but two of the multipliers, NU and NT, were represented this year. Many stations noted participation seemed up from years past and although the hard numbers show a slight decrease in the number of participants, it may have been the better-than-expected conditions that made activity seem so good.

Solar conditions, weather, and competing events both in Radiosport and in popular culture can make or break the levels of participation. In the worst years of poor solar conditions and propagation on the high bands, dwindling QSO counts are further reduced by the sound of headphones being ripped off the ears of frustrated operators as they throw in the towel. And although many of us will heed the advice of W3LPL and diligently attempt to improve our low-band antennas, that strong desire to venture north of the 40 and 20 Meter doldrums will stay with us. Luckily for us, this year we still had a little wind in our sails.



Sandy, DL1QQ, made the trip from Germany to Western Pennsylvania so she could operate the 80-meter position at K3LR. Sandy and band-partner Phil, K3UA, made 959 QSOs in 104 DXCC entities on the band over the weekend! [Ward Silver, NØAX, photo]

## Participation and Conditions

While we were not quite at "no meters like 10 meters" conditions, and those playing in the lower power categories might have been questioning their sanity more than usual, there were plenty of contacts made over the weekend."What a nice surprise! Conditions were good despite the SFI, A and K index. You just got to get on and operate and see what happens," said Craig, K9CT. Many stations reported despite the forecasts, they were quite pleased with conditions. Comparing

scores between this year and last certainly tells the story of the sub-optimal propagation more accurately, but the level of activity seemed high enough to keep many entrants in the game for what felt like a successful contest and to help steer the mantra of the post-contest reports that conditions were surprisingly good.

## Records

Worsening conditions on the high bands can certainly have some interesting effects on the contest records. Operating as FY5KE in French Guiana, Larry, F6FVY, was concerned his small margin over the current DX Single Band 20 Meter record wouldn't survive log checking. After the dust settled inside the log checking machine, he had secured the record, beating the last one set more than 20 years ago at the beginning of Cycle 23. Several continental records also fell this year in the single band categories. 4M1K with YV1KK at the helm broke the record for Single Band 80 Meters in South America and TA3D inched past the former Asia record for Single Band 40 Meters. YL2KL boosted the D4C SOULP record for Africa by just shy of 1M points above their previous continental record set back in 2009.

| **2017 ARRL International DX Contest (CW)** | |
|---|---|
| | |
| **Top Ten DX** | |
| | |
| **Single Operator, High Power** | |
| 8P5A | 6,813,876 |
| TI5W (N4YDU, op) | 6,685,536 |
| 6Y2T (VE3DZ, op) | 5,398,860 |
| V43Z (NP4Z, op) | 4,636,608 |
| NP2P | 3,341,580 |
| KH7M (NA2U, op) | 3,192,420 |
| KH7Q (N6TJ, op) | 3,063,600 |
| PS2T (PY2ZEA, op) | 2,633,241 |
| WP3R (K4ZA, op) | 2,500,338 |
| ISØ/OM8A (OM3RM, op) | 2,328,390 |
| | |
| **Single Operator, Low Power** | |
| ZF9CW | 4,268,664 |
| WP3C | 3,489,486 |
| NP3X (WP3A, op) | 3,446,583 |
| NP3A | 3,008,238 |
| VP9/W6PH | 2,980,458 |
| VP5M (K4QPL, op) | 2,484,753 |
| HC1WBT (WØOR, op) | 1,699,320 |
| PY2NY | 1,381,800 |
| HI3Y | 1,316,160 |
| EA8CN | 968,430 |
| | |
| **Single Operator, QRP** | |
| HB9BMY | 318,588 |
| EF7AAW | 101,202 |
| HA3MY | 78,120 |
| JH4UYB | 76,788 |
| LZ2RS | 62,694 |
| 5W1SA | 50,787 |
| JH1OGC | 49,896 |
| IK1XPK | 46,350 |
| HA5BA | 41,400 |
| OK5WF | 36,636 |
| | |
| **Single Operator Unlimited, High Power** | |
| D4C (YL2KL, op) | 4,844,232 |
| V26M (N3AD, op) | 4,251,792 |
| EF6T (EA3AIR, op) | 2,516,844 |
| LX7I (DL5SE, op) | 2,364,255 |
| G5W (G3BJ, op) | 2,358,528 |
| IR2C (IK2JUB, op) | 2,226,792 |
| IO4T | 2,186,712 |
| SN7Q (SP7GIQ, op) | 2,048,445 |
| HG3R | 1,976,115 |
| CE2MVF | 1,921,788 |
| | |
| **Single Operator Unlimited, Low Power** | |
| P4ØW (W2GD, op) | 4,347,750 |
| CN8KD | 1,020,036 |
| EC4TA | 945,009 |
| PS8HF | 904,800 |
| UZ3A (UX1AA, op) | 587,367 |
| S57KM | 564,453 |
| S56A | 398,505 |
| SN7O (SP7IVO, op) | 363,699 |
| HA5PP | 310,023 |
| Z33C | 289,872 |

| **Single Operator Unlimited, QRP** | |
|---|---|
| OK2FD | 220,350 |
| IZ3NVR | 219,492 |
| ON6NL | 164,808 |
| CX4SS | 81,954 |
| EA1AER | 48,840 |
| IW3ILM | 24,624 |
| F5IYJ | 11,466 |
| SMØLPO | 9,696 |
| JH3WKE | 9,216 |
| E72MD | 8,829 |
| | |
| **Single Operator, 160 Meters** | |
| XE2X | 110,979 |
| C6AKQ (N4BP, op) | 110,544 |
| NP2J | 107,217 |
| 9A5CW | 36,408 |
| SN2M (SP2XF, op) | 31,236 |
| OK3C (OK2ZC, op) | 27,432 |
| IK2CLB | 26,793 |
| F6ARC | 23,415 |
| G3LET | 22,890 |
| DJØMDR | 16,137 |
| | |
| **Single Operator, 80 Meters** | |
| 4M1K (YV1KK, op) | 195,120 |
| HC2AO | 176,823 |
| TM5Y (F8DBF, op) | 166,518 |
| CT9/UA9CDC (UA9CDC, op) | 144,594 |
| MW5B | 139,125 |
| TM5X (F6AGM, op) | 120,528 |
| OM2VL | 109,350 |
| NP2L | 100,320 |
| CO2AN | 96,096 |
| KH6/WB4JTT (WB4JTT, op) | 91,176 |
| | |
| **Single Operator, 40 Meters** | |
| TM6M (F1AKK, op) | 287,100 |
| EF7X (EA7KW, op) | 280,539 |
| S52AW | 259,920 |
| C6AUM | 241,926 |
| IR1Y (IK1YDB, op) | 238,680 |
| OM7M (OM5RM, op) | 236,340 |
| OM7JG | 213,639 |
| YT7A (YU7DW, op) | 212,400 |
| US1I (UX2IO, op) | 210,267 |
| SP3GEM (SP3HLM, op) | 207,540 |
| | |
| **Single Operator, 20 Meters** | |
| FY5KE (F6FVY, op) | 442,680 |
| CS2C (OK1RF, op) | 379,359 |
| MM2N (MMØGPZ, op) | 231,861 |
| CO2JD | 231,129 |
| EA8KW | 225,900 |
| C6ARU (N4UM, op) | 205,692 |
| OF8L (OH8LQ, op) | 204,120 |
| HA7GN | 195,810 |
| S5ØQ (S5ØR, op) | 189,222 |
| IZ1YPF | 188,124 |
| | |
| **Single Operator, 15 Meters** | |
| TO1A | 326,655 |
| CW4MAX (CX2DK, op) | 296,826 |
| PP5NY | 289,440 |
| CT9/R9DX (R9DX, op) | 227,700 |
| PJ6T (NM1Y, op) | 165,996 |
| PY2DV | 114,696 |
| CO8LY | 82,839 |
| EA2LU | 82,212 |
| OK3RM | 70,752 |
| HGØR (HAØNAR, op) | 67,482 |
| | |
| **Single Operator, 10 Meters** | |
| XR2K (CE2LML/CX1EK, op) | 138,852 |
| TI8/AA8HH | 89,376 |
| HK1MW | 30,573 |
| | |
| **Multioperator, Single Transmitter, High Power** | |
| ZF1A | 5,808,057 |
| P4ØL | 5,526,150 |
| VP5K | 4,299,075 |
| CW5W | 3,865,749 |
| PW2D | 3,556,014 |
| J75Y | 3,001,440 |
| CE3AA | 2,150,700 |
| DK8ZB | 1,726,866 |
| DL1A | 1,726,272 |
| HG1S | 1,605,870 |

| Multioperator, Single Transmitter, Low Power | |
|---|---|
| V3T | 4,794,258 |
| VP2MVV | 4,760,592 |
| 5JØNA | 2,466,672 |
| CO8ZZ | 2,100,006 |
| TM7X | 962,910 |
| PY2KC | 238,128 |
| F8KLY | 222,138 |
| 2EØSDV | 65,136 |
| YO3GNF | 34,983 |
| UR4RWW | 23,616 |
| | |
| **Multioperator, Two Transmitter** | |
| P4ØR | 7,518,000 |
| KP2M | 7,135,014 |
| NP2N | 6,437,220 |
| CR3W | 5,499,900 |
| EI7M | 4,021,209 |
| HG7T | 2,189,169 |
| V3M | 2,059,992 |
| SN8B | 1,826,280 |
| ZL3X | 1,500,681 |
| RU1A | 1,222,368 |
| | |
| **Multioperator, Multitransmitter** | |
| PJ4X | 9,458,922 |
| PJ2T | 9,216,720 |
| KH6LC | 6,374,400 |
| TO7A (UT5UGR, op) | 6,044,046 |
| 9A1A | 3,598,056 |
| KL7RA | 2,823,660 |
| RW2F | 1,944,585 |
| JA3YBK | 1,531,476 |
| PY4XX | 77,976 |

Back in W/VE there were a few call area single-band records broken as well. K9BGL secured the Single Band 20 Meters record for the 9 area, while N2MF added 100K of breathing room to his previous record for Single Band 40 Meters in the 2 area he set in 2006. AB4B in "Sweet Home Alabama" consisted of a new team of operators, but they seemed to work well together as they crushed the former 4 area Mulit-Single Low Power record by more than 1.3M points.

2016 was the first year that the SOUQRP category was recognized and only about half of the DX and W/VE records were filled. This year more participants realized this category was an option and more blanks were filled with first-time call area and continental records. There were also several scores that beat records established last year. JH3WKE tripled the record score for Asia and here in W/VE, N2CW and K3TW broke the records for area 2 and area 4, respectively.

The big question is how many low-band records will be broken in the upcoming years. Many of the current records for those bands were set in past solar minimums. It is time to start working on those receive antennas.

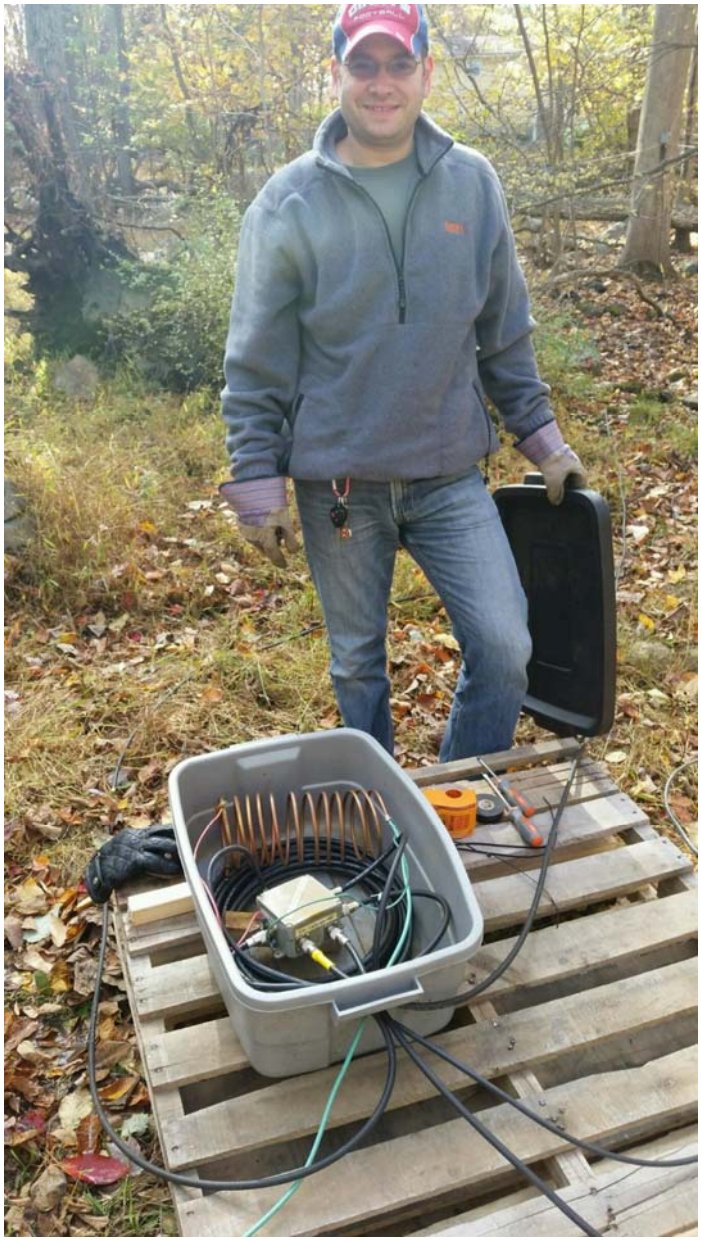
**Here at Home**

Establishing a historic milestone, and becoming the answer to a radiosport trivia question, Alex, LZ4AX, sent the K3CR station out with a bang, winning the Single Operator, High Power category. The win is mixed with a bit of sadness as this contest was the last from K3CR as the station begins to be dismantled this year. "I really feel fortunate for being able to drive this monster for the last 16 years. After more than a hundred contests, hundreds of tower climbs, countless hours of maintenance work and thousands of miles travelled to get to the station, it's time to say enough and move on."

Jeff, N8II, found his way to the top of the SOLP category, despite having to shut down his station four hours before the end of the contest. Gary, K5KU, who was using only 75 watts, was ahead of Jeff for the first 12 hours of the contest. Jeff pulled ahead after that and despite a serious comeback effort made by Gary on the second day, it just wasn't a match for a Jeff's Sunday afternoon rate hours going back and forth between 15 and 20 meters.

There was no need for photo finish cameras in the Unlimited Categories this year, but there was a familiar call that was back in SOUHP category after a two-year hiatus. After winning the M2 category last year, Rick, KI1G returned to SOUHP to win by a sizeable margin over Bud, AA3B. And although

AA3B didn't place first, he must have found solace in coming in second by seeing his neighbor and fellow FRC club member, Chas, K3WW, one call sign below his in the box after Chas beat him last year by a mere 70K points.



Zev Darack, N2WKS, taking advantage of the unseasonably warm weather this winter to make major repairs to the 80 meter 2 element vertical phased array at K2TTT. [Jay Rodaman, K2TTT, photo]

In the MSL category the battle between N2WKS and W1NY could be watched in near real-time for much of the weekend. For motivation, W1NY configured their logging software to interface with the cqconteset.net live scoreboard and score updates were pushed out in regular intervals. Throughout Saturday, W1NY was the only US or Canadian station listed in the category, so motivation had to be gleaned from the scores of other low power categories.

At N2WKS, Justin, NE2V operated the first 24 hours and Zev, N2WKS, took over around 0012Z. Upon sitting down at the station, Zev checked the scoreboard and realized they were not listed due to a configuration error in the logging software. After quickly adjusting the settings, he worked frantically to try to close the gap between their score and W1NY. Meanwhile, no one at W1NY had yet noticed N2WKS had popped up on the scoreboard and later in the evening, due to exhaustion, miscommunication, and an alarm misconfiguration, W1NY went silent for several hours in the middle of the night. When Matt, W1MSW, jumped back on in time for the morning EU opening on the higher bands, he noticed N2WKS was now listed and had five more multipliers and the exact same number of QSOS! The race was now on for both teams.

Throughout Sunday, W1NY tried desperately to catch up with N2WKS, but just couldn't get the multipliers and contacts they needed to close the gap in the scores. Whether it was propagation, operating skill, station design, or a combination of all, the W1NY team just couldn't keep the same pace and in the end, N2WKS had established a healthy lead of over 200 QSOs and 30 multipliers.

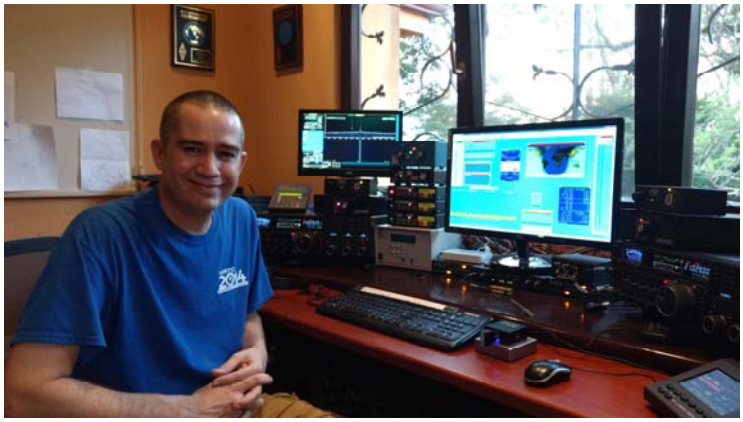
**Barbados bandmaster**

"The goal of 8P5A is to win contests." That was the opening statement of Tom, W2SC, for his presentation at this year's Hamvention Contest Forum. Tom is no stranger to winning contests. However, due to work commitments, Tom had been unable to participate in the ARRL International DX CW contest for a decade. That all changed last year, when he returned to the contest and beat the competition by nearly a million points and set the DX record in his category using a technique that some refer to as duelling or alternating CQs. This

year he was back again, but the competition wasn't going to give up so easily.

In Costa Rica, 600 miles to the west, Nate, N4YDU, operated from Kam, N3KS's, station TI5W and was 8P5A's main competitor during the contest. Nate also planned to use the alternating-CQ method of operating, but this would be his first time in a major DX contest.

"I prepped for it for several months using the DXLOG and MorseRunner combo. While I felt prepared after months of practice, I was still a bit unsure of myself," Nate said.



Nate Moreschi, N4YDU, doing a final run through at TI5W, just moments before the contest begins. The station, located in Bijagua, Costa Rica, is on the north slope of the Tenorio Volcano. [Kamal Sirageldin, NK3S, photo]

That added additional stress before the contest, but fortunately "testing on Thursday proved to be successful while running pileups on two bands. As the contest got closer, I began to get more anxious, but I was really ready to get the show started.

After the contest kicked off at 0000Z on Saturday, both stations started up without any glitches. Although it was his first time alternating CQs, by the end of the first hour
Nate had established a lead in the total number of QSOs over Tom. "When it was time to start, the pileups immediately started and I was off and running in full dual pile-up mode. After about 30 minutes I began to relax and got into a very solid groove." Tom felt he also had a favorable start with a couple of good hours on Saturday, but activity seemed to be down a bit this year.

As with every competition, participants are forced to make difficult decisions in the heat of the battle and many times in a state of extreme exhaustion. Nate had planned to operate the entire 48 hours of the contest, but was also concerned about keeping up the level of concentration required to operate two radios at once. His concerns became a reality on the second night when he found his mind wandering and unable to concentrate. Although his rate was still decent, he decided to take two 90 minute breaks that night.

In contrast, Tom had no zero-contact hours during the contest and although he had successfully regained a slight lead by hour 24, it was during Nate's breaks he established a significant lead. Nate made a very strong comeback effort in the final hours of the contest, but it wasn't enough to catch up. After log checking, Tom won the category with 3 fewer multipliers and 141 more contacts than Nate.

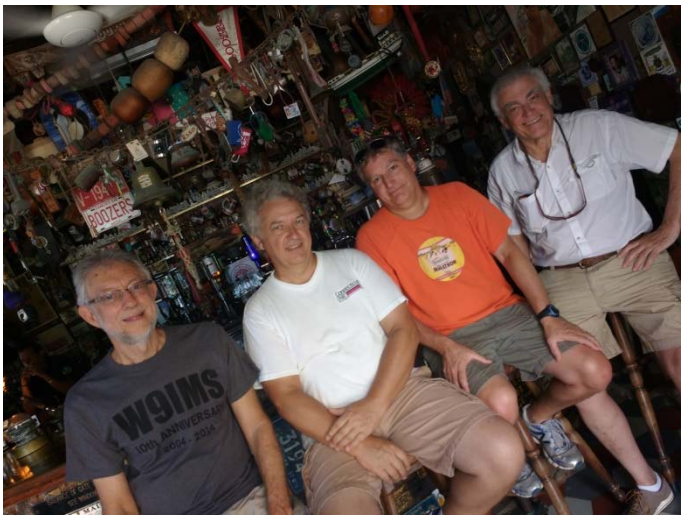
"I do regret taking a pair of 90 minute breaks the second night, especially the first one because rates were fairly good," Nate said. "However, my mind was wandering and operating was simply a struggle."

Looking back on the decision, he said he would have taken shorter breaks or maybe spread them out over both nights of the contest.

"Not knowing what the competition is doing keeps the excitement up." One thing stood out that fuelled his optimism when he was, "getting a few mults in a short period on the second day and literally fist-pumping with excitement thinking that could be big in terms of standings."

Tom, on the other hand, stressed it's critical to set goals for the second day to help ensure you don't lose ground to the competition. To help get through the psychological stress that comes with operating

alone during a 48-hour contest, he focuses on working as hard as he possibly can, so that when the clock strikes 0000Z at the end of the contest, he can enjoy the feeling everything is over and he has done his best.




Seen here relaxing, the P40R crew took the top spot for DX Multioperator, Two-Transmitter. From left, Mike, W9RE, Dan, K1TO, Scott, NE9U, and Ron, KK9K [Scott Jasper, NE9U, photo]

To win a category, doing one's best just has to be better than the station you're competing against. This was not a problem this year for John, W2GD operating at his P40W stomping grounds. After setting the DX SOQRP all-time record last year, John decided to turn up the power a bit in the DX SOULP category. This was the 30-year anniversary of John first operating ARRL DX CW from Aruba and he celebrated by completely crushing the competition with a 3.3M point margin. Although John reports he did take advantage of the light 10-meter openings that were better for stations like his farther south in the Caribbean, he is also embracing our place in the solar cycle.

Aruba was also represented at the top of the DX M2X category by P40R. Ron, KK9K and Scott, NE9U, expanded their regular operator list this year to include Dan, K1TO and Mike, W9RE. "Each of us have our strengths and formed a great team, with Ron as driver/cook/low-band antenna guy, Scott as network expert, Dan as tower climber and Mike as jack of all trades." Their competition, KP2M, made up of George, K5KG, Phil, KT3Y, and Ken, N9VV, was in the lead for the first 16 hours of the contest, but once those 10-Meter openings that were unique to stations further south started up, there was no stopping them from overtaking the lead and holding it for the remainder of the contest.

Let's hope those photo finish cameras weren't put away, because they were certainly needed for the battle for DX MSL between V3T and VP2MVV. With less than a 4K point difference between their claimed scores, the two teams must have been wondering if V3T would stay on top. In the end, accuracy and a sheer number of QSOs would prevail and V3T would win the category with their Field Day style setup near the Guatemalan border.

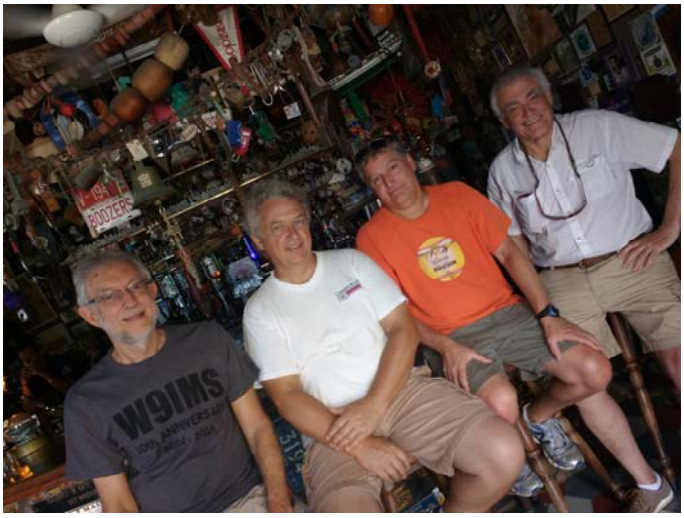
### The perils of remote operating

With antenna restrictions on the rise, and the availability of technology to overcome geographic disadvantages improving almost daily, we're starting to see a considerable rise in the number of stations operating remotely. A number of commercial boxes are available allowing full control of a station via the Internet, a few hams have home-brewed their own setups and at least one business offers remote access to a number of very large stations for a fee. This new frontier doesn't come without a few hitches, however. If something breaks at the remote site and the distant operator needs to call on local help, does that amount to a reclassification to Multi-Single? Kevin, N5DX, encountered just such an issue. Operating once again remotely from N2QV, Kevin experienced an amplifier failure and needed local assistance to get it running again. To his credit, he didn't let the experience pass without alerting the ARRL. Instead of reclassifying to Multi-Single, Kevin opted to submit as a checklog. Watch the September issue of QST for a discussion about remotely operating a contest.

### Getting It Right

One of the key factors in making it to the Top 10 table is accuracy and it can mean the difference between first and second place. But accuracy is not just a goal for the call signs listed in the Top 10. It's also one of the easiest and least expensive ways for casual operators and those new to contesting to improve their scores.

How do you determine your accuracy in a contest? The answer is in your Log Checking Report or LCR,



| Top 10 Golden Logs | | |
|---|---|---|
| Call | QSOs | Category |
| EA5YU | 575 | SOHP |
| W0VM | 433 | SOHP |
| DJ9AO | 400 | SOUHP |
| W7YAQ | 388 | SOHP |
| N3OUC | 366 | SOULP |
| AB1J | 364 | SOULP |
| AI2N | 344 | SOUHP |
| G4IIY | 305 | SOUHP |
| W4IOP | 266 | SOLP |
| AA3TT | 265 | SOLP |

which can be found by logging into the ARRL website and visiting www.arrl.org/contest-log-checking-reports. ARRL provides this report for logs submitted in most contests that it sponsors. The report contains a list of every error found in a log from cross-checking with logs submitted by other entrants. Studying the report after the contest can help you determine some of your operating weak points and areas where you can work to improve your copying skills. Your overall accuracy during the contest is quantified by your "error-rate" which is the percentage of contacts in your log with an error (after duplicate contacts are removed.) The smaller the error-rate, the more accurate your log is and it provides a great metric to try to beat next year.

**Accuracy Leaders**

So how accurate can one be? Although it might be hard to believe, there are some operators who turn in a perfect log, also known as a "Golden Log," that has no detectable errors. Of course, achieving this with a log that contains only 10 contacts is not that great a feat, but the Top Ten Golden Logs will have hundreds of contacts. This year the top Golden Log went to EA5YU with 575 contacts.

But Golden Logs and error-rates only tell part of the story. As mentioned earlier, it is important to take log size into account since maintaining a low error-rate while making 1,000 QSOs is much more difficult compared to a low error-rate maintained making 100 QSOs. That is where the Accuracy Leaders Table rewards lower error rates for large logs. For two logs with equal error rates, the log with more verified contacts has a higher index. The following formula is used to calculate the Accuracy Index:

Accuracy Index = log10 (Good QSOs) + 10 x (1 - Error Rate)

This levels the playing field and provides a much better insight into who the most accurate operators are in the contest.

**What's next?**

It's been mentioned several times, but it deserves repeating — this game is heading for the lower bands. Work on those low band antennas, they're worth the investment and will still be there for you when we move out of the trough. That said, and as we saw this year, if your location is lucky enough to enjoy a short opening on the higher bands that has passed up your competition, you must take advantage of it. To do that, one has to be vigilant about checking other bands, but not be swept up in a multiplier chase while the other stations are shovelling QSOs into their logs.

**See you in February!**

With the HF contest season right around the corner, now is the time to make station improvements and to practice honing your operating skills. Set goals for yourself and don't forget to mark February 17-18, 2018 on your calendar when the ARRL International DX CW contest returns next year.

## Accuracy index

| Single-Op Unlimited | | | | |
|---|---|---|---|---|
| **Call** | **Category** | **QSOs** | **Error %** | **Index** |
| D4C (YL2KL, op) | SAH | 4963 | 0.9 | 13.606 |
| V26M (N3AD, op) | SAH | 4569 | 1 | 13.560 |
| P40W (W2GD, op) | SAL | 4282 | 0.8 | 13.552 |
| EF6T (EA3AIR, op) | SAH | 3332 | 0.5 | 13.473 |
| IR2C (IK2JUB, op) | SAH | 3004 | 0.4 | 13.438 |
| G5W (G3BJ, op) | SAH | 3090 | 0.7 | 13.420 |
| LX7I (DL5SE, op) | SAH | 3188 | 0.9 | 13.414 |
| IO4T | SAH | 2926 | 0.8 | 13.386 |
| SN7Q (SP7GIQ, op) | SAH | 2810 | 1.2 | 13.329 |
| S57AL | SAH | 2622 | 0.9 | 13.329 |
| EF1A (EA1XT, op) | SAH | 2714 | 1.1 | 13.324 |
| HG3R | SAH | 2829 | 1.3 | 13.322 |
| CE2MVF | SAH | 2565 | 1.4 | 13.269 |
| CN8KD | SAL | 2048 | 0.6 | 13.251 |
| F6HKA | SAH | 2102 | 0.9 | 13.233 |
| E51DWC (OK1DWC, op) | SAH | 2185 | 1.3 | 13.209 |
| S53M | SAH | 2348 | 2.3 | 13.141 |
| P3X (UT5UDX, op) | SAH | 1819 | 1.2 | 13.140 |
| YR8D (YO8TTT, op) | SAH | 1692 | 1.2 | 13.108 |
| EC4TA | SAL | 1618 | 1.4 | 13.069 |
| OQ5M (ON5ZO, op) | SAH | 1228 | 0.3 | 13.059 |
| EA5BY | SAH | 1508 | 1.2 | 13.058 |
| IZ3SQW | SAH | 1296 | 0.6 | 13.053 |
| OL0W (OK1DSZ, op) | SAH | 1124 | 0.4 | 13.011 |
| LY2IJ | SAH | 1279 | 1 | 13.007 |
| DK2OY | SAH | 1302 | 1.2 | 12.995 |
| IK0YVV | SAH | 1207 | 1 | 12.982 |
| S57KM | SAL | 1068 | 0.5 | 12.979 |
| EA7TG | SAH | 1198 | 1 | 12.978 |
| S54O | SAH | 1052 | 0.5 | 12.972 |
| JS3CTQ | SAH | 1038 | 0.5 | 12.966 |
| EU1A | SAH | 1164 | 1 | 12.966 |
| LY5W | SAH | 1101 | 0.8 | 12.962 |
| S57AW (N1MM, op) | SAH | 1148 | 1 | 12.960 |
| UX4U | SAH | 1411 | 1.9 | 12.960 |
| S57DX | SAH | 1129 | 1 | 12.953 |
| IZ5ICH | SAH | 1342 | 1.8 | 12.948 |
| GW4J | SAH | 972 | 0.4 | 12.948 |
| I2IFT | SAH | 1244 | 1.5 | 12.945 |
| UZ3A (UX1AA, op) | SAL | 1057 | 0.9 | 12.934 |
| S53F | SAH | 998 | 0.9 | 12.909 |
| S56A | SAL | 859 | 0.3 | 12.904 |
| UT4U (UT5UJO, op) | SAH | 1008 | 1.2 | 12.883 |
| OM0M (OM3CGN, op) | SAH | 998 | 1.2 | 12.879 |
| SV2DSJ | SAH | 1133 | 1.8 | 12.874 |
| JR8VSE | SAH | 1097 | 1.8 | 12.860 |
| DL7ON | SAH | 1086 | 1.8 | 12.856 |
| YO9HP | SAH | 805 | 0.5 | 12.856 |
| YO3APJ | SAH | 823 | 0.7 | 12.845 |
| SP2LNW | SAH | 742 | 0.3 | 12.840 |
| DJ7UC | SAH | 1036 | 1.8 | 12.835 |
| HB9DQL | SAH | 961 | 1.5 | 12.833 |
| SN7O (SP7IVO, op) | SAL | 757 | 0.5 | 12.829 |
| IK3ORD | SAH | 726 | 0.5 | 12.811 |
| M2A (G3ORY, op) | SAH | 720 | 0.6 | 12.797 |
| EA5GX | SAH | 864 | 1.4 | 12.797 |
| HB9DHG | SAH | 1132 | 2.6 | 12.794 |
| EA7RM | SAH | 839 | 1.3 | 12.794 |
| S52AU | SAH | 747 | 0.8 | 12.793 |
| PP5KR | SAH | 1448 | 3.7 | 12.791 |
| S56X | SAH | 1122 | 2.6 | 12.790 |
| YL2KO | SAH | 851 | 1.4 | 12.790 |
| Z33C | SAL | 739 | 0.9 | 12.779 |
| HA5PP | SAL | 708 | 0.8 | 12.770 |
| UW1M | SAH | 1118 | 2.8 | 12.768 |
| MM0AMW | SAH | 654 | 0.6 | 12.756 |
| OR5T | SAH | 649 | 0.6 | 12.752 |
| IZ2DII | SAH | 694 | 0.9 | 12.751 |
| DL4WA | SAH | 642 | 0.6 | 12.748 |
| HB9BUN | SAH | 630 | 0.6 | 12.739 |
| DL6KVA | SAH | 773 | 1.5 | 12.738 |
| OK2FD | SAQ | 565 | 0.2 | 12.732 |
| OH8WW | SAH | 882 | 2.2 | 12.725 |
| EA8RM | SAH | 918 | 2.5 | 12.713 |
| DK5DQ | SAL | 619 | 0.8 | 12.712 |
| SP5WA | SAH | 667 | 1.2 | 12.704 |
| IK3SCB | SAH | 650 | 1.2 | 12.693 |
| LU3CW | SAH | 620 | 1 | 12.692 |
| DK6WL | SAH | 632 | 1.1 | 12.691 |
| PA3AAV | SAH | 616 | 1 | 12.690 |
| PA1CC | SAH | 567 | 0.7 | 12.684 |
| HA3DX (HA4XH, op) | SAH | 676 | 1.5 | 12.680 |
| JH1EAQ | SAL | 616 | 1.1 | 12.680 |
| DM2DXA | SAH | 787 | 2.2 | 12.676 |
| EA2OT | SAH | 678 | 1.6 | 12.671 |

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|---|---|---|---|---|
| DJ5MW | SAH | 514 | 0.4 | 12.671 |
| IZ3NVR | SAQ | 550 | 0.7 | 12.670 |
| DJ9MH | SAH | 890 | 2.8 | 12.669 |
| HB9FAP | SAH | 674 | 1.6 | 12.669 |
| OG6N | SAH | 535 | 0.6 | 12.668 |
| I4YCE | SAH | 809 | 2.4 | 12.668 |
| ED1K (EA1NK, op) | SAL | 642 | 1.4 | 12.668 |
| ED4T (EA4CWN, op) | SAL | 672 | 1.6 | 12.667 |
| YO3FRI | SAH | 573 | 1 | 12.658 |
| KL4SD (WL7F, op) | SAL | 737 | 2.1 | 12.657 |
| 9A1AD | SAH | 501 | 0.6 | 12.640 |
| ZV2K (PY2SHF, op) | SAH | 864 | 3 | 12.637 |
| DK5AI | SAH | 497 | 0.6 | 12.636 |
| DL3YM | SAL | 497 | 0.6 | 12.636 |
| IV3JCC | SAH | 517 | 0.8 | 12.633 |
| IK8UND | SAH | 566 | 1.2 | 12.633 |
| LY2XW | SAH | 523 | 0.9 | 12.629 |
| UT5EL | SAH | 567 | 1.4 | 12.614 |
| S53BB | SAH | 651 | 2 | 12.614 |
| OF6MW (OH6MW, op) | SAH | 428 | 0.2 | 12.611 |
| IK0FUX | SAH | 425 | 0.2 | 12.608 |
| HG8C | SAL | 444 | 0.4 | 12.607 |
| DJ9AO | SAH | 400 | 0 | 12.602 |
| ED7P (EA7PP, op) | SAH | 631 | 2 | 12.600 |
| OK6DJ | SAH | 643 | 2.1 | 12.598 |
| UR6EA | SAH | 570 | 1.6 | 12.596 |
| DL1NKS | SAH | 495 | 1 | 12.595 |
| ON6NL | SAQ | 438 | 0.5 | 12.591 |
| SQ8N | SAH | 510 | 1.2 | 12.588 |
| DH7KU | SAH | 505 | 1.2 | 12.583 |
| EA5XA | SAL | 553 | 1.6 | 12.583 |
| EA7URI (EB7KA, op) | SAL | 563 | 1.7 | 12.581 |
| CT7/F6IRA (F6IRA, op) | SAH | 716 | 2.8 | 12.575 |
| LU7YS | SAH | 495 | 1.2 | 12.575 |
| DL1WA | SAH | 594 | 2 | 12.574 |
| PT5N (PP5RLC, op) | SAL | 678 | 2.6 | 12.571 |
| R7AB (UA7A, op) | SAH | 576 | 1.9 | 12.570 |
| PA4M | SAH | 509 | 1.4 | 12.567 |
| LU2FE | SAH | 625 | 2.3 | 12.566 |
| YU1EXY (YT7AW, op) | SAL | 504 | 1.4 | 12.562 |
| IZ4DLR | SAL | 549 | 1.8 | 12.560 |
| HA3OU | SAH | 544 | 1.8 | 12.556 |
| DL5JQ | SAH | 496 | 1.4 | 12.555 |

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|---|---|---|---|---|
| PA7LV | SAH | 542 | 1.8 | 12.554 |
| DL5WS | SAH | 400 | 0.5 | 12.552 |
| HB9FBP | SAL | 527 | 1.7 | 12.552 |
| DL8CA | SAH | 399 | 0.5 | 12.551 |
| EA5DFV | SAH | 594 | 2.3 | 12.544 |
| OL5Y | SAL | 428 | 0.9 | 12.541 |
| EA2DT | SAL | 407 | 0.7 | 12.540 |
| OK1VK | SAL | 511 | 1.7 | 12.538 |
| US1GCU | SAH | 556 | 2.1 | 12.535 |
| PA3EVY | SAL | 492 | 1.6 | 12.532 |
| SD6E (SM6BGG, op) | SAH | 744 | 3.4 | 12.532 |
| UC7A | SAH | 438 | 1.1 | 12.531 |
| G6AY (G3RTE, op) | SAH | 452 | 1.3 | 12.525 |
| EV1R | SAH | 581 | 2.4 | 12.524 |
| UX0LL | SAH | 503 | 1.8 | 12.522 |
| PS8HF | SAL | 1519 | 6.6 | 12.522 |
| PA5WT | SAH | 545 | 2.2 | 12.516 |
| HA8VV (DH8VV, op) | SAH | 367 | 0.5 | 12.515 |
| G4DBW | SAL | 349 | 0.3 | 12.513 |
| S59AA | SAH | 603 | 2.7 | 12.510 |
| RL4A | SAH | 676 | 3.2 | 12.510 |
| DL2SAX | SAH | 404 | 1 | 12.506 |
| OK2BFN | SAL | 474 | 1.7 | 12.506 |
| PA4O | SAH | 471 | 1.7 | 12.503 |
| RL6M | SAL | 481 | 1.8 | 12.502 |
| PA0BWL | SAH | 466 | 1.7 | 12.498 |
| YO8AXP | SAH | 335 | 0.3 | 12.495 |
| HA4XH | SAH | 462 | 1.7 | 12.495 |
| LU4EG | SAL | 679 | 3.4 | 12.492 |
| HA7RY | SAH | 442 | 1.6 | 12.485 |
| IK2ANI | SAH | 403 | 1.2 | 12.485 |
| G4IIY | SAH | 305 | 0 | 12.484 |
| DF1DN | SAL | 451 | 1.7 | 12.484 |
| GW9J (GW0GEI, op) | SAH | 467 | 1.9 | 12.479 |
| LZ1ZP | SAL | 345 | 0.6 | 12.478 |
| PA4VHF | SAH | 497 | 2.2 | 12.476 |
| DU3T | SAH | 496 | 2.2 | 12.475 |
| HA9AX | SAH | 562 | 2.8 | 12.470 |
| UA6CC | SAL | 489 | 2.2 | 12.469 |
| DK2CX | SAH | 334 | 0.6 | 12.464 |
| F5SDD | SAH | 435 | 1.8 | 12.458 |
| DL6MHW | SAH | 367 | 1.1 | 12.455 |
| HB9FBM | SAH | 429 | 1.8 | 12.452 |
| TM3R | SAH | 545 | 2.9 | 12.446 |

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| OE2E (OE2GEN, op) | SAH | 566 | 3.1 | 12.443 |
| LU4FPZ | SAH | 480 | 2.4 | 12.441 |
| CX4SS | SAQ | 481 | 2.6 | 12.422 |
| BG2AUE | SAH | 427 | 2.1 | 12.420 |
| ZS6WN | SAH | 426 | 2.1 | 12.419 |
| F5RQQ | SAH | 644 | 3.9 | 12.419 |
| MI4I (GI4SJQ, op) | SAL | 379 | 1.6 | 12.419 |
| PA0O | SAL | 425 | 2.1 | 12.418 |
| OZ8SW | SAH | 423 | 2.1 | 12.416 |
| 9H1XT | SAH | 508 | 2.9 | 12.416 |
| HA8TP | SAL | 343 | 1.2 | 12.415 |
| LY2J | SAH | 393 | 1.8 | 12.414 |
| YT4W (YU1DW, op) | SAH | 580 | 3.5 | 12.413 |
| YU1DW | SAH | 502 | 2.9 | 12.411 |
| DJ6OZ | SAL | 338 | 1.2 | 12.409 |
| SM5COP | SAH | 301 | 0.7 | 12.409 |
| SP9M | SAH | 301 | 0.7 | 12.409 |
| JG3FEA | SAL | 255 | 0 | 12.407 |
| IZ3XEF | SAH | 383 | 1.8 | 12.403 |
| SM5IMO | SAL | 274 | 0.4 | 12.398 |
| OL8R | SAH | 361 | 1.6 | 12.398 |
| DL1RTL | SAH | 249 | 0 | 12.396 |
| LZ6C (LZ2UW, op) | SAH | 496 | 3 | 12.395 |
| M3I (G0ORH, op) | SAH | 374 | 1.8 | 12.393 |
| RO3G | SAH | 504 | 3.1 | 12.392 |
| IK0XBX | SAH | 307 | 1 | 12.387 |
| EI8JX | SAL | 243 | 0 | 12.386 |
| PG2AA | SAL | 285 | 0.7 | 12.385 |
| SM5D (SM5DJZ, op) | SAH | 262 | 0.4 | 12.378 |
| OK2PCL | SAH | 351 | 1.7 | 12.375 |
| M2G | SAH | 298 | 1 | 12.374 |
| IW2FUT | SAL | 297 | 1 | 12.373 |
| SE0X (SM0MDG, op) | SAH | 330 | 1.5 | 12.369 |
| UX7IW | SAL | 328 | 1.5 | 12.366 |
| F8CRS | SAH | 327 | 1.5 | 12.365 |
| DF1LON | SAL | 253 | 0.4 | 12.363 |
| DK1FT | SAH | 270 | 0.7 | 12.361 |
| EA1WX | SAH | 390 | 2.3 | 12.361 |
| G9F (G4BVY, op) | SAL | 309 | 1.3 | 12.360 |
| YV50ARV (YV5KG, op) | SAL | 229 | 0 | 12.360 |
| NL7S | SAH | 467 | 3.1 | 12.359 |
| IK3DVY | SAH | 268 | 0.7 | 12.358 |
| SN5N (SP5KP, op) | SAH | 353 | 1.9 | 12.358 |
| HA5UA | SAH | 398 | 2.5 | 12.350 |

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|---|---|---|---|---|
| EA2HW | SAL | 393 | 2.5 | 12.344 |
| RL4F | SAH | 349 | 2 | 12.343 |
| PA3CWN | SAH | 297 | 1.3 | 12.343 |
| JA2KVB | SAL | 264 | 0.8 | 12.342 |
| DL2CC | SAH | 316 | 1.6 | 12.340 |
| I3FIY | SAH | 346 | 2 | 12.339 |
| DL4YAO | SAH | 279 | 1.1 | 12.336 |
| DL6RAI | SAL | 313 | 1.6 | 12.336 |
| DL4JLM | SAH | 306 | 1.6 | 12.326 |
| PY5ZHP | SAH | 494 | 3.7 | 12.324 |
| HB9BAS | SAL | 420 | 3 | 12.323 |
| ON6FC | SAL | 382 | 2.6 | 12.322 |
| DL9SEV | SAL | 289 | 1.4 | 12.321 |
| DL1DTL | SAH | 248 | 0.8 | 12.314 |
| OK4DZ | SAL | 205 | 0 | 12.312 |
| DK5DC | SAL | 448 | 3.4 | 12.311 |
| OH6RE | SAH | 246 | 0.8 | 12.311 |
| SP3A | SAL | 223 | 0.4 | 12.308 |
| IT9RZU | SAL | 203 | 0 | 12.307 |
| IN3FHE | SAL | 244 | 0.8 | 12.307 |
| YT3H | SAH | 278 | 1.4 | 12.304 |
| PA3GVI | SAH | 297 | 1.7 | 12.303 |
| OM3GI | SAH | 310 | 1.9 | 12.301 |
| 5R8SV | SAL | 618 | 4.9 | 12.301 |
| LZ1ZJ | SAH | 406 | 3.1 | 12.299 |
| SO2W | SAH | 443 | 3.5 | 12.296 |
| UV7V (UX1VT, op) | SAL | 367 | 2.7 | 12.295 |
| S51MF | SAL | 305 | 1.9 | 12.294 |
| PA5TT | SAH | 218 | 0.5 | 12.288 |
| OL5W | SAH | 256 | 1.2 | 12.288 |
| UA3AGW | SAH | 285 | 1.7 | 12.285 |
| DJ6GI | SAH | 270 | 1.5 | 12.281 |
| LZ1ND | SAH | 317 | 2.2 | 12.281 |
| DL5XJ | SAH | 282 | 1.7 | 12.280 |
| PA3GCV | SAH | 446 | 3.7 | 12.279 |
| DK3UA | SAH | 249 | 1.2 | 12.276 |
| PC5Q | SAL | 249 | 1.2 | 12.276 |
| DJ1AA | SAH | 248 | 1.2 | 12.274 |
| DK0AE (DJ1AA, op) | SAH | 248 | 1.2 | 12.274 |
| SM5DXT | SAL | 325 | 2.4 | 12.272 |
| 7N4SJX | SAH | 362 | 2.9 | 12.269 |
| 4Z5TK | SAH | 308 | 2.2 | 12.269 |
| LZ1ZM | SAL | 228 | 0.9 | 12.268 |
| OU4N | SAH | 444 | 3.9 | 12.257 |
| OM4O | SAL | 255 | 1.5 | 12.257 |
| DK3DUA | SAL | 220 | 0.9 | 12.252 |

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|---|---|---|---|---|
| SQ9S | SAL | 195 | 0.5 | 12.240 |
| IK0EFR | SAH | 309 | 2.5 | 12.240 |
| SA6G (SM6CUK, op) | SAH | 279 | 2.1 | 12.236 |
| SM5EPO | SAH | 263 | 1.9 | 12.230 |
| SV1JG | SAH | 305 | 2.6 | 12.224 |
| DL1DXA | SAL | 342 | 3.1 | 12.224 |
| LZ5XQ | SAL | 259 | 1.9 | 12.223 |
| JF7PHE | SAH | 258 | 1.9 | 12.222 |
| EF8O (EA8OM, op) | SAL | 257 | 1.9 | 12.220 |
| IR1X (IZ1GLX, op) | SAL | 436 | 4.2 | 12.219 |
| DJ9RR | SAH | 165 | 0 | 12.217 |
| RM7M | SAH | 222 | 1.3 | 12.216 |
| RU0LL | SAH | 254 | 1.9 | 12.215 |
| EA1FA | SAL | 311 | 2.8 | 12.213 |
| DF1LX | SAH | 163 | 0 | 12.212 |
| F5UQE | SAL | 205 | 1 | 12.212 |
| JA6BZI | SAH | 347 | 3.3 | 12.210 |
| G4WGE | SAL | 182 | 0.5 | 12.210 |
| LA8OM | SAL | 237 | 1.7 | 12.205 |
| SQ6LJV | SAH | 160 | 0 | 12.204 |
| HA6NL | SAL | 383 | 3.8 | 12.203 |
| OG7F (OH5DA, op) | SAH | 159 | 0 | 12.201 |
| PA3BUD | SAL | 219 | 1.4 | 12.200 |
| DL8LBK | SAL | 199 | 1 | 12.199 |
| LZ1EV | SAH | 329 | 3.2 | 12.197 |
| LB8DC | SAH | 197 | 1 | 12.194 |
| HA3MG | SAL | 197 | 1 | 12.194 |
| DL4FDM | SAH | 179 | 0.6 | 12.193 |
| PB7Z | SAL | 245 | 2 | 12.189 |
| PA1LEX | SAL | 154 | 0 | 12.188 |
| UA6LCN | SAH | 300 | 2.9 | 12.187 |
| JQ1TIV | SAH | 243 | 2 | 12.186 |
| LW6DW | SAL | 297 | 2.9 | 12.183 |
| DM7PQ | SAH | 150 | 0 | 12.176 |
| LZ3ZZ | SAH | 282 | 2.8 | 12.170 |
| EA1AER | SAQ | 224 | 1.8 | 12.170 |
| CT7ANO | SAL | 204 | 1.4 | 12.170 |
| DG5E (DK2CX, op) | SAH | 146 | 0 | 12.164 |
| OH6OS | SAH | 146 | 0 | 12.164 |
| YO8DOH | SAL | 186 | 1.1 | 12.160 |
| LZ6K (LZ2PL, op) | SAH | 262 | 2.6 | 12.158 |
| G0IBN | SAL | 165 | 0.6 | 12.157 |
| R3KM | SAH | 261 | 2.6 | 12.157 |
| DJ2YA | SAH | 358 | 4 | 12.154 |
| KH6FP | SAH | 246 | 2.4 | 12.151 |
| V31YN (DJ4KW, op) | SAL | 229 | 2.1 | 12.150 |
| EA3IN | SAH | 245 | 2.4 | 12.149 |
| PA0VAJ | SAH | 244 | 2.4 | 12.147 |
| JA1MZM | SAL | 197 | 1.5 | 12.144 |
| HA8A (HA8DZ, op) | SAH | 284 | 3.1 | 12.143 |
| EB2RA | SAH | 295 | 3.3 | 12.140 |
| ON5AM | SAL | 281 | 3.1 | 12.139 |
| 9A4WY | SAH | 194 | 1.5 | 12.138 |
| DL1ASA | SAH | 267 | 2.9 | 12.137 |
| EU1U | SAL | 157 | 0.6 | 12.136 |
| UR5R (UT0RM, op) | SAH | 290 | 3.3 | 12.132 |
| G4HVC | SAL | 290 | 3.3 | 12.132 |
| YL5X | SAH | 174 | 1.1 | 12.131 |
| SP7JLH | SAL | 209 | 1.9 | 12.130 |
| PA1FNW | SAL | 133 | 0 | 12.124 |
| IU4CHE | SAH | 220 | 2.2 | 12.122 |
| EA2BD | SAL | 218 | 2.2 | 12.118 |
| OK2SG | SAH | 297 | 3.6 | 12.113 |
| US2YW | SAH | 246 | 2.8 | 12.111 |
| YL5T (YL3DQ, op) | SAH | 129 | 0 | 12.111 |
| OP4A | SAL | 168 | 1.2 | 12.105 |
| OK1AY | SAL | 149 | 0.7 | 12.103 |
| R6AP | SAH | 215 | 2.3 | 12.102 |
| SC6W (SM6PPS, op) | SAH | 125 | 0 | 12.097 |
| PY4LH | SAL | 376 | 4.8 | 12.095 |
| UT7QF | SAL | 197 | 2 | 12.094 |
| DF4XG | SAL | 145 | 0.7 | 12.091 |
| S59ABC (S51DS, op) | SAL | 224 | 2.6 | 12.090 |
| IK4OMU | SAL | 144 | 0.7 | 12.088 |
| RU6B | SAH | 223 | 2.6 | 12.088 |
| DL5ME | SAH | 208 | 2.3 | 12.088 |
| Z39A | SAL | 143 | 0.7 | 12.085 |
| PY2RH | SAL | 237 | 2.9 | 12.085 |
| OH2GEK | SAH | 221 | 2.6 | 12.084 |
| RM2D (SM6LRR, op) | SAH | 160 | 1.2 | 12.084 |
| SP2DKI | SAL | 142 | 0.7 | 12.082 |
| YO5BRZ | SAH | 178 | 1.7 | 12.080 |
| YO5CRQ | SAL | 120 | 0 | 12.079 |
| DL8BH | SAL | 174 | 1.7 | 12.071 |
| SP6CJK | SAL | 174 | 1.7 | 12.071 |
| ZW1M (PY1MK, op) | SAL | 203 | 2.4 | 12.067 |
| M4M (M0PNN, op) | SAL | 314 | 4.3 | 12.067 |
| RM2U (RU3UR, op) | SAH | 189 | 2.1 | 12.066 |
| UT7VR | SAL | 243 | 3.2 | 12.066 |
| LA1U | SAH | 188 | 2.1 | 12.064 |

| RM6AA | SAH | 188 | 2.1 | 12.064 |
|---|---|---|---|---|
| RW3XZ | SAH | 277 | 3.8 | 12.062 |
| HA3UU | SAH | 153 | 1.3 | 12.055 |
| YL2BJ | SAH | 113 | 0 | 12.053 |
| EC1RS | SAH | 408 | 5.6 | 12.051 |
| RK6HG | SAL | 198 | 2.5 | 12.047 |
| DL5YL | SAL | 167 | 1.8 | 12.043 |
| OZ4CG | SAL | 196 | 2.5 | 12.042 |
| JR2AWS | SAL | 147 | 1.3 | 12.037 |
| YT5N (YU7AF, op) | SAL | 231 | 3.3 | 12.034 |
| HB9TSW | SAH | 217 | 3.1 | 12.026 |
| IW0GPW | SAL | 160 | 1.8 | 12.024 |
| G4LPD | SAH | 125 | 0.8 | 12.017 |
| PF5X | SAH | 187 | 2.6 | 12.012 |
| IK2TDM | SAL | 302 | 4.7 | 12.010 |
| DL2RTJ | SAL | 123 | 0.8 | 12.010 |
| IZ3DVU | SAL | 123 | 0.8 | 12.010 |
| DL7ALM | SAL | 140 | 1.4 | 12.006 |
| HA6FQ | SAH | 157 | 1.9 | 12.006 |
| PC5D | SAL | 157 | 1.9 | 12.006 |
| SM0LPO | SAQ | 101 | 0 | 12.004 |
| YU2A | SAH | 211 | 3.2 | 12.004 |
| DL5RMH | SAL | 100 | 0 | 12.000 |
| PA9HR | SAL | 154 | 1.9 | 11.998 |
| OE2LCM | SAH | 198 | 3 | 11.997 |
| RA3TT | SAH | 99 | 0 | 11.996 |
| UR2VA | SAL | 99 | 0 | 11.996 |
| SQ3JPV | SAL | 153 | 1.9 | 11.995 |
| UA9MA | SAH | 136 | 1.4 | 11.994 |
| G4ERW | SAL | 136 | 1.4 | 11.994 |
| SP2MKT | SAL | 167 | 2.3 | 11.993 |
| LY5T | SAL | 98 | 0 | 11.991 |
| PA2PKZ | SAL | 151 | 1.9 | 11.989 |
| PA3EZC | SAL | 194 | 3 | 11.988 |
| UT5ECZ | SAH | 193 | 3 | 11.986 |
| JH5MXB | SAH | 96 | 0 | 11.982 |
| EA2AZ | SAL | 178 | 2.7 | 11.980 |
| JN1THL | SAH | 281 | 4.7 | 11.979 |
| I1JTQ | SAH | 177 | 2.7 | 11.978 |
| DL6RDE | SAH | 217 | 3.6 | 11.976 |
| ON4KNP | SAL | 164 | 2.4 | 11.975 |
| OZ4VW | SAL | 163 | 2.4 | 11.972 |
| DJ8EW | SAH | 132 | 1.5 | 11.971 |
| R7NK | SAH | 162 | 2.4 | 11.970 |
| IZ8GBT | SAL | 147 | 2 | 11.967 |
| IW3ILM | SAQ | 147 | 2 | 11.967 |

| OK1SI | SAL | 176 | 2.8 | 11.966 |
|---|---|---|---|---|
| UR5XMM | SAL | 113 | 0.9 | 11.963 |
| UZ7U | SAH | 112 | 0.9 | 11.959 |
| LY3CY | SAH | 111 | 0.9 | 11.955 |
| 8P50B (8P6SH, op) | SAL | 110 | 0.9 | 11.951 |
| PG3N | SAH | 109 | 0.9 | 11.947 |
| PY1GQ | SAL | 545 | 7.9 | 11.946 |
| DJ3RA | SAL | 88 | 0 | 11.944 |
| PD3J | SAL | 88 | 0 | 11.944 |
| RW0LBM | SAL | 142 | 2.1 | 11.942 |
| JE1LFX | SAH | 126 | 1.6 | 11.940 |
| OH2KW | SAH | 168 | 2.9 | 11.935 |
| HA8AR | SAL | 139 | 2.1 | 11.933 |
| YO7CVL | SAL | 123 | 1.6 | 11.930 |
| PA3DRL | SAL | 138 | 2.1 | 11.930 |
| UA3X | SAH | 84 | 0 | 11.924 |
| LZ7O (LZ1ONK, op) | SAL | 84 | 0 | 11.924 |
| RA6AN | SAH | 190 | 3.6 | 11.919 |
| KP4/N1EN | SAH | 104 | 1 | 11.917 |
| UW0K (US0KW, op) | SAH | 104 | 1 | 11.917 |
| IZ2DLV | SAH | 243 | 4.7 | 11.916 |
| EA5IHK | SAL | 82 | 0 | 11.914 |
| RT4M | SAH | 149 | 2.6 | 11.913 |
| OK2QA | SAH | 103 | 1 | 11.913 |
| F6FLU | SAH | 210 | 4.1 | 11.912 |
| JM1XCW | SAH | 209 | 4.1 | 11.910 |
| PA1T | SAH | 102 | 1 | 11.909 |
| RK7F | SAH | 102 | 1 | 11.909 |
| JP1LRT | SAH | 147 | 2.6 | 11.907 |
| SM6NET | SAH | 197 | 3.9 | 11.904 |
| TA1L | SAL | 101 | 1 | 11.904 |
| LU7DIR | SAL | 333 | 6.2 | 11.902 |
| YO4FTE | SAL | 118 | 1.7 | 11.902 |
| PA1BX | SAH | 132 | 2.2 | 11.901 |
| YU1LA | SAL | 131 | 2.2 | 11.897 |
| S52W | SAL | 99 | 1 | 11.896 |
| PB5DX | SAH | 184 | 3.7 | 11.895 |
| SM3OMO | SAH | 146 | 2.7 | 11.894 |
| JI1ALP | SAL | 78 | 0 | 11.892 |
| SP2MKI | SAL | 78 | 0 | 11.892 |
| OM3WZ | SAL | 77 | 0 | 11.886 |
| SA4A (SM5PBT, op) | SAL | 193 | 4 | 11.886 |
| OK2TRN | SAL | 143 | 2.7 | 11.885 |
| HA3FMR | SAL | 156 | 3.1 | 11.883 |
| PD0ME | SAL | 155 | 3.1 | 11.880 |
| F8DFP | SAL | 154 | 3.1 | 11.878 |

| | | | | |
|---|---|---|---|---|
| EA6ZS | SAL | 128 | 2.3 | 11.877 |
| R7CA | SAL | 167 | 3.5 | 11.873 |
| YT7KM | SAL | 141 | 2.8 | 11.869 |
| RU4LM | SAL | 112 | 1.8 | 11.869 |
| S58P | SAH | 177 | 3.8 | 11.868 |
| LZ2DF | SAH | 165 | 3.5 | 11.867 |
| IU4FJI | SAL | 165 | 3.5 | 11.867 |
| DL6HCC | SAH | 140 | 2.8 | 11.866 |
| OM3CW | SAH | 140 | 2.8 | 11.866 |
| DL5ARM | SAL | 111 | 1.8 | 11.865 |
| OL1A (OK1CW, op) | SAH | 164 | 3.5 | 11.865 |
| PA2S | SAL | 153 | 3.2 | 11.865 |
| UA3MIF | SAL | 73 | 0 | 11.863 |
| PA4WM | SAH | 139 | 2.8 | 11.863 |
| OH3JR | SAH | 208 | 4.6 | 11.858 |
| DL1DBR | SAH | 109 | 1.8 | 11.857 |
| EA1WH | SAL | 72 | 0 | 11.857 |
| JA1WWO | SAH | 216 | 4.8 | 11.854 |
| OH6BA | SAH | 71 | 0 | 11.851 |
| G0EFO | SAL | 71 | 0 | 11.851 |
| PA3FYM | SAH | 123 | 2.4 | 11.850 |
| OM2XW | SAH | 107 | 1.8 | 11.849 |
| JH1CTV | SAH | 91 | 1.1 | 11.849 |
| JG1EIQ/3 | SAL | 91 | 1.1 | 11.849 |
| ON4CAS | SAL | 122 | 2.4 | 11.846 |
| SM5S (SM5SIC, op) | SAL | 70 | 0 | 11.845 |
| DL9GTB | SAH | 159 | 3.6 | 11.841 |
| G4RRM | SAH | 89 | 1.1 | 11.839 |
| RN3TT | SAH | 89 | 1.1 | 11.839 |
| SV6DBL | SAL | 69 | 0 | 11.839 |
| YV5EMG | SAH | 233 | 5.3 | 11.837 |
| R3MU | SAL | 68 | 0 | 11.833 |
| GI5I (GI4DOH, op) | SAH | 132 | 2.9 | 11.831 |
| JO4CFV | SAH | 132 | 2.9 | 11.831 |
| UR7LY | SAH | 190 | 4.5 | 11.829 |
| SV3RF | SAH | 158 | 3.7 | 11.829 |
| JI4WAO | SAH | 86 | 1.1 | 11.824 |
| SV5DKL | SAH | 103 | 1.9 | 11.823 |
| PA3HGF | SAL | 103 | 1.9 | 11.823 |
| F6CZV/P (F6CZV/P, op) | SAL | 118 | 2.5 | 11.822 |
| DF1MM | SAL | 144 | 3.4 | 11.818 |
| EA1CBX | SAL | 144 | 3.4 | 11.818 |
| EA3CEC | SAL | 101 | 1.9 | 11.814 |
| Z37M | SAL | 64 | 0 | 11.806 |
| DL2DXA | SAH | 225 | 5.5 | 11.802 |
| UX1UX | SAH | 214 | 5.3 | 11.800 |
| PA3GDD | SAH | 100 | 2 | 11.800 |
| LY4K | SAL | 63 | 0 | 11.799 |
| RQ7R | SAL | 63 | 0 | 11.799 |
| UA9W | SAL | 63 | 0 | 11.799 |
| FM5AN | SAH | 114 | 2.6 | 11.797 |
| IZ4AFW | SAL | 150 | 3.8 | 11.796 |
| JO4BOW | SAH | 99 | 2 | 11.796 |
| PA1CW | SAL | 99 | 2 | 11.796 |
| LA/DL7URH (DL7URH, op) | SAH | 193 | 4.9 | 11.796 |
| SP5TT | SAH | 193 | 4.9 | 11.796 |
| UX5UN | SAL | 62 | 0 | 11.792 |
| DK1AX | SAH | 98 | 2 | 11.791 |
| EW8OW | SAH | 98 | 2 | 11.791 |
| ZS1C | SAH | 181 | 4.7 | 11.788 |
| EH5WAP (EA5BB, op) | SAL | 97 | 2 | 11.787 |
| EA2AAZ | SAH | 136 | 3.5 | 11.784 |
| IK2SAU | SAL | 159 | 4.2 | 11.781 |
| DL4VAI | SAL | 219 | 5.6 | 11.780 |
| RQ3M | SAH | 60 | 0 | 11.778 |
| RW9USA | SAH | 60 | 0 | 11.778 |
| F4HQZ | SAH | 627 | 10.2 | 11.777 |
| OK2SAR | SAL | 180 | 4.8 | 11.775 |
| UX9Q (UR9QQ, op) | SAL | 226 | 5.8 | 11.774 |
| RT5Q | SAL | 133 | 3.6 | 11.764 |
| DG7RO | SAL | 58 | 0 | 11.763 |
| LY7Z | SAL | 58 | 0 | 11.763 |
| DL6DCD | SAH | 78 | 1.3 | 11.762 |
| OK2PF | SAL | 107 | 2.7 | 11.759 |
| SP2QG | SAH | 92 | 2.1 | 11.754 |
| DF1HF | SAL | 76 | 1.3 | 11.751 |
| UR7VA | SAL | 56 | 0 | 11.748 |
| OM5UM | SAL | 173 | 4.9 | 11.748 |
| PB2JJ | SAL | 75 | 1.3 | 11.745 |
| SQ3R (SQ3HMM, op) | SAL | 75 | 1.3 | 11.745 |
| RM3F | SAL | 87 | 2.2 | 11.720 |
| G4MKR | SAL | 52 | 0 | 11.716 |
| E72MD | SAQ | 113 | 3.4 | 11.713 |
| SV9COL | SAH | 100 | 2.9 | 11.710 |
| DL6MRS | SAH | 51 | 0 | 11.708 |
| PY1BAB | SAL | 50 | 0 | 11.699 |
| GM0B (GM0EGI, op) | SAH | 111 | 3.5 | 11.695 |
| OZ1DJJ | SAL | 68 | 1.4 | 11.693 |
| OH3EX | SAH | 98 | 3 | 11.691 |
| R7GX | SAH | 132 | 4.3 | 11.691 |

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|---|---|---|---|---|
| DL7CX | SAH | 97 | 3 | 11.687 |
| SV1ME | SAH | 48 | 0 | 11.681 |
| SM7IUN | SAL | 48 | 0 | 11.681 |
| RT9A | SAH | 162 | 5.3 | 11.680 |
| UT1IM | SAH | 83 | 2.4 | 11.679 |
| VK4ACN | SAL | 180 | 5.8 | 11.675 |
| PY1ZV | SAL | 291 | 7.9 | 11.674 |
| EA5GIE | SAH | 82 | 2.4 | 11.674 |
| JK1THE | SAL | 82 | 2.4 | 11.674 |
| IK8TEO | SAL | 47 | 0 | 11.672 |
| PC4Y | SAL | 47 | 0 | 11.672 |
| RA6DT | SAL | 47 | 0 | 11.672 |
| F5TGR | SAL | 211 | 6.6 | 11.664 |
| IK6QON | SAL | 149 | 5.1 | 11.663 |
| OZ0B (OZ1ISY, op) | SAL | 192 | 6.3 | 11.653 |
| UW5Q (UR3QCW, op) | SAL | 45 | 0 | 11.653 |
| JH2FXK | SAH | 79 | 2.5 | 11.648 |
| SK6QA (SA6AXR, op) | SAL | 77 | 2.5 | 11.636 |
| ZL4TT | SAH | 183 | 6.3 | 11.632 |
| YU1EW | SAL | 102 | 3.8 | 11.629 |
| R5FU | SAH | 61 | 1.6 | 11.625 |
| YU1CC | SAH | 133 | 5 | 11.624 |
| RT1M | SAH | 42 | 0 | 11.623 |
| RD7T (RX7T, op) | SAL | 42 | 0 | 11.623 |
| UW5ZM | SAH | 76 | 2.6 | 11.621 |
| DL7UN | SAL | 75 | 2.6 | 11.615 |
| DG7NFX | SAH | 88 | 3.3 | 11.614 |
| DL1TS | SAL | 88 | 3.3 | 11.614 |
| SP6MLX | SAL | 41 | 0 | 11.613 |
| PP5BZ | SAL | 87 | 3.3 | 11.610 |
| JA2FSM | SAH | 74 | 2.6 | 11.609 |
| JA1UII | SAL | 99 | 3.9 | 11.606 |
| LA7SI | SAH | 40 | 0 | 11.602 |
| OZ2U | SAH | 120 | 4.8 | 11.599 |
| XE2JS | SAL | 109 | 4.4 | 11.597 |
| EF5R (EA5BWR, op) | SAH | 86 | 3.4 | 11.594 |
| G7TWC | SAL | 86 | 3.4 | 11.594 |
| JE2WLD | SAH | 58 | 1.7 | 11.593 |
| IZ4AKO | SAL | 58 | 1.7 | 11.593 |
| DJ7MH | SAH | 118 | 4.8 | 11.592 |
| OY1CT | SAH | 39 | 0 | 11.591 |
| IZ8XXE | SAL | 57 | 1.7 | 11.586 |
| IZ4OSH | SAH | 171 | 6.6 | 11.573 |
| R4LC | SAH | 83 | 3.5 | 11.569 |
| PA2GRU | SAL | 83 | 3.5 | 11.569 |
| EA2DVR | SAQ | 37 | 0 | 11.568 |
| PH0AS | SAH | 82 | 3.5 | 11.564 |
| DF7JC | SAL | 55 | 1.8 | 11.560 |
| IV3AZV | SAH | 104 | 4.6 | 11.557 |
| UR7GO | SAH | 36 | 0 | 11.556 |
| ES0DJ | SAL | 54 | 1.8 | 11.552 |
| R4BZ | SAH | 197 | 7.5 | 11.544 |
| SV1AJO | SAL | 68 | 2.9 | 11.543 |
| SV2BXA | SAL | 174 | 7 | 11.541 |
| EA1EXE | SAH | 112 | 5.1 | 11.539 |
| EA2CW | SAL | 91 | 4.2 | 11.539 |
| BA7QT | SAH | 34 | 0 | 11.531 |
| PE2K | SAQ | 34 | 0 | 11.531 |
| DL1ONI | SAL | 78 | 3.7 | 11.522 |
| S57W | SAH | 170 | 7.1 | 11.520 |
| RU4A | SAH | 100 | 4.8 | 11.520 |
| JE1NVD | SAL | 33 | 0 | 11.519 |
| 2W0WOD | SAL | 51 | 1.9 | 11.518 |
| RK2M | SAL | 51 | 1.9 | 11.518 |
| PY5AKW | SAH | 343 | 10.2 | 11.515 |
| IB2T (IZ2BKP, op) | SAH | 330 | 10.1 | 11.509 |
| SM3EAE | SAL | 77 | 3.8 | 11.506 |
| JI1PBK | SAL | 32 | 0 | 11.505 |
| PU2WDX | SAL | 32 | 0 | 11.505 |
| SP3MEP | SAL | 87 | 4.4 | 11.500 |
| UW3HM | SAH | 97 | 4.9 | 11.497 |
| IZ8VKW | SAL | 97 | 4.9 | 11.497 |
| DL2MM | SAH | 31 | 0 | 11.491 |
| OK1ATP | SAH | 31 | 0 | 11.491 |
| PY2COY | SAL | 31 | 0 | 11.491 |
| LZ45YE | SAH | 49 | 2 | 11.490 |
| RG3B | SAL | 63 | 3.1 | 11.489 |
| UT7NY | SAH | 106 | 5.4 | 11.485 |
| EA7MT | SAL | 62 | 3.1 | 11.482 |
| LZ7U | SAH | 123 | 6.1 | 11.480 |
| JA5NSR | SAH | 30 | 0 | 11.477 |
| OM7LM | SAL | 30 | 0 | 11.477 |
| UC5G | SAH | 227 | 8.8 | 11.476 |
| TF3W (TF3DC, op) | SAH | 84 | 4.5 | 11.474 |
| EA4XT | SAL | 73 | 3.9 | 11.473 |
| SP3DOF | SAL | 104 | 5.5 | 11.467 |
| RW4WA | SAL | 29 | 0 | 11.462 |
| PA1HR | SAH | 111 | 5.9 | 11.455 |
| R2CA | SAH | 70 | 4.1 | 11.435 |
| PA0M | SAH | 58 | 3.3 | 11.433 |
| JA5FNX | SAH | 100 | 5.7 | 11.430 |

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|---|---|---|---|---|
| SQ9FMU | SAL | 44 | 2.2 | 11.423 |
| ES1BH | SAL | 89 | 5.3 | 11.419 |
| JN3IWQ | SAL | 26 | 0 | 11.415 |
| OH2LNH | SAL | 26 | 0 | 11.415 |
| JH3WKE | SAQ | 98 | 5.8 | 11.411 |
| OK2BHD | SAL | 106 | 6.2 | 11.405 |
| DK8NX | SAL | 43 | 2.3 | 11.403 |
| UA9LAO | SAH | 78 | 4.9 | 11.402 |
| RW5CW | SAH | 42 | 2.3 | 11.393 |
| M0HOM | SAL | 55 | 3.5 | 11.390 |
| SQ8BGR | SAQ | 55 | 3.5 | 11.390 |
| R2RT | SAL | 66 | 4.3 | 11.390 |
| LZ7D (LZ3RN, op) | SAL | 76 | 5 | 11.381 |
| JA1BNW | SAL | 54 | 3.6 | 11.372 |
| UR7R (UX1RX, op) | SAL | 53 | 3.6 | 11.364 |
| EW6F (EW6GF, op) | SAL | 40 | 2.4 | 11.362 |
| OF2KM (OH2KM, op) | SAL | 40 | 2.4 | 11.362 |
| SP9JZT | SAH | 148 | 8.1 | 11.360 |
| HA8VK | SAH | 109 | 6.8 | 11.357 |
| DL3CX | SAL | 64 | 4.5 | 11.356 |
| DL/HA5VJ | SAL | 335 | 11.8 | 11.345 |
| RA0LL | SAH | 22 | 0 | 11.342 |
| MM4D (GM4ATA, op) | SAH | 39 | 2.5 | 11.341 |
| ON7XN | SAL | 39 | 2.5 | 11.341 |
| LZ1CNN | SAH | 62 | 4.6 | 11.332 |
| GD4EIP | SAH | 106 | 7 | 11.325 |
| JR7IWC | SAH | 21 | 0 | 11.322 |
| PA2A | SAL | 21 | 0 | 11.322 |
| SI6T | SAL | 21 | 0 | 11.322 |
| PA2TA | SAL | 71 | 5.3 | 11.321 |
| F5IYJ | SAQ | 105 | 7.1 | 11.311 |
| DF8KY | SAH | 37 | 2.6 | 11.308 |
| RW4CLF ( @ RT4D) | SAH | 134 | 8.2 | 11.307 |
| RA1QD | SAH | 70 | 5.4 | 11.305 |
| F4EUG | SAH | 20 | 0 | 11.301 |
| 7K4VPV | SAL | 20 | 0 | 11.301 |
| 9V1XX | SAL | 20 | 0 | 11.301 |
| OZ1KIH | SAL | 20 | 0 | 11.301 |
| WP3E (NP4EG, op) | SAL | 20 | 0 | 11.301 |
| YB8UTI | SAL | 20 | 0 | 11.301 |
| MW0BRO | SAL | 49 | 3.9 | 11.300 |
| UA3PI | SAL | 133 | 8.3 | 11.294 |
| IZ0FZM | SAL | 78 | 6 | 11.292 |
| JH1GBO | SAL | 36 | 2.7 | 11.286 |
| RK6AQP | SAH | 19 | 0 | 11.279 |
| E28AD (E20HHK, op) | SAL | 19 | 0 | 11.279 |
| I3VJW | SAH | 58 | 4.9 | 11.273 |
| UR7HN | SAL | 144 | 8.9 | 11.268 |
| R7KKO | SAL | 115 | 8 | 11.261 |
| OR4K | SAL | 122 | 8.3 | 11.256 |
| TA4CS | SAL | 18 | 0 | 11.255 |
| HA3PV | SAL | 83 | 6.7 | 11.249 |
| UI8J | SAH | 99 | 7.5 | 11.246 |
| 9A3TU | SAL | 46 | 4.2 | 11.243 |
| UN4PG | SAL | 17 | 0 | 11.230 |
| YL2AG | SAL | 45 | 4.3 | 11.223 |
| BH4TQX | SAL | 16 | 0 | 11.204 |
| UT0EM | SAQ | 16 | 0 | 11.204 |
| SP3GTS | SAH | 79 | 7.1 | 11.188 |
| DK1WU | SAH | 53 | 5.4 | 11.184 |
| F4HPX | SAL | 53 | 5.4 | 11.184 |
| LA8CJ | SAL | 134 | 9.5 | 11.177 |
| KL1JP | SAL | 15 | 0 | 11.176 |
| UR5FCM | SAQ | 15 | 0 | 11.176 |
| EA3AKA | SAH | 113 | 8.9 | 11.163 |
| ON7PX | SAL | 69 | 6.8 | 11.159 |
| UT4UB | SAL | 69 | 6.8 | 11.159 |
| JE2DLR | SAL | 30 | 3.2 | 11.157 |
| DK6JU | SAH | 105 | 8.7 | 11.151 |
| PA5PR | SAL | 51 | 5.6 | 11.148 |
| JA4XHF/3 | SAL | 50 | 5.7 | 11.129 |
| YB8RW | SAL | 134 | 10.1 | 11.117 |
| VU3DMP | SAL | 13 | 0 | 11.114 |
| YE3AA (N1IP, op) | SAL | 13 | 0 | 11.114 |
| JR8QFG | SAL | 28 | 3.4 | 11.107 |
| I7CSB | SAH | 64 | 7.2 | 11.086 |
| PY2KG | SAL | 12 | 0 | 11.079 |
| UA4CNJ | SAL | 12 | 0 | 11.079 |
| YU2KMM | SAL | 12 | 0 | 11.079 |
| JR4VEV | SAH | 56 | 6.7 | 11.078 |
| YO5TI | SAH | 27 | 3.6 | 11.071 |
| UR3ABM | SAL | 27 | 3.6 | 11.071 |
| JA1HGY | SAH | 37 | 5.1 | 11.058 |
| RU7A | SAL | 26 | 3.7 | 11.045 |
| YL3GX | SAL | 26 | 3.7 | 11.045 |
| JA1TQE | SAL | 11 | 0 | 11.041 |
| F3WT | SAL | 76 | 8.4 | 11.041 |
| IZ2ZOT | SAL | 45 | 6.3 | 11.023 |
| JE2DOD | SAL | 45 | 6.3 | 11.023 |
| DM6CS | SAL | 25 | 3.8 | 11.018 |
| RX3AEX | SAL | 60 | 7.7 | 11.008 |

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|---|---|---|---|---|
| JF3GFH/1 | SAL | 10 | 0 | 11.000 |
| 2E0NCN | SAL | 9 | 0 | 10.954 |
| BH4BFS | SAL | 9 | 0 | 10.954 |
| JH6QIL | SAL | 42 | 6.7 | 10.953 |
| RA4LW | SAH | 23 | 4.2 | 10.942 |
| JA0GCI | SAQ | 23 | 4.2 | 10.942 |
| ON9EEE | SAQ | 22 | 4.3 | 10.912 |
| CT3FW | SAL | 62 | 8.8 | 10.912 |
| UA0SE | SAH | 8 | 0 | 10.903 |
| BI3NTC | SAL | 8 | 0 | 10.903 |
| EW2DZ | SAH | 21 | 4.5 | 10.872 |
| 7L4FCN | SAL | 21 | 4.5 | 10.872 |
| SP5XO | SAQ | 21 | 4.5 | 10.872 |
| EA3NA | SAL | 95 | 11.2 | 10.858 |
| RA3Y | SAL | 30 | 6.3 | 10.847 |
| RA6GW | SAH | 37 | 7.5 | 10.818 |
| OH2BBT | SAH | 29 | 6.5 | 10.812 |
| F/SQ6MS | SAQ | 69 | 10.4 | 10.799 |
| JI1ANI | SAH | 36 | 7.7 | 10.786 |
| DO4TP | SAQ | 19 | 5 | 10.779 |
| PU8TAS | SAL | 6 | 0 | 10.778 |
| RM3TO | SAL | 6 | 0 | 10.778 |
| EC7DWP | SAL | 71 | 11.3 | 10.721 |
| YL9T | SAH | 5 | 0 | 10.699 |
| LZ1OJ | SAL | 5 | 0 | 10.699 |
| SM0WRA | SAL | 5 | 0 | 10.699 |
| PA3AJI | SAL | 69 | 11.5 | 10.689 |
| PY2NFE | SAH | 33 | 8.3 | 10.689 |
| BD1IIJ | SAL | 46 | 9.8 | 10.683 |
| HA7JQK | SAH | 17 | 5.6 | 10.670 |
| DL5AOJ | SAL | 57 | 10.9 | 10.666 |
| LY2EN | SAH | 25 | 7.4 | 10.658 |
| LY3X | SAH | 26 | 7.7 | 10.645 |
| UA3DUJ | SAL | 44 | 10.2 | 10.623 |
| DO7CED | SAL | 31 | 8.8 | 10.611 |
| PD3OES | SAL | 4 | 0 | 10.602 |
| RN6L | SAH | 49 | 10.9 | 10.600 |
| UX4CR | SAL | 54 | 11.5 | 10.582 |
| UA6GF | SAL | 42 | 10.6 | 10.563 |
| UI0L | SAH | 23 | 8.3 | 10.532 |
| SP2WGB | SAL | 72 | 13.3 | 10.527 |
| BI4OJF | SAL | 3 | 0 | 10.477 |
| BV3UF | SAL | 3 | 0 | 10.477 |
| LZ3FN | SAH | 14 | 6.7 | 10.476 |
| R3LA | SAH | 28 | 10.3 | 10.417 |
| TA4SO | SAL | 20 | 9.1 | 10.391 |
| SP6JQC | SAL | 19 | 9.5 | 10.329 |
| RA0AM | SAH | 2 | 0 | 10.301 |
| JA4AVO | SAL | 2 | 0 | 10.301 |
| SP6IHE | SAH | 34 | 12.8 | 10.251 |
| PY1FOX | SAL | 43 | 14 | 10.233 |
| BG4TRN | SAL | 10 | 9.1 | 10.090 |
| JQ1EPD | SAL | 10 | 9.1 | 10.090 |
| R9XT | SAH | 1 | 0 | 10.000 |
| JA7ZP | SAL | 9 | 10 | 9.954 |
| IZ0EHL | SAL | 24 | 14.3 | 9.950 |
| SV2KF | SAH | 31 | 16.2 | 9.871 |
| BH4RRG | SAQ | 6 | 14.3 | 9.348 |

**Single-Op (Non-assisted)**

| Call | Category | QSOs | Error % | Index |
|---|---|---|---|---|
| 8P5A | S | 6558 | 0.8 | 13.737 |
| 6Y2T (VE3DZ, op) | S | 5401 | 0.6 | 13.672 |
| TI5W (N4YDU, op) | S | 6417 | 1.5 | 13.657 |
| ZF9CW | S | 4712 | 0.4 | 13.633 |
| TO7A (UT5UGR, op) | S | 5901 | 1.7 | 13.601 |
| WP3C | S | 4096 | 0.7 | 13.542 |
| NP3X (WP3A, op) | S | 4027 | 0.7 | 13.535 |
| VP9/W6PH | S | 3682 | 0.4 | 13.526 |
| V43Z (NP4Z, op) | S | 4773 | 2.2 | 13.459 |
| PS2T (PY2ZEA, op) | S | 3280 | 0.6 | 13.456 |
| DL6FBL | S | 3046 | 0.4 | 13.444 |
| NP3A | S | 3646 | 1.3 | 13.432 |
| KH7Q (N6TJ, op) | S | 3489 | 1.3 | 13.413 |
| VP5M (K4QPL, op) | S | 3101 | 0.8 | 13.412 |
| KH7M (NA2U, op) | S | 3509 | 1.7 | 13.375 |
| IS0/OM8A (OM3RM, op) | S | 3196 | 1.3 | 13.375 |
| TM6X (F5VHY, op) | S | 2459 | 0.4 | 13.351 |
| KH6TU (AD6E, op) | S | 2514 | 0.7 | 13.330 |
| M3W (G4FAL, op) | S | 2436 | 0.6 | 13.327 |
| NP2P | S | 3732 | 2.5 | 13.322 |
| HC1WBT (W0OR, op) | S | 2325 | 0.6 | 13.306 |
| HP3SS | S | 2505 | 1.2 | 13.279 |
| YT5A | S | 2061 | 0.9 | 13.224 |
| PY2NY | S | 1978 | 0.9 | 13.206 |
| WP3R (K4ZA, op) | S | 3047 | 2.9 | 13.194 |
| EA8CN | S | 1707 | 0.5 | 13.182 |
| MD2C (MD0CCE, op) | S | 1825 | 0.8 | 13.181 |
| ZM1A (ZL3CW, op) | S | 1731 | 0.7 | 13.168 |

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|---|---|---|---|---|
| IO2X (IK2NCJ, op) | S | 2262 | 2 | 13.154 |
| HI3Y | S | 1851 | 1.3 | 13.137 |
| WH7W | S | 1843 | 1.3 | 13.136 |
| PY4YY | S | 1654 | 1.3 | 13.089 |
| CR6K (CT1CJJ, op) | S | 2163 | 2.8 | 13.055 |
| F5KEQ (F5MYK, op) | S | 1236 | 0.6 | 13.032 |
| DK3GI | S | 1573 | 1.7 | 13.027 |
| V31JZ (NN7A, op) | S | 1384 | 1.2 | 13.021 |
| C6ANM | S | 1193 | 0.9 | 12.987 |
| OM7RU | S | 1290 | 1.5 | 12.961 |
| PJ7AA (AA9A, op) | S | 1405 | 2 | 12.948 |
| OZ1LO | S | 1159 | 1.2 | 12.944 |
| JH1GBZ (JH5GHM, op) | S | 1306 | 1.9 | 12.926 |
| IK2AOO | S | 827 | 0.2 | 12.898 |
| GM4Z (GM4ZUK, op) | S | 872 | 0.5 | 12.891 |
| A31MM (JA6WFM, op) | S | 1084 | 1.5 | 12.885 |
| HG5F | S | 1706 | 3.7 | 12.862 |
| KG4ZK | S | 1135 | 2.1 | 12.845 |
| DL2DX | S | 918 | 1.2 | 12.843 |
| UV5U (UX1UA, op) | S | 910 | 1.3 | 12.829 |
| CW5B (CX9AU, op) | S | 1066 | 2 | 12.828 |
| IK1JJM | S | 902 | 1.3 | 12.825 |
| LW8DQ | S | 1107 | 2.2 | 12.824 |
| HA3LN | S | 792 | 0.9 | 12.809 |
| EA5YU | S | 575 | 0 | 12.760 |
| EA2KV | S | 817 | 1.6 | 12.752 |
| OK7Y (OK1FDY, op) | S | 743 | 1.2 | 12.751 |
| EW2A | S | 784 | 1.5 | 12.744 |
| ZS2NF | S | 620 | 0.5 | 12.742 |
| 9A3B (9A2VR, op) | S | 658 | 0.8 | 12.738 |
| G4KZD | S | 966 | 2.5 | 12.735 |
| HB9ARF | S | 573 | 0.5 | 12.708 |
| JI1RXQ | S | 563 | 0.5 | 12.701 |
| IK2AHB | S | 671 | 1.3 | 12.697 |
| HB9BMY | S | 776 | 2.1 | 12.680 |
| MM0T (GM3WUX, op) | S | 762 | 2.1 | 12.672 |
| XE1CT | S | 672 | 1.6 | 12.667 |
| FM/F6AUS | S | 644 | 1.5 | 12.659 |
| LU6UO | S | 731 | 2.1 | 12.654 |
| OK2EA | S | 624 | 1.6 | 12.635 |
| EA8BQM | S | 710 | 2.2 | 12.631 |
| DL1BUG | S | 506 | 0.8 | 12.624 |
| JH0INP | S | 531 | 1.3 | 12.595 |
| OM5WW | S | 605 | 1.9 | 12.592 |
| R7CD | S | 432 | 0.5 | 12.585 |
| YL2SM | S | 543 | 1.5 | 12.585 |
| JA7IC | S | 620 | 2.1 | 12.582 |
| F6HDI | S | 443 | 0.7 | 12.576 |
| JA7QVI | S | 669 | 2.5 | 12.575 |
| DM3PKK | S | 418 | 0.5 | 12.571 |
| XE2AU | S | 597 | 2.1 | 12.566 |
| OK7FL | S | 586 | 2.2 | 12.548 |
| LW1EUD | S | 753 | 3.3 | 12.547 |
| EA5DD | S | 508 | 1.6 | 12.546 |
| VK3JA | S | 420 | 0.9 | 12.533 |
| Z36W | S | 434 | 1.1 | 12.527 |
| JR2SCJ | S | 429 | 1.2 | 12.512 |
| WL7E | S | 388 | 0.8 | 12.509 |
| EF7AAW | S | 335 | 0.3 | 12.495 |
| JA7BME | S | 410 | 1.2 | 12.493 |
| SP9H | S | 372 | 0.8 | 12.491 |
| TZ5XR | S | 573 | 2.7 | 12.488 |
| PY0F/PY2QI | S | 571 | 2.7 | 12.487 |
| JA2AXB | S | 569 | 2.7 | 12.485 |
| F5ICC | S | 401 | 1.2 | 12.483 |
| CT1ELZ | S | 348 | 0.6 | 12.482 |
| F5JU | S | 348 | 0.6 | 12.482 |
| PA0CT | S | 399 | 1.2 | 12.481 |
| OV90EDR (OZ1BII, op) | S | 465 | 1.9 | 12.477 |
| NH2DX (KG6DX, op) | S | 405 | 1.5 | 12.457 |
| JH4UYB | S | 325 | 0.6 | 12.452 |
| DL9MFY | S | 321 | 0.6 | 12.447 |
| G2X | S | 578 | 3.2 | 12.442 |
| GM3YTS | S | 383 | 1.5 | 12.433 |
| F5OHM | S | 675 | 4 | 12.429 |
| UY5ZZ | S | 525 | 3 | 12.420 |
| OK2SGW | S | 361 | 1.4 | 12.418 |
| A93JA (KE5JA, op) | S | 321 | 0.9 | 12.417 |
| MU0FAL | S | 357 | 1.4 | 12.413 |
| F5PAL | S | 302 | 0.7 | 12.410 |
| YT6M | S | 301 | 0.7 | 12.409 |
| HI8A | S | 337 | 1.2 | 12.408 |
| DL5KUD | S | 278 | 0.4 | 12.404 |
| OK2MBP | S | 326 | 1.2 | 12.393 |
| SP1AEN | S | 270 | 0.4 | 12.391 |
| F5SGI | S | 268 | 0.4 | 12.388 |

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|---|---|---|---|---|
| HA1TV | S | 265 | 0.4 | 12.383 |
| S51Z | S | 383 | 2 | 12.383 |
| JA7ACM | S | 397 | 2.2 | 12.379 |
| LZ1HW | S | 301 | 1 | 12.379 |
| OK8DD | S | 261 | 0.4 | 12.377 |
| PR2W (PT2AW, op) | S | 299 | 1 | 12.376 |
| CO2YQ | S | 658 | 4.5 | 12.368 |
| G3RLE | S | 274 | 0.7 | 12.368 |
| DK3CC | S | 232 | 0 | 12.365 |
| SM6CPY | S | 373 | 2.1 | 12.362 |
| EA5DNO | S | 339 | 1.7 | 12.360 |
| PA2W | S | 266 | 0.7 | 12.355 |
| DK9OY | S | 248 | 0.4 | 12.354 |
| LY2N | S | 220 | 0 | 12.342 |
| G4BUO | S | 332 | 1.8 | 12.341 |
| CR5A | S | 806 | 5.7 | 12.336 |
| YV8AD | S | 399 | 2.7 | 12.331 |
| DF6RI | S | 249 | 0.8 | 12.316 |
| DL4AUK | S | 284 | 1.4 | 12.313 |
| SM6CMU | S | 224 | 0.4 | 12.310 |
| DL1EAL | S | 204 | 0 | 12.310 |
| XE2ST | S | 387 | 2.8 | 12.308 |
| YO2LEA | S | 423 | 3.2 | 12.306 |
| IK1MEG | S | 200 | 0 | 12.301 |
| DS4EOI | S | 320 | 2.1 | 12.295 |
| JR4DAH | S | 197 | 0 | 12.294 |
| DJ8UL | S | 366 | 2.7 | 12.293 |
| EA3FZT | S | 302 | 1.9 | 12.290 |
| OK1DKR | S | 256 | 1.2 | 12.288 |
| DL1ATZ | S | 189 | 0 | 12.276 |
| OM8ON | S | 211 | 0.5 | 12.274 |
| DL5JS | S | 210 | 0.5 | 12.272 |
| LZ2RS | S | 246 | 1.2 | 12.271 |
| IK2UEX | S | 263 | 1.5 | 12.270 |
| JE4MHL | S | 185 | 0 | 12.267 |
| DF4PD | S | 203 | 0.5 | 12.257 |
| JH1OGC | S | 255 | 1.5 | 12.257 |
| OK1CZ | S | 222 | 0.9 | 12.256 |
| S57NAW | S | 329 | 2.7 | 12.247 |
| I2WIJ | S | 237 | 1.3 | 12.245 |
| EW1P | S | 214 | 0.9 | 12.240 |
| DM3XI | S | 212 | 0.9 | 12.236 |
| IK0YUT | S | 211 | 0.9 | 12.234 |
| PA0TCA | S | 247 | 1.6 | 12.233 |
| DF7AT | S | 169 | 0 | 12.228 |
| JA2ODB | S | 369 | 3.4 | 12.227 |
| IZ2GRG | S | 185 | 0.5 | 12.217 |
| F6EQZ | S | 284 | 2.4 | 12.213 |
| G3SWC | S | 361 | 3.5 | 12.208 |
| JH1HIC | S | 202 | 1 | 12.205 |
| JG6JAV | S | 320 | 3 | 12.205 |
| G4HZV | S | 159 | 0 | 12.201 |
| SF3A (SM3CER, op) | S | 159 | 0 | 12.201 |
| LU8ADX | S | 262 | 2.2 | 12.198 |
| I0ZUT | S | 329 | 3.2 | 12.197 |
| EI4II | S | 293 | 2.7 | 12.197 |
| G3KMQ | S | 231 | 1.7 | 12.194 |
| OM3R (OM3CFR, op) | S | 303 | 2.9 | 12.191 |
| ON3ND | S | 228 | 1.7 | 12.188 |
| OK2BOB | S | 244 | 2 | 12.187 |
| OM3IAG | S | 300 | 2.9 | 12.187 |
| UR5MM | S | 227 | 1.7 | 12.186 |
| OK2BLD | S | 175 | 0.6 | 12.183 |
| OK1FCA | S | 171 | 0.6 | 12.173 |
| PA3ARM | S | 169 | 0.6 | 12.168 |
| UA0ZAM | S | 147 | 0 | 12.167 |
| DL4LBK | S | 168 | 0.6 | 12.165 |
| OK2PEM | S | 221 | 1.8 | 12.164 |
| IK0YUO | S | 145 | 0 | 12.161 |
| IK4GBU | S | 219 | 1.8 | 12.160 |
| EW1I | S | 234 | 2.1 | 12.159 |
| 9V1YC | S | 218 | 1.8 | 12.158 |
| OE1TKW | S | 218 | 1.8 | 12.158 |
| SQ9DXN | S | 218 | 1.8 | 12.158 |
| JA1QOW | S | 144 | 0 | 12.158 |
| OM7AG | S | 203 | 1.5 | 12.157 |
| ON4APU | S | 165 | 0.6 | 12.157 |
| 9A4W | S | 217 | 1.8 | 12.156 |
| RA4ACX | S | 163 | 0.6 | 12.152 |
| UA9BA | S | 258 | 2.6 | 12.152 |
| SU9JG | S | 214 | 1.8 | 12.150 |
| EU3A | S | 198 | 1.5 | 12.147 |
| OK1PI | S | 198 | 1.5 | 12.147 |
| DL2RUG | S | 140 | 0 | 12.146 |
| DL7YS | S | 140 | 0 | 12.146 |
| SM7CIL | S | 159 | 0.6 | 12.141 |
| HA1RJ | S | 195 | 1.5 | 12.140 |
| XV1X | S | 194 | 1.5 | 12.138 |
| DD5MA | S | 137 | 0 | 12.137 |
| DL2VM | S | 176 | 1.1 | 12.136 |
| OE1CIW | S | 156 | 0.6 | 12.133 |

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|---|---|---|---|---|
| PP5AX | S | 174 | 1.1 | 12.131 |
| PA0JED | S | 135 | 0 | 12.130 |
| IK1RGK | S | 251 | 2.7 | 12.130 |
| LZ1GE | S | 203 | 1.9 | 12.117 |
| ES5EP | S | 131 | 0 | 12.117 |
| SE4E (SM4DQE, op) | S | 131 | 0 | 12.117 |
| DL2HYH | S | 202 | 1.9 | 12.115 |
| OE9WGI | S | 339 | 4.2 | 12.110 |
| F6AJM | S | 186 | 1.6 | 12.110 |
| HA5BA | S | 186 | 1.6 | 12.110 |
| M0P (M0RYB, op) | S | 186 | 1.6 | 12.110 |
| YO8ST | S | 169 | 1.2 | 12.108 |
| LY2MM | S | 242 | 2.8 | 12.104 |
| RZ1OK | S | 149 | 0.7 | 12.103 |
| DL6ZXG | S | 215 | 2.3 | 12.102 |
| 5W1SA | S | 214 | 2.3 | 12.100 |
| YU1RK | S | 199 | 2 | 12.099 |
| JH1OAI | S | 147 | 0.7 | 12.097 |
| JA3DAY | S | 125 | 0 | 12.097 |
| AL7LO | S | 266 | 3.3 | 12.095 |
| SP9A | S | 194 | 2 | 12.088 |
| US3EW | S | 143 | 0.7 | 12.085 |
| GW4W | S | 160 | 1.2 | 12.084 |
| UY5AR | S | 236 | 2.9 | 12.083 |
| EW3LN | S | 246 | 3.1 | 12.081 |
| HA3MY | S | 316 | 4.2 | 12.080 |
| OK2QX | S | 292 | 3.9 | 12.075 |
| YU1FG | S | 174 | 1.7 | 12.071 |
| G3RSD | S | 137 | 0.7 | 12.067 |
| OH2VZ | S | 137 | 0.7 | 12.067 |
| RM0F | S | 404 | 5.4 | 12.066 |
| DL1AMH | S | 172 | 1.7 | 12.066 |
| OH7KBF | S | 187 | 2.1 | 12.062 |
| DL0SLG (DL2JRM, op) | S | 115 | 0 | 12.061 |
| DL8ZAJ | S | 134 | 0.7 | 12.057 |
| RM6Y | S | 151 | 1.3 | 12.049 |
| OK5SA | S | 199 | 2.5 | 12.049 |
| UT7QB | S | 150 | 1.3 | 12.046 |
| LA6CF | S | 197 | 2.5 | 12.044 |
| DL1YCF | S | 211 | 2.8 | 12.044 |
| DL7YAD | S | 149 | 1.3 | 12.043 |
| IK3MLF | S | 132 | 0.8 | 12.041 |
| JA1NLX | S | 182 | 2.2 | 12.040 |
| G4DDX | S | 195 | 2.5 | 12.040 |
| LU8DZJ | S | 280 | 4.1 | 12.037 |
| MM3N (GM4SID, op) | S | 164 | 1.8 | 12.035 |
| DK3AX | S | 130 | 0.8 | 12.034 |
| UA2CZ | S | 206 | 2.8 | 12.034 |
| JA0BJY | S | 108 | 0 | 12.033 |
| JA1CJP | S | 107 | 0 | 12.029 |
| MM3T | S | 328 | 4.9 | 12.026 |
| DL3DRN | S | 176 | 2.2 | 12.026 |
| JF1WNT | S | 126 | 0.8 | 12.020 |
| UT2WQ | S | 144 | 1.4 | 12.018 |
| JR1NKN | S | 104 | 0 | 12.017 |
| LY9Y | S | 104 | 0 | 12.017 |
| OK1DJS | S | 103 | 0 | 12.013 |
| OO9O | S | 141 | 1.4 | 12.009 |
| JF9JTS | S | 198 | 2.9 | 12.007 |
| JJ3JJL | S | 122 | 0.8 | 12.006 |
| CT1ZQ | S | 101 | 0 | 12.004 |
| DF5TR | S | 121 | 0.8 | 12.003 |
| S55N | S | 235 | 3.7 | 12.001 |
| HA7LW | S | 155 | 1.9 | 12.000 |
| DM2DZM | S | 100 | 0 | 12.000 |
| EI5KG | S | 120 | 0.8 | 11.999 |
| OK2PDK | S | 329 | 5.2 | 11.997 |
| UY2IZ | S | 119 | 0.8 | 11.996 |
| F5CT | S | 167 | 2.3 | 11.993 |
| F5JSQ | S | 183 | 2.7 | 11.992 |
| OZ5UR | S | 98 | 0 | 11.991 |
| S57X | S | 98 | 0 | 11.991 |
| DK5KF | S | 117 | 0.8 | 11.988 |
| IK0ISD | S | 177 | 2.7 | 11.978 |
| YO5OHY | S | 203 | 3.3 | 11.977 |
| DJ6FO | S | 164 | 2.4 | 11.975 |
| 9A4GD | S | 116 | 0.9 | 11.974 |
| SI5Y (SM5BKK, op) | S | 116 | 0.9 | 11.974 |
| OZ8AE | S | 94 | 0 | 11.973 |
| UY5QJ | S | 94 | 0 | 11.973 |
| JA6BWH | S | 115 | 0.9 | 11.971 |
| IK1XPK | S | 214 | 3.6 | 11.970 |
| II2V (I2JIN, op) | S | 114 | 0.9 | 11.967 |
| DL4DZ | S | 267 | 4.6 | 11.967 |
| 9A2BD | S | 176 | 2.8 | 11.966 |
| OK5WF | S | 176 | 2.8 | 11.966 |
| IZ2FME | S | 92 | 0 | 11.964 |
| JA3JM | S | 113 | 0.9 | 11.963 |
| JA6FFK | S | 113 | 0.9 | 11.963 |
| JJ0PJD | S | 113 | 0.9 | 11.963 |
| UX2MF | S | 113 | 0.9 | 11.963 |

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|---|---|---|---|---|
| I5YKQ | S | 129 | 1.5 | 11.961 |
| OK1AXB | S | 245 | 4.3 | 11.959 |
| DL5CL | S | 91 | 0 | 11.959 |
| LZ3YV | S | 173 | 2.8 | 11.958 |
| JR2PMT | S | 171 | 2.8 | 11.953 |
| IZ6BXQ | S | 110 | 0.9 | 11.951 |
| ZL1AA (ZL1XA, op) | S | 158 | 2.5 | 11.949 |
| JA3UWB | S | 109 | 0.9 | 11.947 |
| F6FTB | S | 88 | 0 | 11.944 |
| US0SY | S | 127 | 1.6 | 11.944 |
| OK1AWC | S | 108 | 0.9 | 11.943 |
| DF5AN | S | 156 | 2.5 | 11.943 |
| JK8PBO | S | 142 | 2.1 | 11.942 |
| DF7EM | S | 182 | 3.2 | 11.940 |
| OZ5RM | S | 87 | 0 | 11.940 |
| JA7FAS | S | 107 | 0.9 | 11.939 |
| EV6Z | S | 141 | 2.1 | 11.939 |
| JR7RZK | S | 141 | 2.1 | 11.939 |
| JF1KWG | S | 125 | 1.6 | 11.937 |
| OM6AL | S | 193 | 3.5 | 11.936 |
| JH1LEM | S | 85 | 0 | 11.929 |
| JH1MDJ | S | 164 | 3 | 11.915 |
| F6JOE | S | 81 | 0 | 11.908 |
| LZ2CH | S | 160 | 3 | 11.904 |
| E74X | S | 133 | 2.2 | 11.904 |
| F5MA | S | 133 | 2.2 | 11.904 |
| SP9IHP | S | 118 | 1.7 | 11.902 |
| PA2KW | S | 100 | 1 | 11.900 |
| JN3TSY | S | 79 | 0 | 11.898 |
| DL2BQV | S | 99 | 1 | 11.896 |
| EA7HAB | S | 99 | 1 | 11.896 |
| JA1IAZ | S | 99 | 1 | 11.896 |
| JA2QVP | S | 99 | 1 | 11.896 |
| EA5CP | S | 146 | 2.7 | 11.894 |
| IK1BPL | S | 247 | 5 | 11.893 |
| DG0KS | S | 98 | 1 | 11.891 |
| EA5ARC | S | 115 | 1.7 | 11.891 |
| UR4IZ | S | 115 | 1.7 | 11.891 |
| JK1NSR | S | 97 | 1 | 11.887 |
| LA2HFA | S | 97 | 1 | 11.887 |
| IU6AIG | S | 77 | 0 | 11.886 |
| JA8CXY | S | 77 | 0 | 11.886 |
| R1AO | S | 77 | 0 | 11.886 |
| DL1VDL | S | 143 | 2.7 | 11.885 |
| EB1EB | S | 168 | 3.4 | 11.885 |
| YR0WL | S | 113 | 1.7 | 11.883 |
| DL2ZBO | S | 96 | 1 | 11.882 |
| JH8CXW | S | 96 | 1 | 11.882 |
| UA1CUR | S | 96 | 1 | 11.882 |
| EI5DI | S | 76 | 0 | 11.881 |
| PE1F | S | 76 | 0 | 11.881 |
| S52WD | S | 76 | 0 | 11.881 |
| OK1HEH | S | 155 | 3.1 | 11.880 |
| GM3YEH | S | 95 | 1 | 11.878 |
| JH1EVD | S | 95 | 1 | 11.878 |
| PD7CJT | S | 95 | 1 | 11.878 |
| SK4EA (SM4EPR, op) | S | 95 | 1 | 11.878 |
| DL4JU | S | 75 | 0 | 11.875 |
| DL3MVC | S | 201 | 4.3 | 11.873 |
| 7K1CPT | S | 74 | 0 | 11.869 |
| F1IWH | S | 153 | 3.2 | 11.865 |
| JI1CNA | S | 73 | 0 | 11.863 |
| DL1SO | S | 110 | 1.8 | 11.861 |
| JG3SVP | S | 185 | 4.1 | 11.857 |
| OK1FKD | S | 71 | 0 | 11.851 |
| IZ2OOS | S | 245 | 5.4 | 11.849 |
| JA2KPW | S | 91 | 1.1 | 11.849 |
| G0BBO | S | 122 | 2.4 | 11.846 |
| R7MT | S | 70 | 0 | 11.845 |
| SQ3PMX | S | 70 | 0 | 11.845 |
| YO4SI | S | 136 | 2.9 | 11.844 |
| PY4ARS | S | 234 | 5.3 | 11.839 |
| JA1KIH | S | 69 | 0 | 11.839 |
| IK5BDG | S | 146 | 3.3 | 11.834 |
| JH8BKP | S | 68 | 0 | 11.833 |
| F5IAE | S | 145 | 3.3 | 11.831 |
| OZ7EA | S | 145 | 3.3 | 11.831 |
| EE2A (EA2SN, op) | S | 87 | 1.1 | 11.830 |
| IZ3KMY | S | 104 | 1.9 | 11.827 |
| OZ5KU | S | 67 | 0 | 11.826 |
| R0CAF | S | 119 | 2.5 | 11.826 |
| IK0PEA | S | 86 | 1.1 | 11.824 |
| JA1TMG | S | 86 | 1.1 | 11.824 |
| ON6AT | S | 103 | 1.9 | 11.823 |
| OM2XA | S | 118 | 2.5 | 11.822 |
| NL7V | S | 155 | 3.7 | 11.820 |
| OK6N | S | 155 | 3.7 | 11.820 |
| G3LIK | S | 144 | 3.4 | 11.818 |
| JH0NEC | S | 177 | 4.3 | 11.818 |
| LY5Q | S | 101 | 1.9 | 11.814 |
| DL6SRD | S | 130 | 3 | 11.814 |
| EA8/DK6TR | S | 65 | 0 | 11.813 |

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|---|---|---|---|---|
| JJ3TBB/3 | S | 65 | 0 | 11.813 |
| UW7CN | S | 115 | 2.5 | 11.811 |
| OH7KC | S | 85 | 1.2 | 11.809 |
| IN3HUU | S | 64 | 0 | 11.806 |
| OM3CPF | S | 140 | 3.4 | 11.806 |
| IK1WEG | S | 175 | 4.4 | 11.803 |
| YO2CJX | S | 100 | 2 | 11.800 |
| RA3DJA | S | 63 | 0 | 11.799 |
| DL3JRA | S | 82 | 1.2 | 11.794 |
| IK6DIN | S | 113 | 2.6 | 11.793 |
| UT2HM | S | 62 | 0 | 11.792 |
| G3YEU | S | 98 | 2 | 11.791 |
| DJ1YFK | S | 61 | 0 | 11.785 |
| DL1YPF | S | 61 | 0 | 11.785 |
| JK7UST | S | 61 | 0 | 11.785 |
| OZ1AAR | S | 111 | 2.6 | 11.785 |
| JK1OPL | S | 192 | 5 | 11.783 |
| IZ8DUD | S | 148 | 3.9 | 11.780 |
| PV8ADI | S | 1463 | 13.9 | 11.775 |
| DK2ZO | S | 79 | 1.3 | 11.768 |
| JA1SCE | S | 79 | 1.3 | 11.768 |
| JA2KKA | S | 79 | 1.3 | 11.768 |
| JK7DWD | S | 79 | 1.3 | 11.768 |
| OK1AMM | S | 79 | 1.3 | 11.768 |
| JA1CRJ | S | 109 | 2.7 | 11.767 |
| SP5ULV | S | 58 | 0 | 11.763 |
| UA7G | S | 58 | 0 | 11.763 |
| DR1517LU (DL2HWI, op) | S | 155 | 4.3 | 11.760 |
| 9M2ZAK | S | 120 | 3.2 | 11.759 |
| DJ3XD | S | 93 | 2.1 | 11.758 |
| DH2URF | S | 57 | 0 | 11.756 |
| G4SGI | S | 57 | 0 | 11.756 |
| PA0JHS | S | 57 | 0 | 11.756 |
| DJ3CS | S | 92 | 2.1 | 11.754 |
| IW8FFX | S | 240 | 6.3 | 11.750 |
| JA0IOF | S | 56 | 0 | 11.748 |
| JE8KKX | S | 55 | 0 | 11.740 |
| SM5ACQ | S | 55 | 0 | 11.740 |
| EW1TO | S | 117 | 3.3 | 11.738 |
| YL2CV | S | 140 | 4.1 | 11.736 |
| US0UX | S | 116 | 3.3 | 11.734 |
| JR1AQI | S | 54 | 0 | 11.732 |
| UR7CB | S | 89 | 2.2 | 11.729 |
| EA4OA | S | 88 | 2.2 | 11.724 |
| JE1RRK | S | 88 | 2.2 | 11.724 |
| JA8AJE | S | 53 | 0 | 11.724 |
| OK1HCG | S | 53 | 0 | 11.724 |
| JR2MIO | S | 73 | 1.4 | 11.723 |
| PA5GU | S | 115 | 3.4 | 11.721 |
| Z35F | S | 87 | 2.2 | 11.720 |
| YO9GDN | S | 72 | 1.4 | 11.717 |
| JF1OPL | S | 147 | 4.5 | 11.717 |
| UA6HFI | S | 114 | 3.4 | 11.717 |
| DH0JAE | S | 52 | 0 | 11.716 |
| I2BPP | S | 101 | 2.9 | 11.714 |
| JL1JJD | S | 101 | 2.9 | 11.714 |
| PY2AXH | S | 101 | 2.9 | 11.714 |
| DL5QS | S | 71 | 1.4 | 11.711 |
| EA3BRL | S | 71 | 1.4 | 11.711 |
| LZ2DJA | S | 112 | 3.4 | 11.709 |
| DL0NG (DK8NC, op) | S | 51 | 0 | 11.708 |
| RA7R | S | 51 | 0 | 11.708 |
| JA1CP | S | 99 | 2.9 | 11.706 |
| OM8MF | S | 99 | 2.9 | 11.706 |
| LY1M | S | 70 | 1.4 | 11.705 |
| HL2CFY | S | 86 | 2.3 | 11.704 |
| DL2AWA | S | 85 | 2.3 | 11.699 |
| JA1OHP | S | 50 | 0 | 11.699 |
| JG2RFJ | S | 69 | 1.4 | 11.699 |
| LZ1VQ | S | 144 | 4.6 | 11.698 |
| DL4ALI | S | 111 | 3.5 | 11.695 |
| IK2UJF | S | 111 | 3.5 | 11.695 |
| JH1GNU | S | 133 | 4.3 | 11.694 |
| VU2TMP | S | 110 | 3.5 | 11.691 |
| DL6UHA | S | 98 | 3 | 11.691 |
| I0WBX | S | 191 | 5.9 | 11.691 |
| JH1JNJ | S | 49 | 0 | 11.690 |
| EA4GMX | S | 208 | 6.3 | 11.688 |
| N7ET/DU7 | S | 97 | 3 | 11.687 |
| OZ6AGX | S | 48 | 0 | 11.681 |
| IW3FVZ | S | 67 | 1.5 | 11.676 |
| DL4DRW | S | 119 | 4 | 11.676 |
| JA3QOS | S | 129 | 4.4 | 11.671 |
| RX3MM | S | 46 | 0 | 11.663 |
| YO6HSU | S | 117 | 4.1 | 11.658 |
| SM6GBM | S | 128 | 4.5 | 11.657 |
| EA3GHZ | S | 116 | 4.1 | 11.654 |
| GM3W (GM3JKS, op) | S | 116 | 4.1 | 11.654 |
| JJ3DJS/8 | S | 45 | 0 | 11.653 |
| UR5FS | S | 175 | 5.9 | 11.653 |
| SP6BEN | S | 44 | 0 | 11.643 |

| | | | | |
|---|---|---|---|---|
| YV5OIE | S | 412 | 9.8 | 11.635 |
| DL5ANS | S | 43 | 0 | 11.633 |
| JH1FNU | S | 43 | 0 | 11.633 |
| UA4Z | S | 43 | 0 | 11.633 |
| UR3QGJ | S | 43 | 0 | 11.633 |
| EA1CQ | S | 143 | 5.3 | 11.625 |
| YO2MKI | S | 220 | 7.2 | 11.622 |
| PA0RRS | S | 100 | 3.8 | 11.620 |
| YO2CEQ | S | 112 | 4.3 | 11.619 |
| JA6CVR | S | 60 | 1.6 | 11.618 |
| R3OM | S | 60 | 1.6 | 11.618 |
| UX1VX | S | 121 | 4.7 | 11.613 |
| JA1AZR | S | 74 | 2.6 | 11.609 |
| G4CXQ | S | 99 | 3.9 | 11.606 |
| JA1BBC | S | 99 | 3.9 | 11.606 |
| JG1WKM | S | 40 | 0 | 11.602 |
| LZ7H | S | 40 | 0 | 11.602 |
| JA1FVE | S | 98 | 3.9 | 11.601 |
| G3UFO | S | 119 | 4.8 | 11.596 |
| RJ3DC | S | 119 | 4.8 | 11.596 |
| OM4AY | S | 86 | 3.4 | 11.594 |
| VK4TT | S | 86 | 3.4 | 11.594 |
| JA1IE | S | 58 | 1.7 | 11.593 |
| RN4W | S | 58 | 1.7 | 11.593 |
| DH8MS | S | 39 | 0 | 11.591 |
| DL3HAE | S | 39 | 0 | 11.591 |
| RA3THN | S | 39 | 0 | 11.591 |
| SP4AWE | S | 172 | 6.5 | 11.586 |
| SP4GHL | S | 84 | 3.4 | 11.584 |
| OM5MX | S | 96 | 4 | 11.582 |
| JF1LMB | S | 145 | 5.8 | 11.581 |
| DL1NKB | S | 38 | 0 | 11.580 |
| S53JW | S | 117 | 4.9 | 11.578 |
| T88DT | S | 95 | 4 | 11.578 |
| DL7VHP | S | 106 | 4.5 | 11.575 |
| DL3SEM | S | 187 | 7 | 11.572 |
| F8VOL | S | 126 | 5.3 | 11.570 |
| JI5NWQ | S | 37 | 0 | 11.568 |
| JH1NXU | S | 56 | 1.8 | 11.568 |
| IK1WGZ | S | 55 | 1.8 | 11.560 |
| JA7MWC | S | 55 | 1.8 | 11.560 |
| JH7IXX | S | 69 | 2.8 | 11.559 |
| JA2GHP | S | 36 | 0 | 11.556 |
| M0SEL | S | 36 | 0 | 11.556 |
| UR5FEO | S | 36 | 0 | 11.556 |
| DL1DWR | S | 54 | 1.8 | 11.552 |
| G3SQU | S | 54 | 1.8 | 11.552 |
| JA1SKE | S | 54 | 1.8 | 11.552 |
| JH1RRP | S | 54 | 1.8 | 11.552 |
| US7IA | S | 54 | 1.8 | 11.552 |
| DL5CD | S | 123 | 5.4 | 11.550 |
| R7KX | S | 91 | 4.2 | 11.539 |
| UT5EOX | S | 67 | 2.9 | 11.536 |
| IU8ACL | S | 225 | 8.2 | 11.532 |
| HG2DX | S | 52 | 1.9 | 11.526 |
| UN6LN | S | 52 | 1.9 | 11.526 |
| OK2VV | S | 163 | 6.9 | 11.522 |
| PY2LPM | S | 33 | 0 | 11.519 |
| JI1RSF | S | 51 | 1.9 | 11.518 |
| LZ1IA | S | 88 | 4.3 | 11.514 |
| BD5XX | S | 77 | 3.8 | 11.506 |
| DL2LFH | S | 32 | 0 | 11.505 |
| PA0ZAV | S | 50 | 2 | 11.499 |
| EU6AA | S | 31 | 0 | 11.491 |
| HB9AYZ | S | 31 | 0 | 11.491 |
| JF7GDF | S | 31 | 0 | 11.491 |
| OE1VMC | S | 31 | 0 | 11.491 |
| VU2DCC | S | 31 | 0 | 11.491 |
| IK2TKX | S | 49 | 2 | 11.490 |
| R7FO | S | 49 | 2 | 11.490 |
| RA6XB | S | 49 | 2 | 11.490 |
| IN3ISV | S | 63 | 3.1 | 11.489 |
| PD0HF | S | 63 | 3.1 | 11.489 |
| PA4DO | S | 106 | 5.4 | 11.485 |
| DM2ORI | S | 48 | 2 | 11.481 |
| IZ4GJJ | S | 48 | 2 | 11.481 |
| JE3UHV | S | 48 | 2 | 11.481 |
| UT8IM | S | 105 | 5.4 | 11.481 |
| HA7PO | S | 95 | 5 | 11.478 |
| DK4EF | S | 30 | 0 | 11.477 |
| JF2KWM | S | 30 | 0 | 11.477 |
| G6NHU | S | 29 | 0 | 11.462 |
| JL3PPN | S | 47 | 2.1 | 11.462 |
| JO3JYE | S | 47 | 2.1 | 11.462 |
| JO3QVT | S | 47 | 2.1 | 11.462 |
| DL3RAR | S | 72 | 4 | 11.457 |
| DS5VTG | S | 46 | 2.1 | 11.453 |
| SP6A | S | 182 | 8.1 | 11.450 |
| RZ3Z | S | 120 | 6.3 | 11.449 |
| JA3RAZ | S | 28 | 0 | 11.447 |
| PA3MET | S | 119 | 6.3 | 11.446 |
| YO5NY | S | 101 | 5.6 | 11.444 |

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|---|---|---|---|---|
| OK1ABF | S | 59 | 3.3 | 11.441 |
| EA4EER | S | 58 | 3.3 | 11.433 |
| IT9DKI | S | 45 | 2.2 | 11.433 |
| DL6RBH | S | 44 | 2.2 | 11.423 |
| JA5CBU | S | 44 | 2.2 | 11.423 |
| OK1BLU | S | 147 | 7.5 | 11.417 |
| PI4RAG (PA3CLQ, op) | S | 26 | 0 | 11.415 |
| VK2EL | S | 26 | 0 | 11.415 |
| JH0ILL | S | 116 | 6.5 | 11.414 |
| JK1LSE | S | 115 | 6.5 | 11.411 |
| 5P6P | S | 56 | 3.4 | 11.408 |
| JH3FUK | S | 56 | 3.4 | 11.408 |
| UA5C | S | 56 | 3.4 | 11.408 |
| OK2BJK | S | 106 | 6.2 | 11.405 |
| EA4UB | S | 160 | 8 | 11.404 |
| I2RBR | S | 25 | 0 | 11.398 |
| JH6SCA | S | 25 | 0 | 11.398 |
| UA0DBX | S | 25 | 0 | 11.398 |
| EA5GIN | S | 77 | 4.9 | 11.396 |
| IK5AMB | S | 67 | 4.3 | 11.396 |
| RN4SC | S | 42 | 2.3 | 11.393 |
| UT5VX | S | 96 | 5.9 | 11.392 |
| YC1DPM | S | 55 | 3.5 | 11.390 |
| JI1FOE | S | 66 | 4.3 | 11.390 |
| 7Z1HL | S | 24 | 0 | 11.380 |
| PA0RBA | S | 111 | 6.7 | 11.375 |
| DL5MHR | S | 94 | 6 | 11.373 |
| UT3UZ | S | 94 | 6 | 11.373 |
| IK1UGX | S | 65 | 4.4 | 11.373 |
| DK8RE | S | 41 | 2.4 | 11.373 |
| HB9DHZ | S | 41 | 2.4 | 11.373 |
| 4Z5LU | S | 85 | 5.6 | 11.369 |
| YC6MYO | S | 23 | 0 | 11.362 |
| IK2WQH | S | 74 | 5.1 | 11.359 |
| PA0RHA | S | 74 | 5.1 | 11.359 |
| UR3PA | S | 64 | 4.5 | 11.356 |
| DF9GH | S | 22 | 0 | 11.342 |
| JF2FIU | S | 22 | 0 | 11.342 |
| RX9FB | S | 22 | 0 | 11.342 |
| IW2ESL | S | 39 | 2.5 | 11.341 |
| EA8RP | S | 99 | 6.6 | 11.336 |
| RA0F | S | 21 | 0 | 11.322 |
| SM5BJT | S | 21 | 0 | 11.322 |
| SP6BXM | S | 21 | 0 | 11.322 |
| VK3GK | S | 21 | 0 | 11.322 |
| JR1LEV | S | 38 | 2.6 | 11.320 |
| EA3AGB | S | 142 | 8.4 | 11.312 |
| UA4UAR | S | 37 | 2.6 | 11.308 |
| SV1RUX | S | 70 | 5.4 | 11.305 |
| JA1CCX | S | 20 | 0 | 11.301 |
| JA1GZK | S | 20 | 0 | 11.301 |
| JH1WOY | S | 20 | 0 | 11.301 |
| R4HM | S | 20 | 0 | 11.301 |
| JN1MSO | S | 49 | 3.9 | 11.300 |
| R6LAQ | S | 79 | 6 | 11.298 |
| OM4DU | S | 69 | 5.5 | 11.289 |
| JA9EJG | S | 36 | 2.7 | 11.286 |
| VR2CO | S | 36 | 2.7 | 11.286 |
| DL5DBH | S | 48 | 4 | 11.281 |
| DG3BCZ | S | 68 | 5.6 | 11.273 |
| SQ9FQY | S | 67 | 5.6 | 11.266 |
| DG8KAD | S | 18 | 0 | 11.255 |
| US7IGN | S | 83 | 6.7 | 11.249 |
| R3AP | S | 114 | 8.1 | 11.247 |
| PA3DBS | S | 179 | 10.1 | 11.243 |
| PA0SKP | S | 74 | 6.3 | 11.239 |
| JP1SRG | S | 82 | 6.8 | 11.234 |
| DJ3GE | S | 17 | 0 | 11.230 |
| JH0ROS/1 | S | 17 | 0 | 11.230 |
| RI1AND (RW1AI, op) | S | 17 | 0 | 11.230 |
| DF5BX | S | 33 | 2.9 | 11.229 |
| JA3IBU | S | 55 | 5.2 | 11.220 |
| LZ1IKY | S | 103 | 8 | 11.213 |
| F4GFT | S | 32 | 3 | 11.205 |
| YO9AGI | S | 123 | 8.9 | 11.200 |
| DF1XC | S | 63 | 6 | 11.199 |
| IZ1KGY | S | 63 | 6 | 11.199 |
| US3UA | S | 53 | 5.4 | 11.184 |
| JA3EGE | S | 31 | 3.1 | 11.181 |
| UR5NDS | S | 85 | 7.6 | 11.169 |
| XE1RZL | S | 279 | 12.8 | 11.166 |
| F8OOI | S | 92 | 8 | 11.164 |
| PA5SKY | S | 30 | 3.2 | 11.157 |
| EA7CIX | S | 60 | 6.3 | 11.148 |
| HS5NMF | S | 14 | 0 | 11.146 |
| JA0LNS | S | 14 | 0 | 11.146 |
| JI1LAI | S | 14 | 0 | 11.146 |
| JR3NDM | S | 14 | 0 | 11.146 |
| LY2BNL | S | 14 | 0 | 11.146 |
| RU6MO | S | 14 | 0 | 11.146 |
| JA0AVS | S | 41 | 4.7 | 11.143 |
| RM7F | S | 41 | 4.7 | 11.143 |

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|---|---|---|---|---|
| IK0PXD | S | 166 | 10.8 | 11.140 |
| CN8YR | S | 29 | 3.3 | 11.132 |
| ER3DX | S | 29 | 3.3 | 11.132 |
| IN3UFW | S | 40 | 4.8 | 11.122 |
| JH1KQF | S | 13 | 0 | 11.114 |
| CT1DJE | S | 127 | 9.9 | 11.114 |
| UN9GD | S | 28 | 3.4 | 11.107 |
| UA6BFE | S | 65 | 7.1 | 11.103 |
| JL3RDC | S | 39 | 4.9 | 11.101 |
| UY6U (UX7UU, op) | S | 48 | 5.9 | 11.091 |
| JR2FJC | S | 38 | 5 | 11.080 |
| SM5ENX | S | 38 | 5 | 11.080 |
| SM7DBN | S | 12 | 0 | 11.079 |
| DL9GMC | S | 56 | 6.7 | 11.078 |
| JE3ECD | S | 92 | 8.9 | 11.074 |
| IK5MEP | S | 47 | 6 | 11.072 |
| JR6HMJ/1 | S | 27 | 3.6 | 11.071 |
| ON7CC | S | 71 | 7.8 | 11.071 |
| G4IUF | S | 98 | 9.3 | 11.061 |
| VK2PN | S | 98 | 9.3 | 11.061 |
| UT5UQV | S | 46 | 6.1 | 11.053 |
| JF1UOX | S | 26 | 3.7 | 11.045 |
| RL9I | S | 26 | 3.7 | 11.045 |
| EU8F | S | 11 | 0 | 11.041 |
| G4IKR | S | 11 | 0 | 11.041 |
| HC2GRC (HC2AO, op) | S | 11 | 0 | 11.041 |
| ZL4NR | S | 11 | 0 | 11.041 |
| KH6BE | S | 45 | 6.3 | 11.023 |
| UT5UNZ | S | 45 | 6.3 | 11.023 |
| OK1DCP | S | 25 | 3.8 | 11.018 |
| PY1NP | S | 25 | 3.8 | 11.018 |
| F4GOU | S | 35 | 5.4 | 11.004 |
| US7IM | S | 44 | 6.4 | 11.003 |
| F1VEV | S | 10 | 0 | 11.000 |
| IK5QPS | S | 10 | 0 | 11.000 |
| JA3GZE/1 | S | 10 | 0 | 11.000 |
| RO7K | S | 10 | 0 | 11.000 |
| US3IZ | S | 10 | 0 | 11.000 |
| OM4CI | S | 43 | 6.5 | 10.983 |
| RN4CA | S | 43 | 6.5 | 10.983 |
| DL4FAP | S | 24 | 4 | 10.980 |
| JO1WIZ | S | 24 | 4 | 10.980 |
| SM7RYR | S | 24 | 4 | 10.980 |
| OH2DA | S | 58 | 7.9 | 10.973 |
| IK2IKW | S | 9 | 0 | 10.954 |
| JI1AEP | S | 9 | 0 | 10.954 |
| DF2WF | S | 71 | 9 | 10.951 |
| JR7ASO | S | 23 | 4.2 | 10.942 |
| JA7BEW | S | 41 | 6.8 | 10.933 |
| DJ3JD | S | 56 | 8.2 | 10.928 |
| R1CAA | S | 117 | 11.4 | 10.928 |
| SM6IQD | S | 22 | 4.3 | 10.912 |
| 7N4QCQ | S | 8 | 0 | 10.903 |
| 9X2CW (SM1TDE, op) | S | 8 | 0 | 10.903 |
| EA2DDE | S | 8 | 0 | 10.903 |
| JR2EKD | S | 8 | 0 | 10.903 |
| JW2US | S | 8 | 0 | 10.903 |
| KP4/AD3Y | S | 8 | 0 | 10.903 |
| RD1A | S | 8 | 0 | 10.903 |
| HB9DND | S | 61 | 9 | 10.885 |
| PA2CHM | S | 91 | 10.8 | 10.879 |
| G4AYU | S | 21 | 4.5 | 10.872 |
| JA1UOA | S | 21 | 4.5 | 10.872 |
| JA1UXV | S | 21 | 4.5 | 10.872 |
| UT4VW | S | 21 | 4.5 | 10.872 |
| G8GHD | S | 78 | 10.3 | 10.862 |
| UT7IS | S | 66 | 9.6 | 10.860 |
| JA9DTV/1 | S | 38 | 7.3 | 10.850 |
| UR4LIN | S | 30 | 6.3 | 10.847 |
| JE1GZB | S | 7 | 0 | 10.845 |
| IK2AUK | S | 74 | 10.8 | 10.789 |
| PA3CVI | S | 91 | 11.7 | 10.789 |
| JA1BVY | S | 19 | 5 | 10.779 |
| JK2AQT | S | 19 | 5 | 10.779 |
| JM1KLO | S | 6 | 0 | 10.778 |
| PC3H | S | 28 | 6.7 | 10.777 |
| UT8UD | S | 28 | 6.7 | 10.777 |
| VU2XE | S | 28 | 6.7 | 10.777 |
| UY0ZG | S | 35 | 7.9 | 10.754 |
| F6BIP | S | 18 | 5.3 | 10.725 |
| HA4YF | S | 18 | 5.3 | 10.725 |
| DL5KVV | S | 5 | 0 | 10.699 |
| PY1TTN | S | 5 | 0 | 10.699 |
| JA1GVM | S | 33 | 8.3 | 10.689 |
| OZ4FF | S | 57 | 10.9 | 10.666 |
| I1ABT | S | 25 | 7.4 | 10.658 |
| DL3SDN | S | 45 | 10 | 10.653 |
| IU3BPW | S | 38 | 9.5 | 10.630 |
| SE5L (SM5ALJ, op) | S | 66 | 12 | 10.620 |
| RA3NC | S | 16 | 5.9 | 10.614 |
| JG4WTY/1 | S | 4 | 0 | 10.602 |

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|---|---|---|---|---|
| UR5EFL | S | 4 | 0 | 10.602 |
| SP2HHX | S | 30 | 9.1 | 10.567 |
| JH1GTU | S | 15 | 6.3 | 10.546 |
| UT2UB | S | 33 | 10.8 | 10.439 |
| DL8UKW | S | 32 | 11.1 | 10.395 |
| RA0LMK | S | 20 | 9.1 | 10.391 |
| YO4BEX | S | 26 | 10.3 | 10.385 |
| RU3YAA | S | 36 | 12.2 | 10.336 |
| DL2TM | S | 12 | 7.7 | 10.309 |
| R9XG | S | 2 | 0 | 10.301 |
| RV3MR | S | 2 | 0 | 10.301 |
| HS0ZLM | S | 23 | 11.5 | 10.212 |
| JI1FLB | S | 11 | 8.3 | 10.211 |
| PA1B | S | 16 | 11.1 | 10.094 |
| JN3ONX | S | 9 | 10 | 9.954 |
| JH1SAR | S | 14 | 12.5 | 9.896 |
| IK8ARF | S | 12 | 14.3 | 9.649 |

| **Multi-Op** | | | | |
|---|---|---|---|---|
| **Call** | **Category** | **QSOs** | **Error %** | **Index** |
| PJ2T | MM | 8596 | 0.7 | 13.864 |
| PJ4X | MM | 8819 | 1.1 | 13.835 |
| P40R | M2X | 7203 | 0.6 | 13.798 |
| KP2M | M2X | 6897 | 0.6 | 13.779 |
| CR3W | M2X | 6143 | 0.5 | 13.738 |
| NP2N | M2X | 6361 | 0.8 | 13.724 |
| KH6LC | MM | 6463 | 1 | 13.710 |
| ZF1A | MSH | 5881 | 0.6 | 13.709 |
| P40L | MSH | 5300 | 0.7 | 13.654 |
| V3T | MSL | 4997 | 0.7 | 13.629 |
| VP5K | MSH | 4855 | 0.6 | 13.626 |
| VP2MVV | MSL | 4883 | 1 | 13.589 |
| EI7M | M2X | 4886 | 1.1 | 13.579 |
| 9A1A | MM | 4587 | 1.1 | 13.552 |
| J75Y | MSH | 3393 | 0.5 | 13.481 |
| CW5W | MSH | 3946 | 1.5 | 13.446 |
| KL7RA | MM | 3521 | 1.2 | 13.427 |
| HG7T | M2X | 3110 | 1.1 | 13.383 |
| PW2D | MSH | 4000 | 2.2 | 13.382 |
| CO8ZZ | MSL | 2701 | 0.8 | 13.352 |
| 5J0NA | MSL | 3106 | 1.5 | 13.342 |
| V3M | M2X | 2624 | 1.1 | 13.309 |
| DK8ZB | MSH | 2563 | 1 | 13.309 |
| DL1A | MSH | 2617 | 1.1 | 13.308 |
| RW2F | MM | 2778 | 1.7 | 13.274 |
| SN8B | M2X | 2720 | 2 | 13.235 |
| CE3AA | MSH | 2715 | 2 | 13.234 |
| HG6N | MSH | 2074 | 1 | 13.217 |
| ZM4T | MSH | 2317 | 1.7 | 13.195 |
| JA3YBK | MM | 2276 | 1.7 | 13.187 |
| HG1S | MSH | 2604 | 2.3 | 13.186 |
| DD1A | MSH | 1925 | 1.4 | 13.144 |
| ZL3X | M2X | 2131 | 1.9 | 13.139 |
| DM5N | MSH | 1825 | 1.5 | 13.111 |
| RU1A | M2X | 1841 | 1.6 | 13.105 |
| OT6M | MSH | 1752 | 1.5 | 13.094 |
| OL1C | MSH | 1961 | 2.3 | 13.062 |
| AH2R | M2X | 2039 | 2.7 | 13.039 |
| RT0C | MSH | 1430 | 1.2 | 13.035 |
| HG5C | MSH | 1699 | 2 | 13.030 |
| OP4K | MSH | 1768 | 2.2 | 13.027 |
| TM7X | MSL | 1675 | 2.1 | 13.014 |
| JA0QNJ | MSH | 1337 | 1.5 | 12.976 |
| LZ6Y | MSH | 1599 | 2.5 | 12.954 |
| LY4A | M2X | 1667 | 3.1 | 12.912 |
| DK7FP | MSH | 952 | 1 | 12.879 |
| JE1CKA | M2X | 1339 | 3.2 | 12.807 |
| SC3A | MSH | 844 | 1.2 | 12.806 |
| IR4X | MSH | 983 | 2.1 | 12.783 |
| OH0Z | MSH | 721 | 1.1 | 12.748 |
| JA1YPA | M2X | 683 | 1.7 | 12.664 |
| F8KLY | MSL | 582 | 1.5 | 12.615 |
| SN1D | MSH | 876 | 4.4 | 12.503 |
| PY4XX | MM | 462 | 1.7 | 12.495 |
| UT7E | MSH | 287 | 0.3 | 12.428 |
| JA1ZGP | MSH | 438 | 2.4 | 12.401 |
| BA4TB | MSH | 411 | 2.6 | 12.354 |
| YO3GNF | MSL | 169 | 0 | 12.228 |
| 4U1ITU | MSH | 404 | 3.8 | 12.226 |
| D1DNR | MSH | 156 | 0 | 12.193 |
| 2E0SDV | MSL | 240 | 2 | 12.180 |
| PY2KC | MSL | 498 | 6 | 12.097 |
| UA4S | MSH | 299 | 3.9 | 12.086 |
| JK2VOC | MSL | 107 | 0 | 12.029 |
| RK9LWA | MSH | 87 | 0 | 11.940 |
| UR4RWW | MSL | 169 | 2.9 | 11.938 |
| YE1R | MSL | 154 | 3.1 | 11.878 |
| 3Z1K | MSH | 40 | 0 | 11.602 |
| UW6M | MSL | 32 | 0 | 11.505 |
| S59T | MSH | 49 | 2 | 11.490 |
| YO4KAK | MSL | 19 | 0 | 11.279 |
| RK9CYA | MSH | 22 | 8.3 | 10.512 |

# Regional Leaders

| West Coast Region | | | Midwest Region | | | Central Region | | | Southeast Region | | | Northeast Region | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pacific, Northwestern, and Southwestern ARRL Divisions; Alberta; British Columbia, and NT RAC Sections | | | Dakota, Midwest, Rocky Mountain and West Gulf ARRL Divisions; Manitoba and Saskatchewan RAC Sections | | | Central and Great Lakes ARRL Divisions; Greater Toronto Area, Ontario East, Ontario North, and Ontario South RAC Section | | | Delta, Roanoke, and Southeastern ARRL Divisions | | | New England, Hudson and Atlantic ARRL Divisions; Maritime and Quebec RAC Sections | | |
| **Call** | **Score** | **Cat** | **Call** | **Score** | **Cat** | **Call** | **Score** | **Cat** | **Call** | **Score** | **Cat** | **Call** | **Score** | **Cat** |
| K6XX | 2,142,300 | SOHP | N2IC | 3,357,459 | SOHP | CG3AT (VE3AT, op) | 2,950,740 | SOHP | N4AF | 4,138,992 | SOHP | K3CR (LZ4AX, op) | 5,652,240 | SOHP |
| K6NA | 1,394,172 | SOHP | WXØB (AD5Q, op) | 3,145,200 | SOHP | N4TZ | 2,440,830 | SOHP | W4CB (W2RU, op) | 2,526,498 | SOHP | K1ZZ | 5,520,138 | SOHP |
| K7BG | 1,077,282 | SOHP | N5AW | 1,993,518 | SOHP | NA8V | 2,195,235 | SOHP | K4AB | 1,891,665 | SOHP | W1UE | 4,848,000 | SOHP |
| N7ZG | 1,006,524 | SOHP | AD5A | 1,656,732 | SOHP | K1LT | 2,166,570 | SOHP | K1GU | 968,658 | SOHP | VY2TT (K6LA, op) | 4,696,230 | SOHP |
| WJ9B | 939,348 | SOHP | NAØN | 1,420,575 | SOHP | K8MP | 1,132,740 | SOHP | N4NO | 895,785 | SOHP | AA1K | 4,353,396 | SOHP |
| | | | | | | | | | | | | | | |
| N6RV | 579,768 | SOLP | WØUO | 1,068,210 | SOLP | VE3VN | 1,386,072 | SOLP | N8II | 1,663,101 | SOLP | W2TZ | 890,928 | SOLP |
| KI6RRN | 547,788 | SOLP | N1CC | 446,082 | SOLP | K9QVB | 676,929 | SOLP | K5KU | 1,515,240 | SOLP | K1VSJ | 886,356 | SOLP |
| K7QA | 472,221 | SOLP | WØETT | 374,400 | SOLP | VA3ATT | 377,232 | SOLP | N4TB | 1,083,840 | SOLP | K2LNS | 803,772 | SOLP |
| N6MU | 229,308 | SOLP | KCØV | 366,687 | SOLP | WØZP | 356,616 | SOLP | KJ4QHL | 1,031,658 | SOLP | K1HT | 620,655 | SOLP |
| VA7ST | 154,425 | SOLP | N5KWN | 316,404 | SOLP | VE3IAE | 349,800 | SOLP | W4YE | 482,562 | SOLP | N1DC | 595,206 | SOLP |
| | | | | | | | | | | | | | | |
| N7IR | 329,130 | SOQRP | NØUR | 61,605 | SOQRP | K2YAZ | 193,290 | SOQRP | N4CF | 170,796 | SOQRP | N1IX | 813,267 | SOQRP |
| W6JTI | 210,168 | SOQRP | NDØC | 40,278 | SOQRP | KT8K | 165,240 | SOQRP | WB4GHZ | 76,125 | SOQRP | K8CN | 440,100 | SOQRP |
| W6QU (W8QZA, op) | 155,946 | SOQRP | N8LA | 3,586 | SOQRP | VA3PCJ | 35,955 | SOQRP | W1IS | 34,596 | SOQRP | WR3R | 137,808 | SOQRP |
| KU7Y | 22,149 | SOQRP | NØMII | 216 | SOQRP | VE3CW | 28,044 | SOQRP | K4KSR | 22,116 | SOQRP | KU1N | 109,737 | SOQRP |
| N6HI | 6,903 | SOQRP | | | | N9EP | 16,704 | SOQRP | W5NZ | 20,448 | SOQRP | K3WWP | 72,216 | SOQRP |
| | | | N5FO | 2,483,700 | SOUHP | | | | | | | | | |
| AA7A (NA7TB, op) | 1,895,154 | SOUHP | K5ZO | 1,145,424 | SOUHP | WB9Z | 3,188,832 | SOUHP | K7BV | 3,199,914 | SOUHP | KI1G | 6,632,487 | SOUHP |
| KA6BIM | 1,182,564 | SOUHP | K7SCX | 1,068,120 | SOUHP | AA9A (N9UA, op) | 2,875,095 | SOUHP | K4MM (W4IX, op) | 2,842,086 | SOUHP | AA3B | 6,287,760 | SOUHP |
| W6TK | 865,632 | SOUHP | NØAT | 1,010,688 | SOUHP | N8BJQ | 1,981,605 | SOUHP | WO4O | 2,797,506 | SOUHP | K3WW | 6,120,918 | SOUHP |
| W7RN (K5RC, op) | 714,849 | SOUHP | W5GN | 908,193 | SOUHP | W8MJ | 1,981,584 | SOUHP | KØZR | 2,674,260 | SOUHP | N3RS | 5,268,468 | SOUHP |
| K7JQ | 658,503 | SOUHP | | | | K8CX | 1,944,954 | SOUHP | W4ML (W4MYA, op) | 2,563,650 | SOUHP | WA1Z | 4,829,721 | SOUHP |
| | | | AAØAI | 475,380 | SOULP | | | | | | | | | |
| K6WSC | 536,544 | SOULP | AD1C | 396,270 | SOULP | VA3DF | 1,640,100 | SOULP | AA4R | 603,936 | SOULP | W3KB | 1,476,720 | SOULP |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K3WYC | 134,415 | SOULP | | KØMPH | 353,502 | SOULP | | W9XT | 1,174,950 | SOULP | | WØPV | 556,920 | SOULP | | N2AN (WC4E/1, op) | 1,404,360 | SOULP |
| W8KX | 130,524 | SOULP | | NM5M | 247,536 | SOULP | | VE3MGY | 481,770 | SOULP | | K3KO | 528,984 | SOULP | | WO1N | 1,282,272 | SOULP |
| W6KY | 122,310 | SOULP | | WA8ZBT | 204,102 | SOULP | | AB9YC | 423,630 | SOULP | | W4EE | 452,394 | SOULP | | VO1HP | 1,272,375 | SOULP |
| K2DT | 89,397 | SOULP | | | | | | WK4AA | 388,080 | SOULP | | KF3N | 429,312 | SOULP | | WW3S | 1,209,840 | SOULP |
| | | | | KØGUZ | 108 | SOUQRP | | | | | | | | | | | | |
| K2GMY | 28,980 | SOUQRP | | | | | | K8ZT | 99,267 | SOUQRP | | K3TW | 129,417 | SOUQRP | | N2CQ | 72,369 | SOUQRP |
| NK9I | 1,026 | SOUQRP | | NØTT | 4,896 | SO-160 | | KBØKFX | 6,750 | SOUQRP | | KR4AE | 91,332 | SOUQRP | | K2AL | 31,347 | SOUQRP |
| | | | | | | | | | | | | KC4ZA | 15,996 | SOUQRP | | CF2CZ (VA2CZ, op) | 300 | SOUQRP |
| W7WR | 357 | SO-160 | | K5RX | 117,045 | SO-80 | | W8RT (W8UVZ, op) | 14,418 | SO-160 | | W4QO | 5,775 | SOUQRP | | VE9BWK | 192 | SOUQRP |
| W6RKC | 60 | SO-160 | | NGØT | 3,696 | SO-80 | | WS9V | 6,156 | SO-160 | | | | | | | | |
| | | | | K5ZE | 3,627 | SO-80 | | W8WTS | 3,612 | SO-160 | | W4ZV | 36,720 | SO-160 | | K7GM | 44,736 | SO-160 |
| N6SS | 69,804 | SO-80 | | KC7QY | 2,886 | SO-80 | | WD8DSB | 2,376 | SO-160 | | AG4W | 13,932 | SO-160 | | K1WHS | 43,044 | SO-160 |
| NA6O | 34,050 | SO-80 | | NS7K | 468 | SO-80 | | KC4WQ | 1,890 | SO-160 | | W4AA | 13,104 | SO-160 | | W1NT | 40,320 | SO-160 |
| K6AAM | 9,600 | SO-80 | | | | | | | | | | W4PK | 11,088 | SO-160 | | WF2W | 31,110 | SO-160 |
| W9FI | 6,588 | SO-80 | | W9MAF | 69,105 | SO-40 | | VE3PN | 55,638 | SO-80 | | NU4I | 6,480 | SO-160 | | W2VO | 16,296 | SO-160 |
| K7DD | 2,856 | SO-80 | | WØGJ | 46,662 | SO-40 | | K9KU | 38,367 | SO-80 | | | | | | | | |
| | | | | K5KJ | 41,961 | SO-40 | | K9SH | 20,604 | SO-80 | | K4ZW | 185,571 | SO-80 | | W3BGN | 150,306 | SO-80 |
| W7XI (N6CW, op) | 225,984 | SO-40 | | N5JR | 16,500 | SO-40 | | AC8CE | 13,833 | SO-80 | | K4FJ | 55,500 | SO-80 | | W1HI | 42,600 | SO-80 |
| K7WP | 126,720 | SO-40 | | WA5ZKO | 5,022 | SO-40 | | N9TF | 8,580 | SO-80 | | AI4WW | 38,763 | SO-80 | | K3TM | 39,552 | SO-80 |
| N6BT | 33,288 | SO-40 | | KVØQ | 439,803 | SO-20 | | | | | | K4SXT | 33,660 | SO-80 | | WA1BXY | 30,690 | SO-80 |
| VE7MR | 12,852 | SO-40 | | KJ5Y (MMØLID, op) | 240,732 | SO-20 | | K9NR | 187,824 | SO-40 | | KS4L | 9,240 | SO-80 | | NS3T | 12,690 | SO-80 |
| W7MTL | 8,640 | SO-40 | | N4IJ | 125,280 | SO-20 | | K9CJ | 50,310 | SO-40 | | | | | | | | |
| | | | | AA5B | 87,723 | SO-20 | | W8LJB | 32,955 | SO-40 | | K9OM | 315,423 | SO-40 | | K1ZM | 591,840 | SO-40 |
| W7WA | 356,400 | SO-20 | | WNØL | 59,052 | SO-20 | | W8UE | 24,300 | SO-40 | | W4NZ | 150,588 | SO-40 | | N2MF | 570,114 | SO-40 |
| K6GHA | 48,837 | SO-20 | | | | | | VE3OSZ | 23,712 | SO-40 | | KX4R | 114,570 | SO-40 | | KD2RD | 465,975 | SO-40 |
| KM6Z | 46,410 | SO-20 | | KZ5J | 51,336 | SO-15 | | | | | | N3GD | 50,481 | SO-40 | | K1JB | 209,391 | SO-40 |
| K7ABV | 46,008 | SO-20 | | NØOK | 18,972 | SO-15 | | K9BGL | 428,328 | SO-20 | | K2DM | 43,362 | SO-40 | | K1IR | 148,656 | SO-40 |
| KD7H | 17,700 | SO-20 | | KB5JO | 1,134 | SO-15 | | W8WA | 262,341 | SO-20 | | | | | | | | |
| | | | | NZ5M | 619 | SO-15 | | N9CO | 228,726 | SO-20 | | W2UP | 582,360 | SO-20 | | KU2M | 612,573 | SO-20 |
| W6YA | 120,042 | SO-15 | | | | | | W9ILY | 125,400 | SO-20 | | KM4HI | 115,425 | SO-20 | | K3SWZ | 80,178 | SO-20 |
| W7LKG | 12,402 | SO-15 | | NØJK | 897 | SO-10 | | NF8R | 87,690 | SO-20 | | K4TRH | 54,969 | SO-20 | | AI3Q | 62,712 | SO-20 |
| W7LGG | 6,186 | SO-15 | | | | | | | | | | NW4V | 27,972 | SO-20 | | KR2AA | 53,985 | SO-20 |
| WB6AAJ | 619 | SO-15 | | W7DXX | 643,734 | MSHP | | NU4X | 7,257 | SO-15 | | K3YEO | 11,466 | SO-20 | | VE2HLS | 52,488 | SO-20 |
| | | | | KØJE | 13,860 | MSHP | | NJ9Q | 4,278 | SO-15 | | | | | | | | |
| K6LL | 1,987,536 | MSHP | | | | | | W9AKS | 3,654 | SO-15 | | K4OAQ | 307,530 | SO-15 | | K2SSS | 285,705 | SO-15 |
| W8TK | 1,939,677 | MSHP | | KØUK | 388,020 | MSLP | | AB8DF | 756 | SO-15 | | WB4TDH | 115,584 | SO-15 | | W3EP | 147,384 | SO-15 |
| K7RI | 927,216 | MSHP | | KB5ENP | 22,365 | MSLP | | N8XX | 468 | SO-15 | | K2YGM | 14,406 | SO-15 | | W2AW (N2GM, op) | 120,615 | SO-15 |
| K7JR | 796,752 | MSHP | | | | | | | | | | N8AID | 1,125 | SO-15 | | VE9AA | 27,852 | SO-15 |
| K5ZM | 462,375 | MSHP | | NØNI | 5,553,036 | M2 | | W5MX | 3,580,170 | MSHP | | AC2N | 561 | SO-15 | | KN1H | 15,582 | SO-15 |
| | | | | | | | | | | | | | | | | | | |
| N7AT | 3,442,674 | M2 | | K5TR | 3,481,959 | MM | | WD9EXD | 55,257 | MSLP | | K4WI | 3,816 | SO-10 | | WA2AOG | 2,820 | SO-10 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | W8UM | 13,122 | MSLP | | AA4NP | 924 | SO-10 | | WO2N | 1,479 | SO-10 |
| | | | | | | | | | | | | KJ4IWZ | 36 | SO-10 | | N1CGP | 1,248 | SO-10 |
| | | | | | | | | K9CT | 6,636,960 | M2 | | KN4JN | 27 | SO-10 | | WB2AMU | 981 | SO-10 |
| | | | | | | | | K8AZ | 5,880,336 | M2 | | | | | | | | |
| | | | | | | | | VE3JM | 5,797,728 | M2 | | N4WW | 4,603,500 | MSHP | | N1MM | 4,351,392 | MSHP |
| | | | | | | | | VE3YAA | 3,100,626 | M2 | | K5UA | 1,283,865 | MSHP | | K3PH | 2,993,949 | MSHP |
| | | | | | | | | WØAIH | 2,627,856 | M2 | | AD4ES | 97,161 | MSHP | | VE2BWL | 1,537,956 | MSHP |
| | | | | | | | | | | | | | | | | KA1IOR | 875,052 | MSHP |
| | | | | | | | | | | | | AB4B | 1,847,373 | MSLP | | AA1CT | 865,128 | MSHP |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | W9SN | 6,108,480 | M2 | | N2WKS | 2,705,556 | MSLP |
| | | | | | | | | | | | | | | | | W1NY | 2,299,584 | MSLP |
| | | | | | | | | | | | | NR4M | 9,814,821 | MM | | W3YI | 456,807 | MSLP |
| | | | | | | | | | | | | W4RM | 7,061,376 | MM | | N1SOH | 383,040 | MSLP |
| | | | | | | | | | | | | W5RU | 3,976,179 | MM | | | | |
| | | | | | | | | | | | | | | | | W2FU | 8,295,255 | M2 |
| | | | | | | | | | | | | | | | | K2QMF | 5,712,120 | M2 |
| | | | | | | | | | | | | | | | | W2CG | 3,631,758 | M2 |
| | | | | | | | | | | | | | | | | W1DX | 3,020,976 | M2 |
| | | | | | | | | | | | | | | | | K3CCR | 1,476,960 | M2 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | W3LPL | 11,982,705 | MM |
| | | | | | | | | | | | | | | | | K3LR | 11,766,090 | MM |
| | | | | | | | | | | | | | | | | WE3C | 10,886,265 | MM |
| | | | | | | | | | | | | | | | | N1TA | 8,891,100 | MM |
| | | | | | | | | | | | | | | | | N2NT | 4,829,760 | MM |