



# 1979

## CQ World-Wide DX Contest Phone Results

BY LARRY BROCKMAN\*, N6AR, and BOB COX\*, K3EST

### The DX Contest is Born

Way back in 1948 some guys decided that a DX contest ought to be just that—a *World Wide DX* contest. They started with a judicious blend of zone and country multipliers, no quotas, a single weekend per mode time format, a worldwide format (i.e. world work the world), and multi-op/single op and single band/all band categories (in those days all bands meant 80, 40, 20 and 10 only). Larry Le Kashman, then W2IOP, announced the new contest in the August, 1948 issue of CQ magazine. The idea was an immediate success, with PY2AC the first phone winner, followed by G2PU and W8KMC. The first c.w. winner was GI6TK, with a Single Op/All Band score of 452,000. His score prompted Vic Clark, W4KFC, to comment that "The first c.w. winner has set a record that may be impossible for subsequent entrants to top!" That record lasted just 3 years.

For 31 years now that contest has been steadily growing under the able direction of former WW Contest directors W2IOP, W6QD, W9IOP, W1WY, and K6SSS. We now have over 5000 entrants this year, and have seen an almost steady 10 percent growth each year. Oh, there have been some changes over the years, such as the addition of 15 and 160, the addition of the "club competition" (won the first year, 1955, by the Southern California DX Club), and many rule clarifications

and refinements. But, that 31-year history has seen the establishment of a consistent and complete set of meaningful records, the oldest of which are a 1957 28 MHz European single band c.w. record that was broken this year, and a 1964 7 MHz African single band c.w. record set by 5A1TW, now N2AA. The CQ WW Trophy program is subsidized by private donors. These trophies are the most prized contesting achievement awards in the world.

So, gentlemen, tell me again where the crowd will congregate for the 1980 DX Olympics. Of course, it will be for the 1980 CQ WW DX Contest, and none can compare.

### The 1979 Phone Contest

The 1979 Phone Contest heralded the peak of the current sunspot cycle with a pademonium that just had to be observed to be appreciated, let alone believed. Just about every 10 meter record was obliterated, with over a dozen 28 MHz single band scores over 1 million. All in all, 27 new records were set.

Dick Norton, N6AA, captured the World High Single Operator Honors for the second year in a row as visiting operator at 9Y4VT with 6.7 million. The Europeans swept the remainder of the top 4, with G3FXB (a new European record), UR2QD, and DJ4PT in that order. The U.S.A. top spot went to Larry Pace, N7DD with a fabulous, new all-time high U.S.A. score of 3.16 million. Congratulations to Larry, who had finished second for three consecutive previous years.

In the Multi-Single category, HI8XWP, manned by K1DG and K1AR, toppled the old 9M all-time record set last year

by FY7BC with a great 9.87 M effort. In second place was the R6F crew, who broke their own Asian record of last year with a fine 9.0 M score. Meanwhile, K4VX and the gang took the top slot Stateside with 3.85 M, but fell shy of K5GA's 4.1 M record set last year.



Here it is, the VP2KC team that shattered the all-time world-record contest score. From top, l. to r., row 1—W4GIW, VP2KC, K4PHE; row 2—WB4RUA, N4NG, K4UEE; row 3—K3OIH, W3BTX, N4PN; row 4—AA4V, W4IVM, N4WW; row 5—K4PI, WA4PBW, K5PP, N5UR, K1PBW; row 6—JA3ODC, N4RJ, WD4RCU, W4HR.

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## **Multi-Multi Bigness**

The Worldwide Multi-Multi winner was VP2KC with an incredible 37.8 million. This amounts to the all-time high contest score ever achieved anywhere, any mode. You would have to see their 1.8 MHz log to believe it—a 526 contact, 11 zone, 47 country effort with skilled K1PBW doing the operating. We looked very suspiciously at such an outrageous effort, but our judicious check as well as the many log comments from others all over the world convinced us it's for real. Congratulations on a fine team effort, guys.

This was apparently the year for other big double-digit MM efforts too. The 9Y4FRC crew of the Frankford Radio Club finished second with a whopping 24 M, with KH6XX in third place at 21 M (a new Oceania record). Stateside, a new all-time high of 13.8 M was amassed by the guys at N2AA, as they bested their own 1978 record.

## **Single Bands**

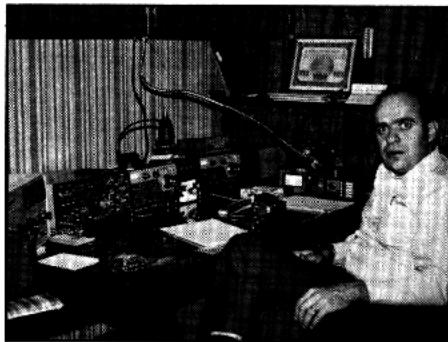
In the single band categories, it was 28 MHz that was the big story. Ville, OH2MM, piled up 4068 contacts for an unbelievable African and Worldwide all time high 1.83 million score from OH2MM/CT3. He was followed by rival EA8AK at 1.6 M and KV4FZ at 1.48 M (a new North American record). Not only that, the Stateside winner, WA2SPL, demolished the U.S.A. record with a fine 735 K, over 50% more than the old record. In fact, after having seen all the logs this year, our comment on 28 MHz activity is wrapped up in just one word—WOW! A 500 kHz swath of 10 meter phone was absolutely packed from before dawn until well after dark with all kinds of good, juicy DX. WOW!

On 21 MHz H31LR took the top spot from Panama, setting new World and North American 21 MHz records with 1.45 million, while Vince, K1RM, edged out committee member K9DX and old U.S.A. 21 MHz record holder WA6EKL with a superb 870 K single band score, the best ever achieved by a W station. The World high 14 MHz effort was by Larry, UA6HZ, with just over 1 M and a new European record, while the top U.S.A. spot went to K0KX at 335 K.

The low bands suffered some reduction in activity this year. However, Marty, OH2BH, posted a new African 3.8 MHz record with a surprising 235 K at his CT3BZ location as he took the 1979 World High. W0MJ captured the U.S.A. top spot. On 7 MHz, Italy's I5NPH smashed the old European 7 MHz record with 273 K, and finished World High in his first single band



*OH2BH (left) and OH2MM (right) conquered the all-time single band African records for 80 and 10 meters respectively from this QTH. They came well prepared.*



*Vince, K1RM, who demolished the old USA single band record on 15, is shown here with the winning station.*

contest. Meanwhile, K4JRB snagged the USA High with 76 K. 160 meters surprised all of us with some fine activity—the first ever from some of the Russian multipliers, and a welcome addition, too. Those extra countries helped perennial 1.8 MHz winner PA50HIP to best his own 1974 European record with a fine 7644 score. W8LRL posted a U.S.A high of 2945.

## **Other Records**

Other continental records were set by: JH1JGX (Asian 28 MHz); HS1ABD (Asian, Single op/All Band); G3MXJ (Europe 28 MHz); EM6A (Europe Multi-Single); YU3EY (Europe Multi-Multi); KH6CC (Oceania, 1.8 MHz); and VK4VU (Oceania 21 MHz). Congratulations, fellows, on your stupendous performances.

## **Low Power Category**

In the world of QRPP it was John, W6PQZ, and his solar powered Argonaut

that took World and U.S.A. high with 168 K, followed by WA2JOC. We would also like to mention K1CGJ's outstanding 10 meter QRPP effort too—82 countries with 5 watts in just 2 days. Who needs a list, anyway.

## **Honorable Mention**

By the way, we feel that one other special honorable mention is due the crew at U0Y. Their fine 3.7 million Multi-Single score represents the largest ever score from zone 23, and contestants from all over the world are indebted to them. What a fine all-band effort that was from a rare zone—in fact, the rarest zone.

## **More on Cross Check Sheets**

Three years ago, the contest rules were changed to require that entrants submit a cross check sheet (or dupe sheet) for each band on which 200 or more QSOs were made. We have been utterly dumbfounded over how that's been misinterpreted, especially overseas. For starters, let's just clarify what "Cross Check" sheets are *not*. They are not duplicate copies of your log and they are not lists of all your duplicate contacts.

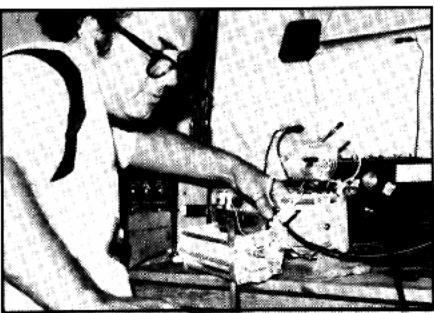
What we mean by a "Cross Check" or "Dupe" sheet is an alphabetical or other ordered list of *all* stations contacted on a particular band such that you can easily determine whether a contact is a duplicate (a second contact on the same band) as you fill the sheet in. When you find a duplicate, simply cross it out with a line in your log and allow 0 points in the scoring for that contact.

Some folks use the ARRL cross check form (ARRL form CD 175). Still others use a matrix with call area numbers for rows, and letters for columns. The letters heading the columns in the matrix can represent the first letter of the suffix, the last letter of the call, the prefix of the call, etc. One then goes through one's log contact by contact and fills in the matrix with the call letters or the suffixes of the calls as appropriate.

We don't really care what forms you use for duping your log. But please do dupe check it, and be sure to send us the work sheets (dupe or cross check sheets). If you don't, we may disqualify you. We hope that the above helps to straighten out some of the confusion.

## **Rules Changes**

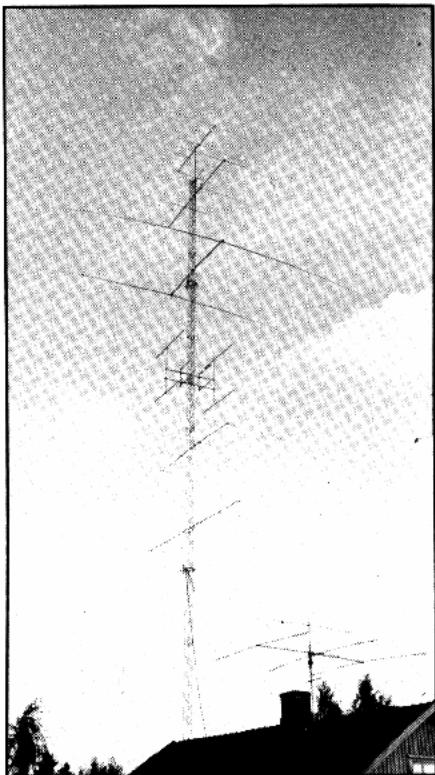
There are several rule changes for the 1980 contest which we would like



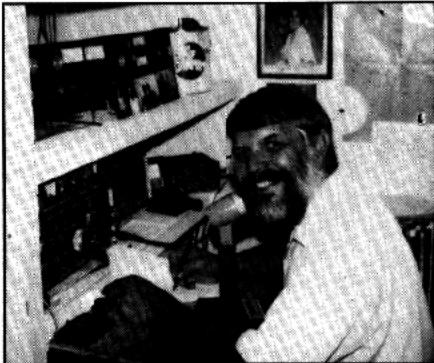
The professional touch to the 9Y4FRC 160 meter antenna tuner is given here by Joe, W2REH.



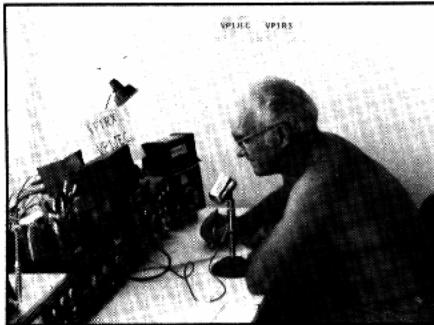
Ken, JR2GMC, sent this photo of the tired JA2YKA crew after the contest.



Here's the antenna layout at OH1BR as constructed by OH8QD—Wow!



Chet, KX6PP, sported this fine rig.



Doc, W4SME, is shown at the VP1RX Multi-Single operating position.



The JA3YKC team poised and ready.

to highlight here. First, beginning in 1980, we have added a definition of what constitutes a station for the Multi-Multi category. This became necessary because of reports over the past few years that some Multi-Multi stations were spreading out over as much as a 10 mile (20 km) radius. Come on, guys, that's a no no. So, from now on we will require that in the Multi-Multi category all transmitters must be within a 500 meter diameter, or confined within the property limits of the station licensee's address, whichever is greater.

Secondly, we have changed our rule on signing portable such that you are only required to sign portable if you are operating in a different country or a different zone (CQ zone). When you sign portable, sign your call such that you reflect the correct call district for your portable location. The third

change relates to violations of the Multi-Single 10-minute time rule. In the past few years, we have reclassified entrants from Multi-Single to Multi-Multi if they exhibit excessive violations of the 10-minute rule. However, the rule did not reflect this policy; it was changed to reflect this policy for 1980.

Lastly, we have changed log submitted requirements to read that "recopied logs must be accompanied by a photocopy of the original log." That means we want a photocopy of your original log, no matter how sloppy it is. If you also want to send a computer printout or a recopied log for clarification, that is fine. But, we require a photocopy of the original log.

At the Fresno and Dayton Conventions, the co-directors received a lot of flack at the contest forums about our inflexible position on this point. However, we are the ones who have to check 5000 plus logs each year, and we know best how to do that. In fact, the committee members overwhelmingly approved our rules change, because they feel it's a must in doing a proper log check.

### Speaking of Changes

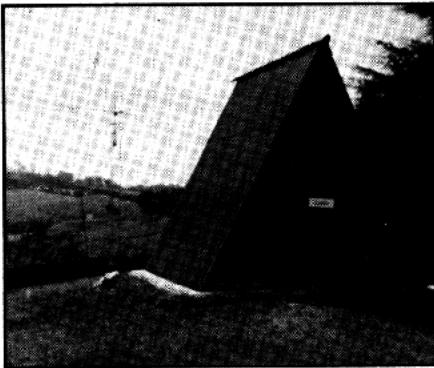
We have tried computerized log checking on some of the logs this year for the first time. Although we had some problems, we are confident that they will be worked out. Computerized



DK8FZ during the contest.

log checking is a change we are sure will help remove some of the inequality in our log checking between various committee members. Stated another way, the computer is more consistent.

We've made one more change. We are changing the log form so that it will hold 80 contacts per side rather than 40. Hopefully that will cut down the mailing costs for everybody. Also, we are in the process of changing the mailing address for the magazine on the summary sheets to reflect CQ's recent change of address. One thing you can all do to help us reduce the delays in forwarding the logs is to send your logs to the director in charge of the mode rather than to the magazine. That would be K3EST for the Phone Contest in 1980, and N6AR for the CW contest. However, because the directors switch off every year on Phone and CW, it is important in subsequent



*The location of HK4RCA. Thanks for the fine South American multipliers on the 5 bands, guys.*

years that you check to be sure you are sending the log to the right director.

### Parting Comments

Even now, the CQ contest committee is still hard at work processing the CW logs, which we will report on in detail next month. This year we have added John Battin, K9DX, and Doug Zweibel, WB2VYA, to our ranks. They fill slots vacated by John Kanode, N4MM, and Tom Taormina, K5RC, who retired from the committee at the end of 1979. We know you will join us in thanking all of the committee

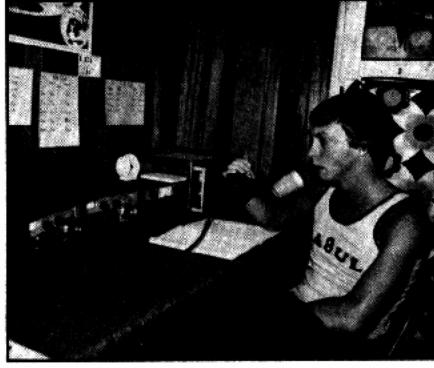


*Ben, DL8UI, displays his wares.*

members for the fine voluntary work they do in checking the thousands of logs sent in.

We also wish to extend a special thanks to Dick Norton, N6AA, who poured over each Contest result issue from 1948 to date and provided us with much of the information in our opening.

Well, the plans are in motion for the



*That very loud signal at the LA1H Multi-Op effort comes from this fine station, with LA8UL at the controls.*

1980 big event next month. So, we will see you all in the pileups, and good luck.

73, Larry, N6AR, and Bob, K3EST

### For the 1980 WW DX Contest logs go to the following:

**Phone**—Bob Cox, K3EST, 5801 Huntland Drive, Temple Hills, MD 20031  
**CW**—Larry Brockman, N6AR, 7164 Rock Ridge Terrace, Canoga Park, CA 91307.

### U.S.A. QRM

Very frustrating to hear BV2B and not to be able to get through the pileup with QRP... K1LOM. College Board scheduled the PSAT for the first day of the contest #3... WB1ANT. CQ should sponsor an XYL trip for the weekend... K2OLG. 10 Meters was terrific—63 countries mobile!... W0MHK/M2. Too many DX stations only call QRZ—no call sign... WB3ICL. Six minute WAC on 10 Meters on CQ's!... K2VV. My first phone contest in 50 years... W3ARK. Many stations would avoid dupes by giving their calls more often... AD3V. Definitely lives up to its name, the CQ World War Contest... N1EE Had to take time out for sleep, work, Steeler Football, beer, women, etc... N3VA. Never again will I go to a class reunion on contest weekend—oh, the pain... K1CGJ. Got to be crazy to operate QRP—always on the bottom of the pileups... KA5N. Tuner caught fire half way through the contest... N1ACJ. First full time contest effort in over 10 years—lots of fun... W2VJN. Have to get something up for 40... WB3EKV. Around 10 Z Sunday heard VK5OP and VK3AZY calling on 160 but could not break... K4VX. 10 M brought back memories of 1957... KC4B. ANNOBON!... W6GO. Took off 3 prime time hours to chase 3C0AB... K7HCD. Next time I am going to use something more than a dipole... K7IM. I got my first license 5 days before the contest. Wow, what an introduction to ham radio!... N0BHQ. Again lost voice 6 hours from end of contest. Maybe I should give up smoking... W9ZRX. When I found our that arch rival and friend K8MR was going to VP2MRX, I offered a donation to get him out of 8 land... K8MN. Worked UA0SGL on 10 M with 5 W PEP input... WB0CGJ. Love DX ops who identify... AC4X. Worked VS5DX with one minute to go... W4DR. Best contest in the world... WD4IZR. 3C0AB called with 13 minutes left... K4ISV. Am now bald after listening to all the rare DX that wouldn't listen up on 40... N4KE. FB8XV called me on a JA run on 20 M... K5JA. Now hold the record for the number of antennas erected after dark during the contest—3... K5FUV. After 15 years of CQ WW CW, my first SSB—Thank goodness for CW... K5BDX. It was a lot easier as 9L1JT... K4ZIN/6. A 7 element Yagi is a real advantage except when it won't rotate... K0RF.

### DX QRM

This was the best CQ contest of the 28 CQ contests I've operated in the last 10 years. The log processing seems to be the most time consuming part of it all... OH3XZ. (AMEN—ed.) No possibility to win from here—poor US condx... OH1IJ. Very poor conditions on 160... OH2BO. Thunder, lightning, short power failure... 9H1EV. After 24 hours 2800QSOs. Then Xcvr and Linear quit, so went to bed for 10 hours. Borrowed a rig and finished barefoot—what a pity... YU3ZV. I did not complete a single QSO without signing my call, yet still had over 100 dupes from USA... SP3DOI. First time on 7 MHz—where was VK... I5NPH. Very good propagation, but much splatter from USSR stations... IT9VQC. Frustration is looking for a CE contact... EI2BB. Never heard bands so crowded for so long—especially 10 M... G3YBH. How do Annobon bunch justifying 25 kHz of band! Traffic directors didn't help things either... G3VPW. Have you ever seen 506 multipliers with 467 QSOs... SM0AJU. Activity low on 160, but lots of multipliers... PA50HIP. 30 hours of operating—125 hours of logs and QSLs... GM3WBZ/LX. MUF was so high we worked EI2W on 50 MHz... VE1DXA. We'll have zone 2 on the air again next year... VO2WL. USA operators were tremendously well disciplined, but the Europeans were quite rude... W8TN/6Y5. Every year the contest gets more popular... UK2BBB. FB operations from the US boys... UC2ACA. First serious operation since my return from the Kurile Islands... UV3GM(ex UA0). I'd like to get WAC-SSB with the endorsement "During 14 minutes"... UW3EH. Where are our 2 points for JA? 160 M was something different... UK9AAN. Try working 12 hour days and then come home to the contest... VP2ML. Those rare prefixes should be used in the WPX Contest—they create a lot of confusion in the WW... KP4AM. Very hard to work 40 and 80, but 10 M was permanently open here... LU4MEE. Bad conditions 60% of the time... HK3DMC. I think my QSL manager (K1RH) intentionally forgot to mail my amplifier tubes for me for fear what I might create for him... K9EF/8R1. No doubt the best contest of all... YV5EED. Toughest contact was the Annobon expedition amongst all the QRM... VK6NE. Good fun until TVI shut me

down... VK3SM. What a long way New Zealand seemed to be from the rest of the World with 80 M conditions so poor... ZL1BIL. With 100 Watts and a low dipole, working anything outside of JA was a thrill... W7LPF/DU2. Worked more countries in this contest than in the last year and a half... VX3JAU. Plan to double my score next year... ZD7BW. A thrill to have rare expedition stations call me... VU2HI. Really surprised to work VX3EDC at 0600 Z on 10 M... HS1ABD. Band was open all night long with HS1ABD a real surprise at 0600 Z... VX3EDC. Typhoon approaching, so had to pull down the big quad and use a long wire in the test... DU1GF. If you missed Zone 2, you can blame yourself... VO2CW. Conditions were so good, I didn't know which band to be on... VE4EW. Plainly put, this contest was FUN... CZ6WQ. Typhoon 7 days before the contest greatly reduced activity from Tokyo... JR1RCR. Conditions between the USA and Europe were so good many USA stations did not turn their antennas towards Japan... JR1RNC. My biggest thrill was to work OY9R through the big signals... KA2BD. I got a call from 3C0AB with my CQ contest... JE3TBM. I did my best to work as many US stations as possible... JH1JGX. Fantastic conditions—QRM, QRM, QRM... JA7BSK. I got Zone 2 for the first time in this contest... JA1NID.

## STATION OPERATORS

### Multi-Operator Single Transmitter

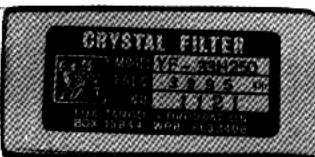
AA4FF & K4GVO, K4MKR, N4CMK, W4WWQ, WA4DLY, WA4YR, WA4CCV, WB4ZPF, WD4EXG, WD4GCE, AA6DX & WD6EQG, WD6AOJ, AA8N & KB8JK, WD8RHS, AA8D & WD9EBQ, KA9CK1, AB0I & AB0W, AB0X, AE0K, NOXX, KA0BCW, K0UAA, WA6DGX, K0XR, WB0TNY, K0VBU, WB0UXI, WB0VRY, AE1D & WA0SJM, AI8V & N8ATR, W8GBE, AI9J & K9EV, AK0A & K0RWL, WA6ZH1, W0VVW, WB0HTC, WD9YBC, K0BKT, CE2AA: CE2NH, CE2CC, CE2BN1, CE2BWO, CE2GK, CE2BXN, CE2HN, CE2ZHI, CE2PH, CE2DW, DA2CF: DA1MH, DA1TP, DA1HO, DF3GY & DA1MH, DA1QR, DF3GN, DF4KC, DF8UD, DA1FN, DL1GAL, DJ6TK & DF3BV, DJ1BC, DL1BQ, DK8BE, DJ6KH, DL8JK & DK6FT, DK8ZL, DF2ZO, DF22N, DF5ZU, DD4ZY, DJ3AS, DK9FD, DL0TP: DA1JV, DA2GM, DF4NU, DF4NG, DF4NJ, DL4NV, DL9CP, DC2NX, DK5AD, DK8XN, DL0UE: DL3LU, DL7BI, DL8RL, DL8INA, DL0WU: DJ4AX, DJ8SW, DK4EM, DK4TP, DK9TF, DL9TF, LD9Y, DM2CDL & DM2CCL, DM3GC: DM2BMC, DM2GBC, DM3SGC, DM3RF & DM3ZF, DM4WF, DM5IG & DM5XIG, DM5AIG, EA3AB & EA3AO, EA3BFR, EA6ET & EA6BW, EA6CE, EA6CP, EA6EU, EA8ND & EA8SB, EM6A: UA3AEA, UA3AJA, UA3XAC, UW3CC, UW3BO, UA6APW, UA6APP, UA6APR, F3TV: F6BEE, F6ARC, F6DIM, F79WARC: F6AXP, F6BII, F6BDE, F6FFA, F6FHQ, F6EXC, G3HTA & G3RUX, G3RRS & G3UKS, G3JSK, G4CEB, G6CW: G3YUT, G4AFJ, G4ANS, G4HNS, G3TVY, G8PSP, G8TKY, G4HIC, G8UGS, G4EKW, G4CKG, G4IJX, G6UW: G3CWI, G3ZAY, G3ZHL, G4BAH, G4BNE, G4FAM, BRS-32525, JOAN & SUSAN, G8JCJ, G2UJ, G3TQD, G3TQZ, G3UDR, G4BYB, G8ASO, G8NSL, G8NWR, G8TCI, G8TBC, G8TYM: G13LEG, G15UR, G14FCQ, G14FUM, G14FNU, G14GYE, G13AXI, G13VJ, GW6GW: GW3GHC, GW3KY, GW3NJW, GW3NYY, GW3NW, GW3OAY, GW4BLC, GW4EA1, HA2KMR: GRABA, FANOS, KAROLY, LASZLO, HA3KHC: TIBOR, LAJOS, FERENC, GABOR, ZOLTAN, HA6KVC: PETER, ISTVAN, TIBOR, HA7KVS: GYORGY, ERNO, JOZSEF, SANDOR, PETER, DL7RT/HB6: KL7RT, DL7SP, HEIDI, HH2MC & HH2BM, K4UTE, WF4DA, W4VEG, WB4EYK, H8X-WP: K1AR, K1DG, K3AXT & K3AFD, HK3TF, HK4RCA, HK4ABY, HK4HM, HW6LY: F6BDN, F6DQG, F6DQX, F6EDM, F6KDP, HZ1AB: W7KJ, W7SJ, WA0LSB, WB0LOA, WD8BDS, K14GP, DICK & BOB, H1DIE & H1ANF, H1GJC, H1GJB, H1GSC, H1PCT, H1RBP, H1VZ, H1KN & H1LBH, H1JJZ, H1FNU, H15BU, H1ANP, W3US, ANNA, W1PDP, I3EJ & I3YQ, I3LDP, I7WLT: CLUB, IV3XVU & IV3PUE, IV3ZLC, IV3YB1, Y1PHX: CLUB, IZ3MAU: I3MAU, IV3PRK, I3EVK, I3BYT, I3ON, YU2AMM, IM0ARI: IS0BYR, IS0DTK, IS0FGD, IS0TOA, IS0OGW, IS0MIJ, IS0JZJ, JA2YKA: JH2QXG, JR2GMC, JR3URO, JA4UDP, JH4VBQ, JE2RQF, JA9NFO, JE3UXO, JA3YFI: Hiroshi, Kimihiko, Tsueo, JA4YFH: JA4XKL, JH4BXA, JH4DIT, JD4FM1, JA4MV1, JA4SQJ, JA4YPE: JH3BJN, JF3EGT, JA6YDH: JE6ASN, JH6DRF, JR6DUL, JR6JKS, JE6LFQ, JH6NFR, JH6NL, JH6RAD, JH6SWF, JA7YAA: JH7AEF, JH7WTC, JH7IMN, JH7WWM, JR7QMD, JR70MF, JG1UJD/7, JA9PPC7, K1GW: & K1KA, W1HZN, K1K1 & W1AYTW, WA1YSM, K1RQ: & W1ZT, WB1IH1, K1RU: & K1YR, K1UO & K1AJAH, N1AC, K2BK: & W2IFK, K2C: AB2L, ADZY, WA2MYU, WA2WSX, K2IA, N2AKT, KA2QAI, WB1AFZ, K2FL: & NZATX, K2GBW: & WA2STM, WA2KCL, K2ITG/3: & WB2KCN, K3KNNH: & K3SME, WA3NHO, N2SB, K3LR: & AF3P, WB3EUB, K3VK, K8CX, B. MEYER, K3PA: & K3YL, K3QMR: WB3KKX, WB3LCD, K3RA: & WA3VUQ, KO4Q, K3UC: & K3VOU, AJ3H, K4VX: & K4YER, WA4IVL, K0CME, K5KG: K5LZ0, K5MA, WAZXR, K5QY: & K5EG, N5BQG, WB5NQH, WB5PZB, K6TZ: WA6KTZ, WA6SRJ, WE6MS, KA6S, K7SP: & N7AJ, N7CW, K7JUR, N7RP, WA7NAY, N7VS, N7NR, K8JLB: & K8DD, AC9W, WA8PSF, K8NA: & N8WJ, K8IA, W8TA, W8SYR, WA8TBO, K8ZRH, K8XR: & K8OO, K8EX, K8LA, N8ACA, DPDA, K8VYT: & K8EM, WB8TSQA, K8EYW, KA8BQO, K9SD: & K9BGL, K9HWU, W9NNE, WB9TKC, KA6CDG, WB0FCS, WD0FPX, W8FF, K0FU, W0HBH, K0KL, WB0WQ, WB8Y2G, W8ZH, K8B7JW: & K8PKK, WD0FWH, K8JSY: & W8WP, K8AT, K2ABA: & WA2ZFW, KA5C: & A5AD, KA8Y: & WD8MHJ, KB2GK & WB2OON, KB4GX: N4ND, W4MYA, WD4KUK, KC4CB: & A4M, WB2RQJ, KH6N & KH6GP, K14M & N4AJZ, WB4LIB, WA4LTG, WB4NZU, KDA4, K4ZGB, KL7HR & AL7AF, KL7IUM, KL7IVX, KL7JKI, KL7USA: KL7JJO, WB70YGI/KL7, P. Bittingle, LA5X: LA1EE, LA3RT, LA6UM, LA7XX, LA9DL, LA9ZQ, LA7A: LA4NL, LA6UT, LA8UL, LA8UQ, LA7JO & LA8OT, LA9TQ, DK9WB/LX: DK9WB, DK5WL, L21KWS: Dimitri, Gawilina, L22KPS: Kiril, Atanas. N1ACJ: & K1ABBD, N1MM: & K1TO, K1XM, KA1GD, N1TZ: & K1SF, K1DKX, K1FIR, WA1UHZ, K1KNO, W1BR, N3GB: & WA3ECT, N3UN: & N3II, WB3EFC, WB3BOA, N4HB: & N4JZ, WB4YQ, WA4KNP, WB4HN, N4IB & N4KE, N4OE: & WA4WQH, N4BWD, N4UF & W4DITK, K4LK, N4ZC: & K4BF, K4MQG, WA4OBO, WA4ZMM, WA4ZQO, N6AV & WB6RXW, N6VR: & N6ADI, KB6PE, WA6OYS, WB6VQO, N7BJA: & WB7USQ, N8BKX: & K4FDW, N8RA: & K8WV, N8AID, K8N, K8U, N9LE, OE4SZW & OE3GSA, OE7UU, OH2AA, OH2BRW, OH2DS, OH2BOS, OH2BCP, OH2BNP, OH4TO & OH4TH, OH4SL, OH4SE, OH4UI, OH7UE & OH7UR, OH2BPIOH: OH2BP, OH2PQ, OH2BNE, OK1KF: OK1KD, OK1KZ, OK1KPU, OK1JAX, OK1JDX, OK1KUR: OK1AYE, OK1AY, OK3CWE, OK3CLD, OK2KMR: OK2SEO, OK2BZ, OK2KPNP: OK2BSA, OK2BSP, OK2SGW, OK3KAG: OK3ZWA, OK3ZFM, OK3CDX, OK3YBD, OK3COM, OK3CIR, OK3KTY: & OK3CQU, OK3-27178, OK3USZ: OK3ZAF, OK3FON, OK3PQ, OK3-4158, OK3-26701, ON5KH: ON4BB, ON5JE, ON6MD, OY8R & OY5J, OY8I, OY8KH, PA5QGN: PA3ADC, PA2AWU, PA6ERA, PA6GIN, PA6GAM, PA6VJ, PI61ARS & PA6HTR, RGF: UB5SEC, UY5LKA, UB5MCD, UB5MM, UB5MBY, UB5MDA, SK2GJ: SM2, EKQ, SM2FUG, SM2INV, SM2ICQ, SK3HL & SM3DSP, SM3JBO, SM3ICU, SM3JLA, SM3CEF, SM3GCR, SM3JAW, SM3IUV, SM3IXY, SM3KMM, SM3ZB, SM3IQN, SK4EA: Club, SK6AW, SM6CWE, SM6DER, SM6FJB, SM6HCX, SK6HA: SM6HIO, SM6HYE, SM6IBF, SM6ITE, SM5AOE & SM6BJI, SM6MPC, SM6ATN, SM5AZU, SP2PDI: SP2FAX, SP5GRM, SP6GQU, SP8GW1, SP9ICA, SP8PZB: SP6FAF, SP9FIH, SP9PDF, SP9BMP, SP4FUY, SPZ-7531, SP8JPX, SP9KCB:

(continued on page 56)

**FOX-TANGO CORP.**

Box 15944C, West Palm Beach, FL 33406

## CRYSTAL FILTERS



### 8-POLE FILTER BANDWIDTHS IN STOCK

MAKE AND MODEL OF SET	CW (Hz)						SSB-AM (kHz)																	
	125	250	400	500	600	800	1.6	2.1	2.4	6.0	8.0													
<b>YAESU</b>	<b>\$55 EACH</b>																							
*FT-101/F/FR-101	✓		✓	✓			✓	✓	✓	✓	✓													
*FT-301/FT-7B/620	✓		✓				✓	✓	✓	✓	✓													
*FT-901/101ZD/107	✓		✓				✓	✓	✓	✓	✓													
FT-401/560/570	✓		✓				✓	✓	✓	✓	✓													
FT-200/TEMPO 1							✓	✓	✓	✓	✓													
<b>KENWOOD</b>	<b>\$55 EACH</b>																							
*TS-520/R-599	✓	✓					✓	✓	✓	✓	✓													
*TS-820/R-820	✓	✓					✓	✓	✓	✓	✓													
<b>HEATH</b>	<b>\$55 EACH</b>																							
ALL HF	✓	✓					✓	✓	✓	✓	✓													
<b>DRAKE</b>	<b>FOR PRICES SEE NOTES</b>																							
R-4C	GUF-1 Broad 1st IF Superior Shape Factor/Ult Rej \$65																							
GUF-2 Narrow 1st IF																								
2nd IF																								
Plug In type																								
GUD Product Detector																								
pcb w relay double balanced type \$30																								
<b>COLLINS</b>	<b>SPECIAL \$125 EACH</b>																							
75-3B/C	✓																							
EQUALS OR EXCELS \$400 COLLINS UNIT																								

Whether your SSB rig is old or new, there is no easier or essentially less expensive way to significantly upgrade its performance than by improving its IF passband filtering. FOX-TANGO filters are made of specially-treated high-Q quartz crystals, affording excellent shape factors and ultimate rejection exceeding 80 dB. They are custom made for drop-in installation; matching perfectly, both physically and electronically. Our Diode Switching Boards make possible (now or in the future) the addition of a variety of switch-selectable filters affording superior variable bandwidth without the need to buy an expensive new model. If you want the best for less, you'll buy FOX-TANGO. Just tell us the bandwidth(s) desired for your make and model.

\*DIODE SWITCHING BOARDS available to permit 1, 2 or more filters than those for which manufacturer provides room. **SPECIFY** make and model.

Single-filter type: \$12 Airmail postpaid worldwide.

Dual-filter type: \$21 Airmail postpaid worldwide.

Dealer Inquiries Welcomed



Visa/MC welcomed. Money back if not satisfied.

BROCHURE ON REQUEST

Forida residents add 4% (sales tax)



**FOX-TANGO CORP.**



CIRCLE 65 ON READER SERVICE CARD

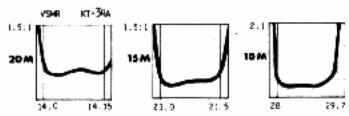
# ANTENNA/TOWER SALE!

**KLM -**  
**In Stock**  
**at Terrific**  
**Low Prices!**

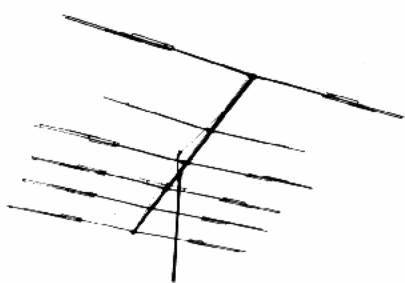


## KLM's **KT-34A**

The new concept in triband antenna design. Gain and band width all in one compact package VSWR waves.



**List Price 369<sup>95</sup> SALE PRICE \$299**



And the new "X-rated"

## **KT34XA**

Out performs all commercially available triband antennas and many monoband systems too! 6 elements on 32 ft. boom. 2-4db more gain than the KT-34

**List Price 519<sup>95</sup> SALE PRICE \$449**

HYGAIN ANTENNAS		
TH5DX	New 5-Element Triband Beam	\$209
TH6DXX	6-Element Triband Beam	\$229
TH3MK3	3-Element Triband Beam	\$165
HY-QUAD	2 Element Triband Quad	\$219
402BA	2-Element 40-mtr Beam	\$175
205BA	5-Element 20-mtr "Long John"	\$225
155BA	5-Element 15-mtr "Long John"	\$145
105BA	5-Element 10-mtr "Long John"	\$ 94
204BA	4-Element 20-mtr Beam	\$175
153BA	3-Element 15-mtr Beam	\$ 64
103BA	3-Element 10-mtr Beam	\$ 54
DB1015A	3-Element 10/15-mtr Beam	\$129
18HT	Hy-Tower 80-10 mtr. Vertical	\$249

CUSHCRAFT ANTENNAS		
A3	New 3-Element Tribander	\$175
ATB34	4-Element Tribander	\$219
ATV5	80-10 mtr Vertical	\$ 90
20-3CD	3-Element 20 mtr "Skywalker"	\$165
20-4CD	4-Element 20 mtr "Skywalker"	\$239
15-3CD	3-Element 15 mtr "Skywalker"	\$ 82
15-4CD	4-Element 15 mtr "Skywalker"	\$ 98
10-3CD	3-Element 10 mtr "Skywalker"	\$ 59
10-4CD	4-Element 10 mtr "Skywalker"	\$ 75

ROTORS/CABLES		
Hy-Gain HDR-300 (25 sq. ft.)	.....	\$399
Alliance HD-73 (10.7 sq. ft.)	.....	\$ 99
Alliance U-100 (Elevator Rotor)	.....	\$ 39
CDE CD-45-2 (9 sq. ft.)	.....	\$ 99
CDE HAM 4 (15 sq. ft.)	.....	\$159
CDE TAILTWISTER (30 sq. ft.)	.....	\$229
8 Conductor Rotor Cable	.....	\$0.18/ft.
Heavy Duty 8 Conductor Rotor Cable	.....	\$0.36/ft.

ROHN TOWERS		
20G \$29.50	25G \$38.50	45G \$83.60
HDBX 40	Free-standing 40' (18 sq. ft.)	\$249
HDBX48	Free-standing 48' (18 sq. ft.)	\$305
HBX-56	Free-standing 56' (18 sq. ft.)	\$335
FK2548	48' 25G Foldover Tower	\$659
FK2558	58' 25G Foldover Tower	\$739
FK2568	68' 25G Foldover Tower	\$799
FK4548	48' 45G Foldover Tower	\$929
FK4558	58' 45G Foldover Tower	\$1029
FK4568	68' 45G Foldover Tower	\$1119

(Freight paid on all foldover towers. Prices 10% higher west of Rocky Mountain states.)

GALVANIZED STEEL TOWER HARDWARE		
3/16" EHS Guywire	.....	\$11/100 ft. \$99/1000 ft.
1/4" EHS Guywire	.....	\$14/100 ft. \$129/1000 ft.
5/32" 7 x 7 Aircraft Cable	.....	\$10/100
3/16 CCM cable clamps (3/16" or 5/32" cable)	.....	\$0.30
1/4 CCM cable clamps (1/4" cable)	.....	\$0.40
1/4 TH Thimble (fits all sizes)	.....	\$0.25
3/8 EE (3/8" Eye and eye turnbuckle)	.....	\$5.50
3/8 EJ (3/8" Eye and jaw turnbuckle)	.....	\$6.00
1/2 EE (1/2" Eye and eye turnbuckle)	.....	\$8.50
1/2 EJ (1/2" Eye and jaw turnbuckle)	.....	\$9.00
3/16" Preformed guy deadend	.....	\$1.45
1/4" Preformed guy deadend	.....	\$1.65
6"-dai. 4-ft long earth screw	.....	\$11.50
2"-dai. 10-ft long heavy duty mast	.....	\$35.00
500D Guy insulator (5/32" or 3/16" cable)	.....	\$0.85
502 Guy insulator (1/4" cable)	.....	\$1.80

### COAXIAL CABLE AND CONNECTORS

RG213/U (Mil spec RG-8/U -Brand New)	.....	\$0.29 ft.
RG-8 (New 1/4" Diameter Low Loss Foam)	.....	\$0.15/ft.
RG-8 Foam (Super-flex)	.....	\$0.30/ft.
1/2" 50 OHM Poly Jacketed Copper Hardline	.....	\$1.10/ft.
UHF, N-Male or Female 1/2" Copper Hardline Connectors	.....	\$22.00
1/2" 50 OHM Poly Jacketed Aluminum Hardline	.....	\$0.69/ft.
UHF, N-Male or Female 1/2" Aluminum Hardline Connectors	.....	\$10.00
Type "N" Connectors (RG-8U or RG-213/U)	.....	\$4.50

### HY-GAIN, TRISTAO-PRATT AND TELEtower CRANK-UP TOWERS

Direct factory shipment to save freight expenses. Call for our competitive quote on these towers. We can ship tower bases early tp allow you to complete foundation work while tower is being prepared for shipment.

Call For Prices On Other Antennas In Stock

## TEXAS TOWERS

DIV. OF TEXAS COMMUNICATIONS PRODUCTS COMPANY

**1108 Summit Ave., Suite 4 / Plano, Texas 75074**

Mon.-Fri. 9 a.m. — 6 p.m. Sat. 9 a.m. — 1 p.m.

**TELEPHONE: (214) 423-2376**

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

CIRCLE 70 ON READER SERVICE CARD

## TOP SCORES

WORLD	USA
Single Op	Single Op
All Band	All Band
9Y4VT	6,682,185
G3FXB	4,708,014
UR2QD	4,658,155
DJ4PT	4,577,100
PA52TMS	4,413,952
OH6JW	4,389,460
OH1VR	4,182,000
YU3ZV	4,067,774
N1GL/VP9	3,962,635
CZ6KW	3,493,340
N7DD	3,113,788
W1ZM	3,035,790
W7RM	2,875,450
K1VTM	2,654,834
K7RI	2,418,028
W3BGN	2,330,496
W9ZRX	2,310,165
W1CF	2,268,420
W3GRF	2,225,430
W9RE	2,184,776

### 28 MHz 28 MHz

OH2MM/CT3	1,827,150	WA2SPL	735,528
EA8AK	1,685,805	W5MYA	681,360
KV4FZ	1,482,525	K5TJ	572,908
ZS3LK	1,421,164	AA8U	572,866
G3MXJ	1,296,826	W0YK	564,944
DK3GI	1,248,072	AE6U	538,902

### 21 MHz 21 MHz

H31LR	1,448,848	K1RM	870,237
VE7CML	1,111,776	N7XX	767,016
VK4VU	1,079,335	WA6EKL	694,416
VE3BMV	1,072,176	K9DX	591,527
UR2QI	962,850	W1NG	480,654
OH1MA	870,500	K6SMF	432,684

### 14 MHz 14 MHz

UA6HZ	1,020,181	K0KX	335,041
YW1AVO	908,202	K9RF	274,762
DL8PC	901,992	K0DD	248,976
OH8OS	834,536	W5FO	242,744
VE7IG	802,872	W1NG	215,930
YU7GMN	800,100	W2TA	214,200

### 7 MHz 7 MHz

I5NPH	273,144	K4JRB	74,970
IT9SKO/IG9	190,008	N4KE	66,852
DM2CMF/A	163,068	N7UR	53,922
JA2BAY	154,442	WB9QP	36,852
OH8SR	135,360	W9NWE	32,144
I2VRN	115,900	W8JWR	28,548

### 3.8 MHz 3.8 MHz

CT3BZ	235,114	W0MJ	48,664
VE3ECP	64,496	W8EDU	45,150
VX3JAY	63,840	K8XX	32,400
YV3AMW	62,172	KG4W	32,096
VE1AI	57,154	WA4SVO	19,906
W0MJ	48,664	W9LF	17,385

### 1.8 MHz 1.8 MHz

PA50HIP	7,644	W8LRL	2,945
UQ2PM	6,210	K5UR	2,436
GM3ZSP	6,068	K5YY	1,080
VE3BBN	4,818	AD4U	1,007
UR2RFK	4,110	W1BB	748
G3SZA	3,895	W2XQ	630

### Multi-Op Multi-Transmitter

HI8XWP	9,872,267	K4VX	3,811,563
R6F	9,029,396	W4QAW	3,564,304
EM6A	8,120,574	K8NA	3,550,728
IZ3MAU	7,600,746	WA7NIN	3,546,282
UK9AAN	7,584,440	AB0I	3,457,531
DL0WU	7,213,895	W5WMU	3,057,780

### Multi-Op Multi-Transmitter

VP2KC	37,770,012	N2AA	13,299,750
9Y4FRC	24,035,927	K8LX	7,508,970
KH6XY	21,990,252	W2YV	7,405,846
YU3EY	16,646,364	K0RF	6,290,136
SK2KW	14,675,871	W3MM	6,229,350
N2AA	13,299,750	K2US	6,002,866

## **BAND-BY-BAND BREAKDOWN—TOP ALL BAND SCORES**

**Number groups indicate: QSO's/Zones/Countries on each band.**

**WORLD TOP SINGLE OPERATOR—ALL BANDS**

Station	160	80	40	20	15	10
9Y4VT	44/5/11	304/16/44	324/18/63	838/32/79	1082/29/78	2040/30/80
G3FXB	12/2/12	80/8/38	209/14/46	599/32/86	876/31/77	1934/29/86
UR2QD	23/3/13	73/9/34	119/10/50	623/28/81	727/33/87	2160/35/59
DJ4PT	14/2/9	19/12/47	430/23/75	886/28/65	940/27/59	1685/27/65
PA52TMS	12/2/8	203/11/51	174/12/52	514/33/91	528/33/85	2068/37/95
OH6JW	31/3/16	163/14/47	147/17/57	730/34/87	1433/34/81	1042/32/81
OH1VR	34/4/17	128/9/42	188/24/64	713/32/71	1019/30/81	1324/33/91
UY3ZV		36/7/28	63/11/43	1037/34/84	1140/32/84	1023/31/84
N1GL-VP9		389/12/29	106/11/21	757/28/62	851/26/66	1568/26/59
C26KWW	2/2/1	65/11/13	24/12/18	537/32/77	953/28/71	1950/30/71

#### **WORLD TOP MULTI-OPERATOR SINGLE TRANSMITTER**

HIBXWP	10/4/9	276/14/52	511/22/65	1076/30/96	2362/32/96	3370/32/96
R6F	36/6/19	176/14/47	235/14/53	1653/38/109	1206/35/95	2337/30/84
EM6A	20/6/16	107/12/49	94/12/51	2006/35/113	1186/37/111	2088/34/99
I3ZMAU		157/15/45	205/24/68	1420/36/93	1612/36/101	1678/32/86
UK9AAU	49/6/19	225/17/48	312/25/73	1198/38/114	1640/38/115	707/34/101
DL0WU	16/3/18	43/9/43	396/17/54	1702/32/99	1218/34/109	1643/37/100

**WORLD TOP MULTI-OPERATOR-MULTI-TRANSMITTER**

VP2KC	526/11/47	1079/22/95	1703/28/107	4208/39/153	5417/39/145	4835/36/132
9Y4FRC	61/16/16	711/15/52	1120/22/77	3291/35/115	3537/34/120	3829/36/115
KH6XX	105/10/13	423/27/42	642/30/59	2357/39/123	3727/39/133	3735/39/123
YU3EY	83/6/24	614/12/64	485/18/73	2683/40/134	2589/39/124	2834/38/103
SK2KW	432/14/55	334/25/69	3093/39/123	2871/35/107	3321/40/117	
N2AA	109/8/16	406/24/79	366/28/84	1646/40/152	2198/40/144	3354/35/126

**USA TOP SINGLE OPERATOR-ALL BAND**

Station	160	80	40	20	15	10
N7DD	55/9/14	50/15/28	74/20/42	420/34/76	794/35/86	813/34/100
W1ZM	16/4/9	93/14/46	79/15/45	306/34/92	736/35/106	744/32/102
W7RM	12/6/6	115/19/28	202/17/36	218/28/72	1130/31/76	647/34/84
K1VTM	13/3/6	90/15/43	116/15/55	281/31/84	793/33/96	570/28/94
K7RI	8/4/3	100/15/23	253/17/33	231/29/80	841/26/67	577/34/81
W3BGN	9/5/7	46/9/29	77/16/45	475/33/95	632/30/95	474/27/86
W9ZRX	13/5/8	42/13/25	90/16/53	200/35/74	402/32/102	897/34/98
W1CF	16/3/9	114/18/51	66/13/43	301/28/82	431/29/86	779/30/99
W3GRF	2/2/1	49/14/31	75/13/41	386/27/85	605/33/105	529/30/93
W9RF	19/5/10	55/14/33	74/18/42	309/32/82	362/29/91	794/33/95

#### **USA TOP MULTI-OPERATOR SINGLE TRANSMITTER**

K4VX	11/4/10	60/19/45	85/24/65	344/33/99	833/36/118	895/33/117
W4QAW	11/4/11	44/16/36	106/21/60	403/37/112	668/37/116	804/35/122
K8NA	6/4/4	52/16/39	121/21/63	625/38/124	661/34/109	663/32/107
WA7NIN	12/6/5	96/19/85	320/21/41	260/31/88	1042/29/75	841/34/94
AB0I	7/4/6	219/19/98	80/20/57	640/39/113	901/36/111	719/35/92
WSWMMI	11/4/8	54/16/37	248/20/58	380/30/109	788/35/111	573/24/98

**USA TOP MULTI-OPERATOR MULTI TRANSMITTER**

N2AA	109/8/16	406/24/79	366/28/84	1646/40/152	2198/40/144	1354/36/120
K8LX	19/3/8	326/17/44	159/20/61	1047/38/118	1461/37/118	1366/35/111
W2YV	21/5/10	284/20/67	159/20/62	768/37/103	1499/34/119	1373/35/117
K0RF	26/7/10	186/19/43	440/24/53	525/36/102	1470/35/100	1261/36/105
W3MM	30/6/11	132/17/49	174/24/66	891/39/118	1320/37/140	807/32/115
K21A	29/4/8	164/20/58	170/20/64	714/38/115	1290/36/123	877/34/111

N7AKQ, WD8PNF & AC8N. WB9ZBE K9GM. WB0UFL & WB0OYA. YO3KSC: YO8BOV, YOBBDP, YO3KWA: Club. YOSKAD: YO5AFJ, YO5LP, YO6KBM: YO6OYO, DUO, YO8DB, YU3FOP: Club. YU7AJD: YU7RS, YU7-631, YU7-668, YU7-688, YU7ORS, Dule. YZ4Z-YU1OFI, YU1OIF, YU1OIQ, YU4UFO, YU4RS-6643. Zd7DX: N1DX, K5UC. ZL2AH & ZL2PU, ZL2NAN. LAPSLIC, ZS6BPL ZS6BQP. 4Z4SG: 4X6AU, 4Z4NXL, Ron. 9Q5WH & 9Q5DH. (WB4ZNH & WN4VNU.)

## STATION OPERATORS

#### **Multi-Operator Multi-Transmitter**

**A4S** & **N4WH**, **WA4BBN**, **WD4DJA**, **WD4DIY**, **K4ZV**, **WA4FXJ**, **KB4AF**, **CP1AA** & **CP1CQ**, **CP1BP**, **CP1DM**, **CP1HI**, **CP1IL**, **CP1DFE**, **CP1IE**, **CP1FFS**, **CP1MGS**, **CP1AT**, **DLOP9**; **DK3BJ**, **DJ4VZ**, **DK4QZT**, **DK9JL**, **DJ2JS**, **DF1QQ**, **DJ1FC**, **DJ9IE**, **DF1DN**, **DKJH9**, **DL8QF**, **DL9WW**; **DJ4XN**, **DL3ZA**, **DL6NK**, **DL6OE**, **DK7FC**, **DK8WD**, **DF1ZE**, **DF3FK**, **DF5ZF**, **DF7ZP**, **DF8ZQ**, **DF9ZW**, **DA1UY**, **DC3ZM**, **DD9FB**, **GM3MBP** & **SY3OG**, **GM8II**; **HB7H**: **HB9DE**, **HB9LG**, **HB9AEQ**, **HB9AFQ**, **HB9AIB**, **HB9ALM**, **HB9BAL**, **HB9BLQ**, **HB9MEC**, **HB9MGX**, **HB9MFS**, **JAY1XP**, **JAY1EP**, **JAY8MRV**, **JAY4XPT**, **JY4KAH**, **JAAQJN**, **JRN6NJ**, **J1HGD**, **JAXU0F**, **JH4OWG**, **JAS5WP**, **JH8BHP**, **JAAQLX**, **J3EUCB**, **JAC2YE**: **JR2VDA**, **JH2TBS**, **JH2VOR**, **JR2LDM**, **JR2PVI**, **JR2TPD**, **JR2TWA**, **JR2VWZ**, **JE2ATB**, **JEZCYP**, **JE2KIH**, **JE2LDO**, **JE2RDI**, **JE2WPH**, **JE2TUH**, **JE2WBH**, **JF2ACB**, **JF2GNY**, **JF2KKL**, **JF2NTV**, **JF3EIT**, **JF3THB**, **JA9QNC**, **JAE0UX**, **JAE2YXV**, **JA2R2WN**, **JH2AIX**, **JH2BCW**, **JH2BUS**, **JH2CMI**, **JH2FTH**, **JH2KTA**, **JH2KT**, **JR2OET**, **JR2CFW**, **JE2MEL**, **JE2TEL**, **JF2AIW**, **JAY3BF**: **JR3AJZ**, **JR3FOT**, **JR3VSW**, **JEM3CC**, **JE3OPD**, **JE3PFD**, **JF3EYL**, **JF3KJB**, **JF3JCT**, **JH4CE5**, **JAX5UO**, **JH3KIL**, **JH0FQP**, **JIA0QPF**, **JAY3YKC**, **JH2LRS**, **JR2SQS**, **JAS3REU**, **JAS3UPK**, **JH3JRB**, **JH3KWP**, **JH3PKS**, **JR3KEG**, **JR3SUK**, **JR3FRR**, **JR3XGK**, **JR3RIU**, **JR3BKH**, **JE3BLA**, **JE3MAS**, **JE5GZB**, **J5ATDH**, **JA5MOM**, **JA6VXM**, **JH3VOT**, **JAY4YBU**: **M. Mishima**, **K. Furukawa**, **E. Inamura**, **T. Date**, **A. Inata**, **T. Fukuma**, **M. Funak**; **JAY7RRA**: **J7ACEC**, **J7CGB**, **JAC7CLN**, **J7C7X**, **J7C7XV**, **J7F4DY**, **J7JUD**, **J7LBY**, **J7MQM**, **J7MMQ**, **J7RQE**, **J7OZV**, **JH7MEV**, **JH7MEX**, **JH1YDT**: **JH1BT**, **JH1GNU**, **JR1IJV**, **JER1QMV**, **JE1SCJ**, **JF1ASB**, **JF1EAL**, **JF1ODD**, **JF1SDH**, **JG1KLX**, **J1MYH**, **J1SHX**, **JK1RJU**, **JL1PNH**, **JH3MTJ**, **JAOVSH**, **K1R2** & **K1H1**, **K1WB**, **K1VR** & **A1F0**, **K1MEM**, **W1FJ**, **W1JZ**, **K2UA** & **K2BU**, **N2SS**, **N3AD**, **WB2SS**, **N2MM**, **KAS3BK**, **K3WW** & **K3WJV**, **KB3GJ**, **K2ZSY**, **N3EC**, **K8GL** & **K8DU**, **WB2LMU**, **K8LX** & **K8MD**, **N8EA**, **W8WW**, **WA8ZDT**, **WB8ALP**, **WN8PEE**, **K9RF** & **N3VS**, **N7DF**, **WB8JN**, **K9DY**, **K9CU**, **K9HQH**, **WB0CMW**, **WD0DSU**, **KU0K** & **K0CL**, **W8K0E**, **NA0FA**, **K9MVW**, **AE1V**, **KH6XK** & **N6ZV**, **AE6E**, **K7SS**, **W7EJ**, **AH6Z**, **W7ZR**, **G3VZT**, **G4BTY**, **VE7BTV**, **KL7D** & **AL7D**, **KL7Y**, **AL7J**, **AL7O**, **KL7HDs**, **KL7JHD**, **WB6FXN**, **KL7DP**, **WB0UKN**, **KL7IR7** & **KL7ENY**, **AL7Z**, **AL7AK**, **KL7IKP**, **KL7AY**, **KL7R**, **KL7JET**, **KL7JHN**, **KL7JL**, **KL7JZ**, **LA9K**: **LA3AO**, **LA4BL**, **LA5SS**, **LA4MV**, **LA1FH**, **LA2IY**, **LA2QV**, **LA2SQ**, **LA6WU**, **LA8TF**, **LH2A**: **LA2AD**, **LA8BU**, **LA9HT**, **LA6GQ**, **LA3GW**, **N2AA** & **K1KI**, **N1XX**, **W1PM**, **K2BQ**, **K2L2**, **K2NG**, **K2SS**, **K2T7**, **K2UR**, **N2WT**, **WA2OVR**, **WA2SFB**, **WB2VIA**, **N2RMW**: **N2RM**, **N2ME**, **WA2HGM**, **WB2GTW**, **N3AW** & **N3DA**, **N3AFU**, **N3EG** & **A3AB**, **W2NM**, **WB3DJF**, **K3GQJ**, **W3GM**, **N3LR**: **W3Bj**, **WB3HFQ**, **N3ANW**, **N3RD** & **N3RS**, **W3XU**, **N6SV** & **N6RJ**, **N6DJ**, **N7RO** **WE7KM**, **A1P7**, **WA7ZWG**, **KATAUH**, **WL7AFF**, **SK2KW**: **SM2ALH**, **SM2HAK**, **SM2HQZ**, **SM2DMU**, **SM2EKM**, **SM2CEW**, **SM2DFQ**, **SM2CPF**, **SM2DLZ**, **SM2EPR**, **SM2HRW**, **SM2HTF**, **SM3DMP**, **SM0GMG**, **SM0GMZ**, **SM0GNU**, **Stg**, **VPIRX** & **W4BSO**, **VP2KC** & **N4PN**, **N4RJ**, **K4PI**, **W4HR**, **W4GIW**, **W3BTX**, **K3OIH**, **A4KV**, **K5P5**, **N5UR**, **N4WW**, **N4LUM**, **N4NX**, **W4PPT**, **K4UEE**, **K1PBW**, **K4PHE**, **WB4RUA**, **WD4RQC**, **WA4PBW**, **JAO3DC**, **W2IGZ7** & **W7ACI**, **KB7KH**, **K7RDG**, **WB7WVT**, **WB7WV**, **W2RR** & **K2IGW**, **N2CU**, **WA2AOG**, **WA2ECA**, **WA2LC2**, **WA2SON**, **WB2ABD**, **WB2AIO**, **WB2VY** & **K1EB**, **WB2SQ**, **WB2YX**, **N2NT**, **K3UJ**, **WA3KWH**; **K3RYA**, **K3TP**, **K0BUD**, **N3ML**, **N3BAW**, **WB3IOH**, **W3SVJ**, **W3UHM**, **WA3FYJ**, **WA3VXJ**, **WA3SYB**, **WA3DKY**, **WB3EML**, **WB3EHQ**, **WB3HAI**, **W3LPL** & **W3MR**, **W3XY**, **K3RT**, **WB3DNL**, **WB4SGV**, **N8RC**, **W3MM** & **K3OO**, **W3VY**, **WB3AOP**, **W3RJ** & **K3VV**, **W6RDF** & **N8ND**, **N6ZI**, **N6RM**, **N6AGX**, **K6XT**, **WB6UQF**, **WB6HGJ**, **X2EMX** & **K6NA**, **N6ZB**, **YU3EY** & **YU3DM**, **YU3BO**, **YU3EYO**, **YU3FK**, **YU3YM**, **YU3TBV**, **YU3SO**, **YU3TU**, **YU3TCB**, **YU3TUW**, **YU3UEW**, **YU7PCF**, **YU4VXS**, **YU7BPO** & **YU7OQQ**, **YU7QOX**, **YU7AJN**, **YU7ABJ**, **YU7BCP**, **YU7R7S**, **YU7GZS**, **YU7UKJ**, **YU7QFS**, **YU7KWX** & **YU7PEG**, **YU7PEZ**, **Bokim**, **Stamisic**, **ZZ5EG** & **PY50W**, **PY5CA**, **PY2BW**, **PY2ZBU**, **PY5PS**, **PY5OC**, **PY5OGG**, **PY5WSR**, **PY5VM**, **4U1TU1**: **K1ZZ**, **W2QD**, **WS3JP**, **K3KWW**, **W4KFC**, **WB2WJ**, **G3CZC**, **DJ7ZY**, **VE3DA**, **4X6A** & **4Z4DX**, **4X4DK**, **4X4JU**, **4X4OC**, **4X4KK**, **WA7SIN**, **W4ART**, **4Z4MK**, **4Z4DT**, **4Z4KX**, **4Z4NV**, **4Z4JT**, **4Z4TI**, **WB1HR**, **9Y4FRC**: **N3ED**, **WA3LRO**, **WB2REH**, **K3GM**, **K3JLT**, **K3RL**, **9Y4VU**

# PHONE TROPHY WINNERS AND DONORS

## Single-Operator All Band

**World**

**G3FXB, Al Slater**

**Donor: Bill Leonard, W2SKE**

**U.S.A.**

**N7DD, Larry Pace**

**Donor: Potomac Valley Radio Club**

**Canada**

**CZ6KW, Raymond Post**

**Donor: Jack Baldwin, VE3BS**

**Carib./C.A.**

**VP2ML, Chod Harris**

**Donor: Jim Neiger, N6TJ**

**Europe**

**UR2QD, Prillmann Vello**

**Donor: W4BVY Operators**

**Africa**

**ZS6AF, Julius Lieberman**

**Donor: Gordon Marshall, W6RR**

**Asia**

**JR1AIB, Yasuyuki Inoue**

**Donor: Japan CQ Magazine**

**Japan**

**JH1EAQ, N. Watanabe**

**Donor: Palm Garden Contest Club**

**Oceania**

**KG6JIA, Tom Haddon**

**Donor: No. California DX Club**

**World QRPP**

**W6PQZ, John Akiyama**

**Donor: Adrian Weisse, K8EEGIO**

## Single-Operator Single Band

**World (28 MHz)**

**OH2MM/CT3, Ville Hillesmaa**

**Donor: K2HLB Memorial, No. Jersey Dx Assoc.**

**World, 21 MHz**

**H31LR, Obie J.E. Johnson**

**Donor: Lee Wicai, KH6BF**

**World, 3.8 MHz**

**CT3BZ, Martin Laine**

**Donor: Fred Capossela, K6SSS**

**U.S.A., 3.8 MHz**

**W8MJ, Randy Davis**

**Donor: Arnold Tamchin, W2HCW**

**U.S.A. (21 MHz)**

**K1RM, Vincent Sgroi**

**Donor: So. California DX Club**

**Canada (28 MHz)**

**CZ6WQ, Joel Weiner**

**Donor: Gene Krehbiel, VE7KB**

**Carib./C.A. (28 MHz)**

**KP4Q, Heriberto Salls**

**Donor: Pedro Piza, Jr., KP4RF**

**Oceania, 14 MHz**

**YB8ADI, Michael Selby**

**Donor: VK3JW Memorial, Pacific DX Net**

**Oceania, 21 MHz**

**VK4VU, R. Martin Luther**

**Donor: Pacific R.A.T.S.**

**South America (14 MHz)**

**YW1AVO, Stradiotto Italo**

**Donor: Rafael Ponce De Leon**

## Multi-Operator Single Transmitter

**World**

**H18XWP (Oprs. K1AR, K1DG)**

**Donor: Don Wallace, W6AM**

**Canada**

**VE1DXA (Oprs. VE1DX, VE1UG, VE1AIG,**

**VE1BXC, VE1VX)**

**Donor: Calgary Amateur Radio Assoc.**

## Multi-Operator Multi-Transmitter

**World**

**VP2KC (Oprs. N4PN, N4RJ, K4PI, W4HR,**

**W4GIW, W3BTX, K3OIH, AA4V, K5PP,**

**N5UR, N4WW, W4LVM, N4NX, W4PPT,**

**K4UEE, K1PBW, K4PHE, WB4RUA,**

**WD4RCO, WA4PBW & JA3ODC)**

**Donor: Radio Club Venezolano**

**U.S.A.**

**K8LX (Oprs. K8LX, K8MD, N8EA, W8WW,**

**WA8ZDT, WB8ALP & WN8PEE)**

**Donor: Dale Hoppe, K6UA**

## Contest Expeditions

### World - Single - Operator

**9Y4VT (Opr. Richard J. Norton, N6AA)**

**Donor: Stuart Meyer, W2GHK**

### World - Multi - Operator

**9Y4FRC (Oprs. N3ED, WA3LRO, W2REH,**

**K3GM, K3JLT, K3RL, 9Y4VU)**

**Donor: Bill Schneider, K2TT**

## WORLD TOP 10 QRP<sub>p</sub> (5w input)

1. W6PQZ ..... 168,156
2. WA2JOC ..... 155,700
3. UA3PAZ ..... 132,250
4. N2GC ..... 121,992
5. JK1GDD ..... 114,400
6. WB2RW ..... 105,000
7. G3FTQ ..... 90,985
8. WA4FHQ ..... 89,262
9. VE1AUT ..... 87,584
10. K1CGJ ..... 84,590

W1DO	..	4,760	40	12	28	K2MFY	..	63,342	266	20	61	W3PC	..	47,784	132	40	92
W1BB	1.8	748	21	7	10	W2GUM	..	50,996	243	20	56	W3ETB	..	46,750	145	37	88
K1BN	..	84	8	3	4	K20LG	..	45,212	128	31	96	W3ALB	..	44,428	139	32	84
K2DM	A	1,583,349	1349	105	312	WB2TKD	..	35,787	157	20	59	K3VY	..	43,896	143	40	84
N2IC	..	1,499,339	1310	106	295	W20KJ	..	26,609	157	14	45	W3IW	..	40,677	157	26	65
W2SA	..	1,410,732	1109	115	332	K2ZKN	..	21,299	123	17	42	N3GW	..	33,285	113	29	76
N2LT	..	1,011,381	1006	95	262	W6MHK/M2	..	20,244	87	21	63	K3TM	..	33,065	134	19	66
K2XA	..	853,596	836	98	264	W2ZPV	..	9,912	81	7	35	W3BNO	..	29,376	107	29	73
W2GD	..	822,447	838	98	268	N2ALK	..	6,846	64	14	28	W3EFL	..	29,148	125	32	52
WA2FW	..	801,161	802	102	265	K2CCY	..	6,201	43	14	39	WA3YTI	..	26,226	107	28	65
K2PH	..	741,510	844	82	233	WA2TJF	..	5,850	126	20	19	W3KFO	..	22,540	90	21	49
K2VV	..	721,142	884	73	184	WB2OJX	21	37,825	172	24	61	N3RW	..	15,444	80	18	48
K2HR	..	625,189	744	78	199	W2TA	14	214,200	557	35	101	WA3NAN	..	12,040	65	26	44
WA2AUB	..	623,492	651	93	233	WB2LOF	..	136,458	355	36	97	W3FQE	..	800	15	7	13
N2MR	..	517,044	536	91	262	K2HPR	..	12,376	88	16	36	K2PLF/3	28	330,616	520	34	109
A1C2	..	514,080	554	97	243	W2XQ	1.8	630	38	10	W3DPH	..	59,192	217	26	72	
N2WV	..	429,660	499	89	226	W3BGN	A	2,330,495	1713	119	357	WB3KHF	..	41,550	192	22	53
WB2RN	..	336,188	364	52	178	W3URF	..	2,225,430	1846	118	355	K3B3V	..	1,320	22	10	12
W2NS	..	281,474	456	59	152	W3JN	..	1,185,030	1101	98	280	W3EWL	21	226,349	520	34	117
K2OJ	..	266,172	392	72	174	N3BB	..	2,012,279	1461	129	350	W3C1L	..	115,404	333	29	89
KB2DE	..	251,220	390	71	166	K3TW	..	1,787,212	1455	121	313	AD3R	..	95,770	245	28	94
K2AK	..	225,862	364	60	161	W3FA	..	1,245,624	1086	100	308	N3VA	..	54,488	192	24	74
W2BTU	..	196,539	166	53	138	K3WJ	..	529,038	633	63	208	WA3ZAS	..	38,151	167	23	58
W1GD	..	179,242	309	60	157	N3HW	..	49,406	157	30	74	K3MWR	7	9,114	89	17	32
AC2J	..	118,174	260	49	112	W3DJS	..	869,600	779	107	293	K3SWZ	7	595	14	5	17
K2JF	..	117,260	246	46	118	W3CJW	..	768,534	782	100	254	NA4RV	A	1,945,004	1441	123	345
WA2LUM	..	113,100	271	34	111	K3IU	..	584,695	600	97	250	N4RA	..	775,019	756	103	264
K2PE	..	109,372	266	40	108	W3ND	..	567,113	634	87	230	WE4J	..	754,031	781	91	256
K2EZ	..	102,378	225	45	106	W3KJ	..	561,713	158	30	104	K4EZ	..	555,698	619	95	224
WB2DME	..	89,910	256	37	98	W3KHE	..	491,876	572	84	224	WA4DR	..	450,296	507	82	226
W2SDO	..	87,120	212	41	103	W3GK	..	477,580	590	70	196	K4IIF	..	445,770	581	80	190
K2CDJ	..	82,082	197	44	110	WB3AVN	..	473,920	588	86	233	W6WOK/4	..	418,971	706	62	151
K2PF	..	73,984	203	44	84	W3DQS	..	493,920	588	82	212	K4IIF	..	413,280	573	89	198
WB2MEW	..	73,947	158	53	104	W3K3H	..	491,876	572	84	224	WA4DR	..	377,608	451	92	216
W2SD	..	73,947	158	53	104	W3K3W	..	474,478	590	70	196	WA4OMQ	..	342,364	482	73	178
K2OF	..	73,947	158	53	104	W3WV	..	408,456	668	55	161	WA4WV	..	344,944	430	84	204
W2PQF	..	72,482	151	27	64	W3MAW	..	380,528	483	77	195	WA4MAV	..	334,264	462	71	183
K2QU	..	72,416	151	27	64	W3MAK	..	373,320	443	83	222	AC4X	..	334,264	462	71	183
K2EU	..	68,216	85	21	51	W3W3K	..	358,683	564	56	165	WA4KUZ	..	324,360	581	79	186
K2EJ	..	67,292	85	21	51	W3W3RK	..	300,570	448	54	179	W4DM	..	298,420	404	81	184
W3RKT	..	67,208	65	30	44	W4ANTP	..	217,056	324	66	172	WA4NTP	..	296,216	454	73	171
W3GRS	..	67,308	45	21	37	K3AV	..	164,619	308	49	140	N4XD	..	218,688	372	63	148
W3WV	..	5,830	42	17	36	W3OIV	..	148,518	247	72	150	K4ZLE	..	203,250	310	74	176
W3K3H	..	5,830	42	17	36	WA3Y1V	..										

W4WJJ	92,820	243	39	101	K5TJ	"	<b>572,908</b>	<b>1250</b>	<b>38</b>	<b>120</b>	K7RI	"	<b>2,418,028</b>	<b>2010</b>	<b>125</b>	<b>287</b>	WA8COR	"	24,318	143	17	46	W0WUU	"	42,001	153	35	62	
KA4C	89,376	192	52	116	K5JA	"	522,815	1163	39	116	W7IL	"	1,686,894	1613	113	253	WD8OPP	"	20,435	123	16	45	WA8DCB	"	38,874	127	40	74	
W4OWU	86,443	206	64	169	K5MR	"	385,002	936	37	109	K7LR	"	1,001,832	1032	90	235	WB8OYU	"	14,145	82	24	45	W0MJN	"	34,884	129	39	63	
W84WHE	76,884	223	32	97	W5VGX	"	209,160	610	30	90	W7JYW	"	335,160	689	58	110	K8BJK	"	10,996	80	16	41	K9BLY/0	"	23,644	91	37	55	
N4AM	75,920	190	42	102	A5FK	"	186,720	606	36	84	K7SFN	"	266,944	547	68	104	WB8RYYZ	"	4,104	44	12	24	K8CJ	"	15,400	89	26	51	
W4BFR	73,700	194	38	96	K5FUV	"	176,930	486	34	96	K7ZA	"	262,892	403	73	156	K8BJD	"	1,464	26	11	13	WA0WJX	"	14,697	80	28	41	
W2HAE/4	71,258	179	50	108	W5BYG	"	86,623	327	28	75	AJ7S	"	236,368	456	65	122	WB8CSC	"	901	18	5	12	W0CJ	"	12,528	59	30	47	
W4KMS	68,588	155	43	101	W5C5CK	"	82,194	287	29	74	W7LGG	"	193,640	354	67	121	N8TT	"	20,435	123	16	45	WB8OZ	"	38,874	127	40	74	
WD4HSA	65,219	206	41	80	WB5UDX	"	74,802	298	24	67	K7LAY	"	149,520	314	49	119	WB8OJL	"	7,866	71	10	28	W0BHQ	"	3,913	36	18	25	
W4ZEI	60,320	189	30	86	K5WA	"	64,800	256	25	65	WB7BNP	"	129,752	250	72	124	K8HF	"	6,622	55	15	28	WD8HWX	"	465	12	7	8	
K4RD	57,810	148	53	88	K5IG	"	46,750	201	22	63	N7AM	"	128,885	567	62	111	WB8TWA	"	<b>194,814</b>	<b>505</b>	<b>36</b>	<b>101</b>	WB8YK	"	<b>564,944</b>	<b>1546</b>	<b>33</b>	<b>108</b>	
K4VHC	53,212	180	25	81	K5RF	"	42,687	194	22	59	W7GUR	"	122,464	242	56	122	N8AKF	"	94,810	295	30	80	W0AIT	"	296,760	1010	31	85	
N4BN	43,758	130	35	82	WD5INS	"	38,052	166	24	60	K7YDO	"	68,034	178	46	92	K8BIO	"	26,296	122	22	54	WA0LQJ	"	207,324	623	31	85	
K4BYK	42,560	103	59	93	K1DWG/5	"	33,784	151	21	61	WB7WEI	"	62,694	179	47	82	WB8WJRW	"	7	<b>28,548</b>	<b>155</b>	<b>20</b>	<b>58</b>						
WD4PTJ	39,270	159	32	83	W5C8B	"	32,100	150	22	53	W7AKN	"	54,197	137	57	86	WB8CRY	"	5,355	48	13	32	WB8OTA	"	8,052	66	16	38	
WD4NP	32,594	146	27	59	W5BKN	"	25,872	196	12	32	WB7SQM	"	28,026	151	38	43	WB8EDU	"	3.5	<b>45,150</b>	<b>344</b>	<b>19</b>	<b>51</b>						
WD4NAE	32,542	110	29	77	N5DY	"	16,531	101	20	41	KATBAY	"	24,854	109	29	57	(Opn. WA3FET)	"					WB8DXR	"	80,352	366	26	67	
K4PR	29,993	148	30	59	NSARB	"	5,084	48	16	25	K07APJ	"	23,725	121	27	46	K8FXX	"	32,400	291	17	37	WB0AYT	"	72,075	270	25	68	
WB4KHJ	21,812	112	31	51	W5EDZ	"	1,007	21	9	10	N7CT	"	13,144	133	27	26	WB8LRL	"	<b>1.8</b>	<b>2,945</b>	<b>71</b>	<b>10</b>	<b>21</b>						
W4UWP	20,944	100	24	53	WB8DKJ/5	"	162	10	4	5	WB7PH	"	12,834	122	36	10	K8BAC	"	520	232	4	9	KA0CKN	"	5,762	55	16	27	
W4UYC	20,700	87	32	60	W5JW	"	<b>297,296</b>	<b>760</b>	<b>34</b>	<b>102</b>	KATDHU	"	12,834	122	36	10	K8BFCU	"	448	31	4	10	NOAT	"	<b>217,574</b>	<b>524</b>	<b>33</b>	<b>105</b>	
W4GTS	19,987	93	33	45	N5AU	"	<b>225,504</b>	<b>487</b>	<b>37</b>	<b>125</b>	WB7NC	"	9,888	68	36	10	WB9ZRX	"	<b>A</b>	<b>2,310,165</b>	<b>1644</b>	<b>135</b>	<b>360</b>						
K4ALC	15,678	132	25	41	K5BZU	"	192,992	495	36	112	WB7DA/7	"	9,278	(Opn. N7ABA)	102	14	29	WB9RE	"	<b>2,184,776</b>	<b>1613</b>	<b>131</b>	<b>353</b>						
WA4TPS	15,067	93	18	43	W5LPK	"	107,008	321	37	91	K7RS	"	7,525	69	21	22	WB9OP	"	<b>745,683</b>	<b>872</b>	<b>82</b>	<b>221</b>							
WB8YPT	8,062	55	19	39	WA5QBO	"	101,525	281	33	98	WB7YFJ	"	4,278	50	16	15	K9HDE	"	676,940	675	106	206							
WD4ACTA	7,812	50	22	40	WB5LBT	"	99,712	272	33	95	WB7CT	"	3,952	63	21	46	K9QXY	"	519,090	566	100	230							
WA4OPV	7,366	46	21	37	K5BFU	"	52,900	215	27	65	WB7HP	"	2,940	19	15	15	N9AFY	"	444,470	605	73	190							
AJ2E/4	7,210	45	32	88	K5BML	"	20,942	107	23	51	WB7DQO	"	2,240	26	14	18	K9XJ	"	378,508	533	72	179							
W4Z4R	4,850	37	129	31	K5BTU/5	"	19,783	105	24	49	WB7KPI	"	12,834	122	36	10	N9RC	"	316,901	446	73	174							
WB4GRK	2,662	45	13	24	K5BXD	"	17,476	95	20	48	WB7TPI	"	12,834	122	36	10	WB9BGJ	"	305,325	473	64	161							
WB8ANYL	2,211	24	14	19	N5CH	"	8,427	56	19	34	K7CY	"	<b>350,994</b>	<b>874</b>	<b>36</b>	<b>101</b>	WB9WPM	"	234,588	367	62	164							
W4RX	<b>28</b>	<b>490,472</b>	<b>1141</b>	<b>34</b>	<b>114</b>	WB5BE	"	8,268	59	16	37	N2AIR/7	"	<b>324,401</b>	<b>950</b>	<b>31</b>	<b>100</b>	K9UR	"	295,256	472	58	163						
W4QDN	43,671	923	37	112	WB5BEP	"	902	21	10	12	K7HBN	"	69,090	230	31	74	WB9AMM	"	177,192	297	63	151							
N4SW	42,253	964	36	115	WB5FO	"	<b>242,744</b>	<b>576</b>	<b>38</b>	<b>114</b>	WB7KPH	"	64,206	261	23	54	K9RZT	"	81,241	217	41	96							
K3KG/4	(Opn. WD4REE)				K5NU	"	166,032	447	36	108	WB7UVA	"	144,648	408	32	91	WB9MD	"	24,310	145	35	62	WB9WU	"	308,884	198	39	92	
K4BAI	230,691	634	31	100	K5UR	"	<b>2,436</b>	<b>108</b>	<b>9</b>	<b>20</b>	WB7PCJ	"	126,567	359	35	88	WB9WPM	"	71,856	198	50	94	WB9WV	"	29,894	198	39	92	
W4DR	212,976	539	34	102	N5YY	"	1,080	30	7	13	K7LXC	"	112,330	489	28	66	WB9AMM	"	67,340	200	43	87	WB9WY	"	64,890	188	37	87	
WA4SWY	206,640	568	32	94	N6AR	"	<b>2,115,540</b>	<b>1709</b>	<b>131</b>	<b>307</b>	WB7PIJ	"	101,151	397	24	65	K9DF	"	151,312	274	56	140	WB9WY	"	51,729	153	43	86	
N4KG	194,564	520	32	96	K6RR	"	1,099,899	1148	101	232	K7DX	"	59,400	195	26	80	WB9WR	"	50,400	132	52	98	WB9WY	"	28,458	121	36	63	
WA4IKZ	104,664	314	30	83	N6OJ	"	820,864	1159	79	163	K6LL/7	"	133,852	886	36	93	N9AC	"	50,400	132	52	98	WB9WY	"	26,264	94	38	60	
K4HAV	96,305	331	28	75	N6AW	"	71,696	743	105	230	WB7BFK/5	"	148,514	567	30	83	WB9WZ	"	26,264	94	38	60	WB9WY	"	188,288	551	31	97	
WD4IZR	85,200	320	26	74	N6OK	"	441,395	728	74	141	WB7PCJ	"	29,877	155	24	49	WB9WY	"	28,556	161	24	62	WB9WY	"	131,378	306	41	122	
WD4LYA	84,151	292	28	75	K6ELX	"	441,262	864	62	116	WB7KCI	"	8,968	86	12	26	WB9WY	"	44,928	149	33	71	WB9WY	"	32,806	119	30	64	
WD4IBO	81,560	240	28	82	WB6FQF	"	43,176	762	77	162	WB7KCI	"	13,327	171	23	46	WB9WY	"	32,806	119	30	64	WB9WY	"	64,890	188	37	87	
WB8VQO	58,113	206	28	71	K6DF	"	41,652	676	87	157	WB7KCI	"	13,327	171	23	46	WB9WY	"	62,118	217	37	89	WB9WY	"	51,729	153	43	86	
N4CD	50,464	212	28	59	N6MB	"	39,374	507	77	163	WB7KCI	"	13,327	171	23	46	WB9WY	"	50,400	132	52	98	WB9WY	"	28,458	121	36	63	
N4AOJ	50,348	223	23	59	N6OO	"	305,532	440	85	161	WB7KCI	"	129,877	154	20	49	WB9WY	"	47,704	141	46	88	WB9WY	"	28,556	161	24	62	
K4KKJ	103,390	330	27	87	WB6Y	"	84,032	295	68	148	WB7KCI	"	101,800	905	105	283	WB9WY	"	21,386	102	25	49	WB9WY	"	108,740	328	31	97	
WB4GWW	64,770	261	33	69	WB6YH	"	161,356	274	74	140	WB7KCI	"	161,322	489	35	111	WB9WY	"	21,312	83	22	64	WB9WY	"	32,806	119	30	64	
WA4HNL	43,804	1659	26	68	WB6SHL	"	161,184	230	57	130	WB7KCI	"	101,894	853	24	56	WB9WY	"	20,596	93	23	53	WB9WY	"	64,890	188	37	87	
K4JRF	27,669	147	20	49	WB6LFF	"	15,952	214	54	150	WB7KCI	"	101,894	853	24	56	WB9WY	"	15,392	274	56	140	WB9WY	"	14,786	228	31	97	
WD4AVY	<b>14</b>	<b>56,328</b>	<b>229</b>	<b>28</b>	<b>64</b>	WB6JMS	"	94,240	250	63	92	WB7KCI	"	132,639	565	122	54	WB9WY	"	26,264	94	38	60	WB9WY	"	188,288	551	31	97
K4AUL	33,600	140	23	61	WB6RJW	"	57,232	184	44	68	WB7KCI	"	132,639	565</td															

CUBA	CO2FRC 14	103,648 526 23 56 (Opr. LZ1BY)	JA6CM .. 71,832 206 45 78	JA4VMU .. 30,877 146 25 52	UZBEK	OK1KTW .. 192 64 2 5
DOMINICAN REPUBLIC	H18LC 28	83,558 397 27 55	JA3ZRT .. 52,170 470 48 63	JA7BAL .. 22,936 90 30 64	UIBLAG A 2,430,846 1980 123 336	OK1MGW 1.8 3,648 115 5 27
GUATEMALA	TG9GI 28	55,550 184 26 84	JA0FMB .. 51,118 148 45 77	JABYY .. 7,585 68 19 22	OK1AEK .. 47,508 212 36 71	OK1DUC .. 1,088 32 2 17
MEXICO	XE1LLS A	948,150 1619 81 177	JA5AF .. 50,102 170 49 67	JA5AF .. 4,800 145 26 40	UIBADC 28 34045 231 51	OK1DOS/P .. 1,008 46 3 18
	6E1VOZ	94,996 312 42 85	JA6BZK .. 45,343 142 53 68	JABGZ .. 4,070 44 19 18	UIBLAK .. 19,360 128 16 39	OL8CLD .. 546 45 4 8
	487J	28,573,804 1720 30 96	JK1TLP .. 41,418 183 32 46	JR2B0G .. 1,752 27 11 33		
	XE1EMC 7	6,290 72 13 21	JF3CEC .. 40,306 188 35 38	JR2BAY 7.0 154,442 519 33 73	KOREA	DENMARK
MONTserrat	JP7FMZ	23,577 97 35 52	JR1PUO .. 26,788 126 36 45	JA1BK .. 441 63 4 3	SM5KHO/ OH8 .. 28 226,860 857 32 82	OZ7MP A 127,652 295 57 131
	JF2FLN ..	20,160 115 28 35	JH4AKV .. 25,641 117 32 45	JH4MTE .. 252 12 4 3	KUWAIT	OZ7BS .. 120,340 269 61 159
	JA9ECZ ..	18,112 101 30 34	JA7FNM .. 23,577 97 35 52	J46LCJ 3.8 10,622 20 27	THAILAND	OZ4HW .. 41,760 218 39 106
	18,112 28 35	17,199 93 26 37	JH4UVU .. 16,530 68 38 49	JR7AMZ .. 54 3 3 3	AALAND ISLANDS	OZ1ZE .. 40,740 133 49 91
PANAMA	H3ILR 21	1,448,848 3524 36 127	JH1EF .. 16,284 94 25 34			OZ1FAO .. 25,680 129 36 84
PUERTO RICO	KP4AM A	718,116 1278 75 174	JH4DBS .. 14,544 102 25 23			OZ1DUF .. 22,644 150 31 80
	KP40 ..	28,116,360 3173 39 116	JH2OJ .. 13,912 296 19 28			OZ6OG .. 5,125 54 14 16
ST. LUCIA	J6LIR A	609,760 1571 66 119	JH2OJ .. 13,912 296 19 28			OZ5EV 28 252,280 831 33 73
ST. MARTIN	FG7AW/FST A	40,656 196 31 57 (Opn. K2DH)	JH2OJ .. 13,912 296 19 28			OZ4VM .. 2,516 76 9 8
TURKS & CAICOS	VP5MRX A	2,055,135 3290 93 192 (Opn. K8MR)	JH2OJ .. 13,912 296 19 28			OZ3KE .. 2,485 39 14 21
VIRGIN IS	KV4FZ 28	1,482,525 4079 39 126	JH2OJ .. 13,912 296 19 28			OZ1EB 21 180,549 1130 26 55
AFRICA						OZ8KU 14 7,998 140 8 43
CANARY ISLANDS	EABTY A	156,800 307 55 119	JH2OJ .. 13,912 296 19 28			OZ9QI .. 2,322 27 14 29
	EABVV ..	17,940 116 19 33	JH2OJ .. 13,912 296 19 28			OZ6XR 38 9,998 236 6 36
	EABRL ..	902 15 9 13	JH2OJ .. 13,912 296 19 28			
	EABAK 28	1,685,805 3399 39 126	JH2OJ .. 13,912 296 19 28			
CUETA	EA9GT A	204,435 415 48 117	JH2OJ .. 13,912 296 19 28			
EGYPT	W5JMM/ SU A	120,474 297 52 86	JH2OJ .. 13,912 296 19 28			
KENYA	SZ4RM A	99,895 220 61 96	JH2OJ .. 13,912 296 19 28			
MADIERA ISLAND	OH2MM/ CT3	28 1,827,150 4068 37 113	JH2OJ .. 13,912 296 19 28			
	CT3BZ ..	28 235,113 772 22 87	JH2OJ .. 13,912 296 19 28			
NAMIBIA	ZS3LK 28	1,421,164 3035 39 118	JH2OJ .. 13,912 296 19 28			
REPUBLIC OF SOUTH AFRICA	ZS6AF A	1,045,808 1550 76 153	JH2OJ .. 13,912 296 19 28			
	ZS6ABO ..	476,439 1130 60 81	JH2OJ .. 13,912 296 19 28			
	ZS6FU ..	2,440 42 11 9	JH2OJ .. 13,912 296 19 28			
	ZS1JD 28	282,166 1082 27 59	JH2OJ .. 13,912 296 19 28			
SICILY (AFRICAN)	IG9UN 28	1,129,120 2379 39 121 (Opn. IBIJ)	JH2OJ .. 13,912 296 19 28			
ST. HELENA	IT9SKO/ IG9 7	190,008 746 19 68	JH2OJ .. 13,912 296 19 28			
ASIA	ZD7BW 28	500,940 1284 32 100	JH2OJ .. 13,912 296 19 28			
HONG KONG	VS6DO A	1,020,672 1699 108 180 (Opn. K1MM)	JH2OJ .. 13,912 296 19 28			
INDIA	VU2HI 14	481,148 1137 38 110	JH2OJ .. 13,912 296 19 28			
ISRAEL	4X4YL 28	527,952 1330 34 102	JH2OJ .. 13,912 296 19 28			
	4Z4WQ ..	102,690 392 25 65	JH2OJ .. 13,912 296 19 28			
	4Z4XY 21	46,550 226 20 50	JH2OJ .. 13,912 296 19 28			
JAPAN	JR1AIB A	2,555,005 2163 135 268	JH2OJ .. 13,912 296 19 28			
	JH1EAQ ..	2,054,079 2163 103 218	JH2OJ .. 13,912 296 19 28			
	J1E1LY ..	1,491,791 1388 125 246	JH2OJ .. 13,912 296 19 28			
	JABAXV ..	1,084,644 1245 95 202	JH2OJ .. 13,912 296 19 28			
	JAB1VK ..	759,984 938 102 182	JH2OJ .. 13,912 296 19 28			
	J2FSM ..	593,676 977 76 131	JH2OJ .. 13,912 296 19 28			
	J46CNL ..	511,302 698 88 166	JH2OJ .. 13,912 296 19 28			
	J42SEK ..	460,436 683 81 155	JH2OJ .. 13,912 296 19 28			
	J44ZU ..	422,920 721 76 142	JH2OJ .. 13,912 296 19 28			
	J47AMK ..	335,530 788 55 90	JH2OJ .. 13,912 296 19 28			
	J41PCY ..	330,613 673 69 110	JH2OJ .. 13,912 296 19 28			
	J48BSW ..	297,636 509 74 130	JH2OJ .. 13,912 296 19 28			
	J3R3EX ..	261,545 437 51 708	JH2OJ .. 13,912 296 19 28			
	J11CRH 14	202,488 539 37 95	JH2OJ .. 13,912 296 19 28			
	JF3CCN ..	234,685 435 71 116	JH2OJ .. 13,912 296 19 28			
	J46BIF ..	216,152 452 68 96	JH2OJ .. 13,912 296 19 28			
	JH2JJK ..	161,802 324 65 113	JH2OJ .. 13,912 296 19 28			
	J46BGA ..	161,734 291 74 119	JH2OJ .. 13,912 296 19 28			
	J41ALX ..	84,625 239 48 77	JH2OJ .. 13,912 296 19 28			
	J411Z ..	77,312 206 50 78	JH2OJ .. 13,912 296 19 28			
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DJ6QT	1,827,000	1642	114	336	HA8HW	41,580	268	28	71	SP5ALP	149,886	470	57	141	<b>SWEDEN</b>	309,048	580	86	230		
DK3SN	1,246,780	1429	82	241	HA5BA	27,816	224	24	52	SP5RDO	116,334	312	61	146	<b>SM3BIZ</b>	A	915,386	1119	90	258	
1DJ&JY	1,115,050	1520	76	214	HA5VA	10,260	148	13	47	SP9AKD	99,250	300	52	123	<b>SM8AJU</b>	A	477,564	467	125	381	
DK8AX	580,492	947	80	236	HA8KUA	2,484	45	13	33	SP1PBW	86,184	490	30	103	<b>SM8DJZ</b>	A	195,440	450	73	207	
DJ7XB	344,393	681	72	167	HA8KQX	102,742	46	25	59	SP6PSG	53,110	333	29	84	<b>SM2BFH</b>	A	138,768	376	49	98	
DK3KD	312,868	597	61	150					(Opr. HA8HW)	SP9RRP	44,304	397	24	76	<b>SM7ABL</b>	A	91,134	266	53	113	
DJ8RJ	307,008	750	61	131						SP5ECA	28,767	102	50	79	<b>SM5IO</b>	A	66,304	234	42	85	
DXMUP	222,761	407	69	194	HA7KPL	35,380	240	17	41	SP8LJD	11,480	148	18	52	<b>SM8CHA</b>	A	55,809	286	36	81	
DF2RG	193,248	431	62	136	HA5LX	24,820	164	20	48	SP9KJQ	11,457	134	16	51	<b>SM7CGO</b>	A	46,920	296	25	55	
DK5WQ	162,288	328	74	178	HA2KMB	21	5,248	70	11	SP3KBW	10,560	80	25	63	<b>SM7FYM</b>	A	34,892	192	33	89	
DL1MO	140,805	325	60	129	HA4XH	14	411,370	1241	39	116	SP9DFH	4,399	68	16	37	<b>UA4IU</b>	A	14,440	80	23	47
DJ2UO	110,838	255	63	140	HA6NW	152,064	876	25	74	SP2HQJ	27,191	11	4	5	<b>SM7TV</b>	A	7,780	107	14	45	
DL2JQ	108,487	336	61	111	HA8LJ/P	83,600	569	24	71	SP6FRQ	1,885	27	13	6	<b>SM5BV</b>	A	7,371	50	25	38	
DJ1TC	101,592	249	62	142	HA3GQ	55,890	370	20	49	SP6KBR	1,855	27	13	6	<b>SM5AY</b>	A	3,294	44	14	13	
DF8EA	91,776	372	30	98	HA4XA	1,829	6	2	5	SP300I	28	1,061,012	2467	35	113	<b>SM5CLP</b>	A	623,346	1825	35	103
DK8KC	88,091	324	41	96						SP9AI	530,190	1542	35	94	<b>SM6EC</b>	A	737,100	2211	35	82	
DJ9MH	83,104	219	69	127						SP9BPF	215,025	616	38	103	<b>SM5FB</b>	A	536,000	1471	35	99	
DL7YS	65,286	248	32	51						SP9HW	148,604	655	25	72	<b>SM5HPB</b>	A	357,890	1066	36	94	
DA1UO	44,100	192	30	70						SP9KZ	95,060	390	26	71	<b>SM3DN</b>	A	312,144	1027	36	82	
DB6EX	24,750	120	38	72						SP9FSH	35,632	217	21	47	<b>SM3GET</b>	A	138,898	890	25	49	
DK6EX	22,825	118	36	47						SP9CTW	34,443	167	27	75	<b>SM3HUA</b>	A	121,770	475	31	68	
DF8MB	487	9	6	5						SP3DAH	21,489	168	18	39	<b>SM5GYO</b>	A	107,666	400	25	76	
DK3GI	28	1,248,072	2694	39	122					SP2JUU	12,240	98	19	32	<b>SM6LGX</b>	A	70,824	374	24	54	
DK6NN	723,985	1742	37	109						SP9ZD	10,350	94	16	29	<b>SM6ADW</b>	A	63,864	318	24	48	
DJ5JH	434,562	1122	35	103						SP1EUS	3,150	45	14	16	<b>SM6HAB</b>	A	48,895	245	25	53	
DL3ZI	387,120	1146	35	85						SP50IR	2,912	42	12	16	<b>SM6QJO</b>	A	44,030	278	20	50	
DK4IO	52,752	628	29	55						SP7TP	2,820	40	11	19	<b>SM7IMK</b>	A	41,563	210	28	61	
DK8JB	39,780	200	24	54						SP9AOA	1,827	24	10	19	<b>SM5JKM</b>	A	34,272	179	15	36	
DL2RM	12,852	113	17	26						SP6ONS	21	94,620	340	30	84	<b>SM2BUW</b>	A	19,588	180	16	40
DJ8UJ	21	761,371	2984	39	114					SP5EWA	68,478	359	25	75	<b>SM5IMJ</b>	A	12,795	138	18	31	
DJ9LJ	145,656	467	33	86						SP9HV	41,516	206	33	64	<b>SM5RE</b>	A	16,700	134	19	31	
DJ4ZR	140,970	479	31	88						SP7PGO	3,680	115	11	21	<b>SM7EML</b>	A	16,685	135	19	28	
DP8EA	32,065	142	16	39						SP4DGHN	14	192,675	847	30	84	<b>SM3EUF</b>	A	1,748	106	18	26
DL6SP	8,906	64	21	47						SP6DXG	173,484	621	34	88	<b>SM7KJG</b>	A	6,727	108	12	19	
DL8PC	14	901,992	2056	39	138					SP5EAQ	144,000	640	35	90	<b>SM7TDB</b>	A	4,440	45	18	22	
DJ2YE	1,080	24	6	9						SP6PKF	34,866	274	19	59	<b>SM9FM</b>	A	1,224	27	11	13	
DK3FB	7	92,520	613	21	79					SP6CQZ	32,287	272	22	61	<b>SM7DMN</b>	A	379,786	1229	31	91	
DA1DQ	3,8	19,642	289	11	50					SP2GW	30,056	249	23	81	<b>SM4CNN</b>	A	193,602	750	33	90	
DM2CUO	A	806,267	1464	69	195					SP6BXZ	17,358	180	16	50	<b>SM2JUR</b>	A	164,220	709	29	73	
DM2BZJ	456,170	770	73	169					SP6BNB	8,084	110	15	28	<b>SM8BDS</b>	A	145,260	543	30	70		
DM2CIL	316,824	716	66	192					SP4DSD	2,976	95	4	28	<b>SM9KVO</b>	A	42,230	200	30	73		
DM4REE	249,864	683	67	165					SP3XR	3,751	94	7	24	<b>SM7GGK</b>	A	8,190	62	20	43		
DM3BE	240,620	531	65	147					SP9EMU	3,649	62	10	31	<b>SM4BNZ</b>	A	45,236	334	20	66		
DM3PF	220,416	515	52	140					SP6XKF	3,570	77	10	24	<b>TA1ZB</b>	A	283,020	731	62	150		
DM2AU	196,474	526	63	131					SP6LZ	1,421	20	9	20	<b>SWITZERLAND</b>	A	327,788	803	56	161		
DM3NK	195,227	554	51	146					SP6ZLS	3,111,518	133	33	98	<b>HB7AGH</b>	A	14,735	154	15	20		
DM4XCE	165,752	418	61	151					SP3IBS	3,8	25,125	345	13	<b>TA2ZBZ</b>	A	169,495	699	31	78		
DM2DF	114,275	402	51	127					SP4DSD	2,976	95	4	28	<b>UA3DCY</b>	A	12,326	601	29	80		
DM4YSN	110,357	443	47	140					SP3ZAH	2,328	97	4	20	<b>UA1MU</b>	A	9,642	94	39	79		
DM5TGL	97,812	351	39	104					SP5KGT	2,052	85	4	23	<b>UA3VW</b>	A	4,565	473	24	73		
DM2BRK	64,200	313	32	104					SP6UK	1,290	42	4	26	<b>UA6LC</b>	A	92,220	403	20	66		
DM3OML	58,582	293	30	44					SP9DH	987	53	3	18	<b>UA4CCF</b>	A	19,532	208	20	56		
DM3XJL	55,104	166	56	112					SP3ADZ	1,8	2,781	102	4	<b>TURKEY</b>	A	1,056,774	3299	115	324		
DM2DWD	37,544	266	23	81					SP7ICE	165	16	2	9	<b>SWITZERLAND</b>	A	327,788	803	56	161		
DM3IM	27,744	143	28	68										<b>HB7UD</b>	A	3,069	44	10	23		
DM3HDA	23,750	106	38	57										<b>YUGOSLAVIA</b>	A	4,057,774	3299	115	324		
DM4OWL	19,575	144	26	46										<b>TA1ZBZ</b>	A	194,064	889	29	75		
DM3TYF	16,720	129	23	43										<b>UA3DCY</b>	A	169,495	699	31	78		
DM4ZTH	15,195	155	15	36										<b>UA1MU</b>	A	9,642	94	39	79		
DM4ZFM	14,210	84	25	42										<b>UA3VW</b>	A	4,565	473	24	73		
DM3EA	11,736	58	56	24										<b>UA6LC</b>	A	92,220	403	20	66		
DM2DZG	8,742	175	18	44										<b>UA4CCF</b>	A	19,532	208	20	56		
DM2EE	21	19,656	156	18	45									<b>TA1ZB</b>	A	1,404,211	2296	38	135		
DM3LE	15,930	133	14	45										<b>UA3DCY</b>	A	399,026	1302	35	96		
DM4MSM	14	48,535	293	23	62									<b>UA1CAI</b>	A	236,948	770	37	111		
DM2BSA	28,856	376	17	55										<b>UA3DEA</b>	A	105,364	512	30	76		
DM3ZG	28,560	305	18	52										<b>UA6HDO</b>	A	55,468	266	23	75		
DM3FJ	17,199	212	18	45										<b>UA1DJ</b>	A	42,247	201	25	57		
DM2GJ	10,738	116	14	45										<b>UA4JL</b>	A	31,786	367	16	20		
DM3UVO	7,332	112	13	34										<b>UA6WGS</b>	A	19,926	181	1			

UBSHDX	380,860	977	72 206	PY2FRW	9,234	87	16 22	K5QY	1,537,551	1503	120 267	JAPAN	2,239,140	1933	132 270	ICELAND	2,310,304	3385	87 261	
UBSMVA	155,929	457	53 211	PY1BOL	4,978	45	15 23	K5KG	1,240,862	1053	116 311	TF3IRA								
UBSMVE	146,264	487	45 113	PY1ESA	2,450	33	12 18	KA5C	326,774	514	70 168	I23MAU	7,600,745	5072	143 392	ITALY	6,408,472	4351	122 410	
UBSMFY	120,802	380	54 133	PY7D0D	21	150,766	596	23 66	A6BX	1,624,140	1802	104 211	J4YFH	1,700,392	1739	118 226	I1KN	4,691,632	1928	103 315
UTSHP	114,624	383	54 145	PY1BKA	14	4,972	44	16 28	W6VLD	1,127,568	1293	103 233	J4YFZ	324,138	639	64 119	I1DIE	2,174,880	2318	103 291
UBSML	35,420	286	22 70					N6AV	900,812	918	107 240	J4YPE	42,966	229	28 38	IV3VXU	1,320,516	1505	108 241	
URSBU	18,270	131	28 59					K6TZ	622,468	873	99 202	J4YFI	33,634	204	22 40	I2WL	881,640	1500	54 126	
UBSMDF	15,744	102	33 66					W6BIP	357,469	508	74 155	HZ1AB	2,119,881	2661	84 193	I3EJ	264,208	585	54 144	
UBSOP	11,948	169	14 44					W6GGO	217,236	813	94 169									
UBSMDP	6,350	127	18 32					W6YRA	82,960	255	53 83									
PBSIVJ	28	459,697	1754	33 86					WA6GFF	52,750	190	43 82								
UBSILD	"	457,387	1404	37 96					WA7NIN	3,546,282	2571	140 338								
UBSVAZ	"	414,700	1496	33 83					K7SP	2,224,625	1647	133 348	LIECHTENSTEIN	DL7RT/MBO	2,395,010	2722	85 285			
UBSLAN	"	337,426	1327	28 74					W7IVX	1,541,292	1657	112 236	DK9WB/LX	1,358,640	1804	71 184				
UBSFOF	"	294,376	1244	33 91					W7FG	592,065	729	89 206								
UBSIIA	"	223,901	760	30 97					W7RUV	88,670	261	56 87								
UBSBTA	"	201,825	713	30 85					N7BA	77,281	365	41 68	NETHERLANDS	PASIGN	1,835,728	2546	77 195			
UBSCDF	"	168,020	610	31 93					K8NA	3,550,728	2128	145 446	P151ARS	229,320	630	51 96				
UBSTAZ	"	151,470	803	24 57					W8CNL	1,210,812	1022	123 305								
UBSWCB	"	82,668	439	24 59					K8XR	1,066,780	1037	105 268	NORTHERN IRELAND	G1GYM	1,910,544	2566	83 235			
RB5WBF	"	81,410	265	32 91					K8JLB	849,000	852	101 274								
UBSKAW	"	81,189	353	27 66					W8CEF	761,852	808	99 239								
UBSEKG	"	56,625	428	19 56					W8NGO	568,060	639	87 223								
UBSNCF	"	22,020	182	20 40					A1BV	358,344	538	67 185								
UBSJWK	"	18,428	119	22 40					K8YVT	306,656	484	60 104								
UBSOCL	"	15,006	100	24 38					N8BKK	152,137	321	52 115								
UBS5AL	"	12,045	97	18 37					K9SD	861,065	836	107 270								
UBSGBN	"	4,290	74	9 30					W9RX	857,338	761	115 286								
UK5QAD	"	810	20	6 9					W9BZB	829,464	897	90 231								
PBSEDU	21	312,340	952	35 105					AA9D	615,228	734	88 219								
UBSAK	"	243,417	908	33 90					W9YWT	507,640	638	81 215								
UK5WBJ	14	18,550	151	20 50					N9LE	268,192	461	73 159								
UBSMGV	"	9,027	117	15 36					A8BI	3,457,531	2368	143 398								
UBSFBN	7	35,325	342	19 56					K8JSY	1,702,330	1446	113 302								
UBSMFR	"	12,876	180	11 42					A9KA	867,200	1037	74 246								
UBSUBJ	3,8	16,954	258	12 40					K8BJW	641,896	675	99 229								
UBSUWG	"	15,500	300	11 39					W8BWF	376,740	499	79 194								
UBSOFE	"	1,288	49	6 17					W8YEE	301,300	448	84 178								
<b>OCEANIA</b>																				
<b>AUSTRALIA</b>																				
VK5MF	A	347,126	704	65 104					VP2E	3,332,420	3467	96 268	ROMANIA	53,055	307	39 96				
VK6NE	"	160,608	331	59 109					W4SS/CDA	1,605,032	2909	77 176								
VK2AOI	"	46,956	200	34 50					W4SS/CDA	2,755,662	2721	96 247								
VK2VCU	"	24,566	120	30 41					W4SS/CDA	1,038,016	1982	94 237								
VK6FS	"	11,834	66	18 43					W4SS/CDA	2,124,105	3279	77 180								
VK6RG	"	6,318	63	16 23					W4SS/CDA	56,050	433	25 34								
VK1LF	"	1,078	19	11 11					W4SS/CDA	3,273,410	2934	125 338								
VK4OK	28	859,011	2238	34 95					W4SS/CDA	1,966,602	2010	107 252								
VK2VAA	"	108,066	449	29 54					W4SS/CDA	1,945,820	2744	97 198								
VK5NLC	"	1,144	20	4 18					W4SS/CDA	826,398	1853	52 134								
VK4VU	21	1,079,335	2609	35 104					W4SS/CDA	1,129,436	1486	87 221								
VK2AXM	"	49,560	395	13 29					W4SS/CDA	2,482,164	3364	183 223								
VK3SM	"	28,420	140	24 46					W4SS/CDA	9,156	218	29 13								
VK50U	14	115,955	362	33 80					W4SS/CDA	972,840	1561	90 178								
VK4XJ	"	10,584	70	22 34					W4SS/CDA	482,870	838	80 138								
VK5BW	7	4,920	86	10 10					W4SS/CDA	2,994,176	1376	123 359								
<b>GUAM</b>																				
KG6JQ	A	1,964,505	2186	19 186					W4SS/CDA	2,755,662	2721	96 247	SWEDEN	2,632,448	2434	120 332				
AH2E	"	1,231,752	2047	86 118					W4SS/CDA	1,038,016	1982	94 237								
KG6JKS	28	440,943	1441	34 69					W4SS/CDA	2,124,105	3279	77 180	YUGOSLAVIA	4,256,460	3479	121 347				
<b>HAWAII</b>																				
KH6ZF	21	351,265	1216	27 71					W4SS/CDA	56,050	433	25 32	ESTONIA	2,288,433	2215	103 310				
KH6HGL	14	5,335	40	22 33					W4SS/CDA	3,273,410	2934	119 211								
KH6CC	1.8	2,975	63	9 8					W4SS/CDA	1,730,278	2811	97 243								
<b>INDONESIA</b>																				
YC1BZ	21	90,156	685	18 26					W4SS/CDA	2,755,662	2721	96 247	EUROPE	1,263,942	1637	109 278				
YB2ADI	14	660,960	1411	39 121					W4SS/CDA	1,038,016	1982	94 237	BYELORUSSIA	1,263,942	1637	109 278				
<b>MARSHALL ISLANDS</b>																				
KX1PP	A	1,633,620	2492	90 138					W4SS/CDA	5,620,200	4552	130 363	EUROPEAN RUSSIA	5,175,102	3589	146 433				
KX6PP	14	231,858	791	31 69					W4SS/CDA	1,127,611	1411	90 217								
<b>NEW ZEALAND</b>																				
ZL1AZY	14	640,134	1371	39 120					W4SS/CDA	1,000,620	1452	81 246	EM6A	8,120,574	5497	136 431				
ZL4BQ	"	482,300	1277	36 94					W4SS/CDA	1,129,107	1975	84 177	UK4WAR							

UKRAINE	N3LR	1,508,661 1190 114 327	NORWAY	WA4FHO	" 89,262 200 44 118	KA2CGV, K3HWT, K6FM, LA4TG, N4CCJ, OH1XX, OH2BAG,
UK5IAZ	4,066,551 3272 131 382	W3KWH	1,436,456 1312 129 323	OK1DKS	" 83,937 305 44 103	OH2BFJ, OH2BLD, OH2BS, OH2XA, OH3UJ, OH6GQ, OH6JD,
UK5IBB	2,241,555 2304 112 323	K5MEP	1,196,556 1232 111 237	N0AJZ	" 77,220 215 38 94	OH2BJ, OH2BLD, OH2BS, OH2XA, OH3UJ, OH6GQ, OH6JD,
UK5GBE	877,652 1261 80 313	K8GL	1,058,400 957 108 292	WB8HCV	" 53,436 184 46 76	OH2BJ, OH2BLD, OH2BS, OH2XA, OH3UJ, OH6GQ, OH6JD,
UK5ECN	345,154 629 61 163	W2QZ/7	383,040 493 95 185	SP3KEY	" 260,236 355 91 265	OH2PR/IOH, OK1AYD,
UK5VBE	331,279 777 66 155			K1BH	" 44,965 196 41 104	OK1DDSP, OK1JBL, OK2BJR,
UK5MBO	323,154 897 67 167			W6VYK	" 61,004 162 42 109	OK2BJU, OK2BNK, OK2BSQ,
UK5FBA	277,800 624 62 138	KL7D	10,928,280 8814 141 346	G3MMP	" 25,432 128 59 29	OK2KPS, OK3CFP, OK3EQ,
UK5MCQ	159,477 639 44 133	KL7IR	10,033,212 9316 124 310	PA5COR	" 15,789 115 24 33	P72AW, RA3YCR, RB5ADF,
UK5MDI	153,636 504 48 129			OE1BSA	" 12,788 139 25 67	SP1DTG, SP2KJH, SP3AGE,
UK5CA	105,264 476 37 99			UA8AKT	" 8,216 108 14 38	SP3BIP, SP3EKY, SP4GHT,
UK5FAA	73,248 434 27 85	VP1RX	1,810,669 3236 78 181	N6PE	" 7,250 64 25 25	SP5CFD, SP5GMM, SP6PCL,
UK5MAG	57,281 183 56 117			DM2DTG	" 3,479 62 11 38	SP9SDH, SP9-3354, UA3ABP,
OCEANIA				WA8WLO	" 2,394 26 14 24	UA3DAK, UA3DDC, UA3DG,
HAWAII				WA2KR	" 1,161 23 13 14	UA3DHR, UA3DID, UA3DL,
KH6N	1,825,752 2467 100 154			VE1AUT	" 87,584 315 22 70	UA3DLD, UA3DOC, UA3EAL,
NEW ZEALAND				K1CGJ	" 84,590 285 28 82	UA3IDT, UA3QJC, UA3TCI,
ZL2AH	1,715,668 2527 79 150	XE2MX	4,195,554 4936 111 252	VE5JQ	" 40,356 315 18 41	UA3XAW, UA4AGN, UA4CCB,
MULTI-OPERATOR				UB5MLP	" 30,504 284 15 47	UA4FCI, UA4FCZ, UA4HFG,
MULTI-TRANSMITTER				K2QDA	" 29,309 131 21 58	UA4HFR, UA4LBN, UA4YAC,
NORTH AMERICA				PABDUO	" 18,200 117 16 40	UA6HFT, UA6LXZ, UA9SDB,
UNITED STATES				UA6UOB	" 17,984 156 16 48	UA9TS, UA9UF, UA9ACM,
N2AA	13,299,750 5079 176 595	4X6A	11,365,540 7068 141 424	N6OR	" 13,988 100 20 32	UA9UD, UA9SFN, UA9SGJ,
KBLX	7,508,970 4378 150 458			WB2IPX	" 6,321 55 14 29	UB5AAF, UB5ABJ,
W2YV	7,405,846 4104 151 478			WD5CMB	" 3,915 52 7 22	UB5HBT, UB5HDM, UB5UAL,
K9RF	6,290,136 3908 157 414	JATYRR	5,717,354 4217 145 321	K1L0M	" 2,772 45 11 22	UB5UCH, UB5VEO, UI8LAK,
W3MM	6,229,350 3354 155 499	JA3YKC	5,242,560 3526 153 355	K45N	" 2,112 40 10 14	UK1OAP, UK1TAR, UK3DAH,
K2UA	6,002,866 3274 152 495	JAY2XY	4,081,345 3069 151 312	K2SWZ	" 1,000 20 6 14	UK3RAD, UK3ECV, UK5FAB,
W3PL	5,584,150 3076 156 494	JA2YXP	3,592,908 3125 119 277	UA3PAZ	" 132,250 717 32 83	UK5OC1, UK5VAA, UK6AJS,
W6RDF	4,882,944 3157 148 413	JA2YEF	2,251,200 2207 116 234	CP1AA	" 139,606 352 54 112	UK6HBK, UK6LTG, UK9AD,
K3WW	4,813,900 2744 153 491	JH1YDT	2,103,114 2062 116 238	ZZ5EG	" 7,447,971 5286 131 348	UL7DBA, UM8MAU, UP2BEL,
N3RD	3,947,284 2458 137 429	JA4ZU	422,920 721 76 142	CE2AA	" 1,539,402 1651 98 224	UP2BV, UQ2GDQ, UQ2MU,
K8UK	3,396,568 2239 150 374	JA2YDC	336,281 562 75 134	TRINIDAD	" 9Y4FRC	UV3GZ, UW3EQ, UW3EZ,
W3RJ	3,271,744 2135 131 405	JA8YAK	311,980 579 73 117	UB5KBF	" 30,800 259 21 59	WU8CF, VE1AI, VC3IZH, VE7AJ,
K1VR	3,030,511 2315 115 358			UA3JD	" 7,290 98 13 32	VE7DEW, VE7KB, W2HAZ,
K1TX	2,888,230 1968 123 396			K2RF	" 7,008 58 14 34	W3CV, W4KOQ, W4UG, W6ZUM,
N7R0	2,680,534 2172 128 311	GERMANY (FRG)	10,566,654 7365 140 426	DM2CRO	" 4,485 117 6 33	WA3INA, WB2MCB, WB4BBH,
W2RR	2,607,980 1788 135 391	DL0PG	4,525,824 3885 136 362	TA1MD	" 1,078 29 7 15	WB6GH, WD4FJP, WD8DKU5,
N6SV	2,530,077 1865 138 335			OK1OKW/P 3.8	" 4,125 129 4 29	Y03JX, Y04WU, Y05NU,
N3EG	2,517,840 1595 143 442	ITU GENEVA		DM2FRM	" 132 11 2 10	Y08KAN, Y09HP, YU3TRI,
AA4S	1,767,759 1481 121 336	4U1ITU	2,931,594 3561 84 275	UA2FCW	" 1,518 66 5 17	YU7NZR, YO7ORS, 4M6ARV.
N3AW	1,749,627 1295 121 352			UA3AGL	" 1,403 50 5 18	
				UQ2PM	" 495 34 3 12	

Disqualifications: N7UU  
(Unverifiable QSO's);  
UW9AF (Excessive  
Duplicates, Unverifiable  
QSO's).

## Dual filtering comes of age.

**Kantronics' state-of-the-art Signal Enforcer® introduces quality and versatility to variable-frequency/variable-bandwidth dual filtering.**

At last, you can have the ultimate operating edge with a tunable, dual filter that looks as good inside as it does outside and operates with the precision only quality engineering can offer.

The Kantronics Signal Enforcer takes a one-two approach to knocking out interference to CW, RTTY, SSB, ASCII and AM audio signals. Because it is made up of two, totally independent filters, the Signal Enforcer can be used to maximize one signal (peaking) while it minimizes an interfering one (notching). It can also peak two frequencies at once or notch two frequencies at once. The filters can even be teamed to offer a super-notch or super-peak single filter. The operator chooses not only the frequencies he wants to filter but the bandwidth as well.

Two "tuning eyes" on the Signal Enforcer front panel make accurate location of signals possible even during crowded band conditions. The Signal Enforcer's internal power supply is switchable for 230 VAC or 115 VAC or will accept 12 to 18 VDC.

The boards, components, engineering design and craftsmanship of the Signal Enforcer are all first-rate. Glass/epoxy boards, wave-dip soldering and precision components are standard equipment. Kantronics is so confident of the Signal Enforcer, it backs up each unit with a full-year warranty.



**Specifications** Bandwidth continuously variable from less than 30 Hz to over 1000 Hz. Once set, bandwidth remains constant regardless of frequency changes. Frequency Range from less than 150 Hz to over 3000 Hz. Power Requirements 115 VAC or 230 VAC at 50 to 60 Hz or external 12-18 VDC source. Inputs signal input, external DC input. Outputs external speaker, external headphones, demodulator output. Size 2 1/4" by 8" by 6".

For the same variable-frequency/variable-bandwidth versatility in a single filter, order the new Kantronics Varifilter. **Signal Enforcer Price:** \$189.95. **Varifilter Price:** \$139.95. Add \$3.00 shipping/handling for either model and allow three weeks delivery from factory.

**Kantronics**  
(913) 842-7745

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