# Results, 1994 ARRL 10-Meter Contest 

# You can learn more about propagation from one intensive effort in the 10-Meter Contest than from a lifetime of reading books.-Walt, AC1O/4 

By Billy Lunt, KR1R and Warren C. Stankiewicz, NF1J Contest Manager

Are the bands starting to bounce back? Apparently not. This year's contest saw a return of what we had last year-rotten conditions, little DX and contesters everywhere banging their heads against the table in frustration. There just aren't enough sunspots to go around these days, and until the sun comes up with some, we're all going to suffer.

This time of the sunspot cycle, there's only one thing to do in this contest-beam south of the border. This is a great time to work all those South American stations (and maybe even polish your high school Spanish!). LU stations most of us never dreamed

existed suddenly show up ready, able and eager to be worked. Did you know there's an Argentinian Novice phone subband on 10 meters? Were you to tune up between 28.900 to 29.100 MHz , you'd probably find the band chock-full of low-power phone stations you could work pretty easily. If your Spanish isn't up-to-date (or if it's nonexistent), the League's publication Hola $C Q$ is a good place to get started when building up your Spanish QSO repertoire.

Okay. So it wasn't the greatest 10 -Meter Contest of all time. The top scores were roughly half as much as they were last year. Just because you couldn't work DXCC with 4 W to a wet piece of string in your basement doesn't mean those who did get on just sat-

Phil, AA5FJ,
reports, "Lots of rain on Saturday and few openings on Sunday kept my score down, but it was a lot of fun anyway."
bored-around their radios. There was plenty of contesting action to go around. No matter where you were or what class you entered, a decent competitive effort probably would have won you a certificate-almost $50 \%$ of everyone who entered this year's contest won an award. You can't beat that! Check your mailbox-maybe yours is there.

For those who were patient or diligent enough to look for it, we had E skip, backscatter, meteor scatter and all kinds of "lesser enhancements" that, put together, almost made up for the lack of those big openings we've come to love and adore. Everyone we heard from had a good time. Gary, W9XT, even was able to work a few Europeans from Wisconsin. Antonio, CT1DVV, operating CT8T, worked French Polynesia at 1639Z during the US opening-that's not shabby DX for this part of the solar cycle.


Ray, ZP6XR, spent a lot of time watching TV while waiting for the band to open.

| Top 10, W/VE |  |  |  |
| :---: | :---: | :---: | :---: |
| Mixed Mode, QRP |  | Phone Only, High Power |  |
| AA2U | 238,212 |  |  |
| K6JCV | 121,856 | KC2X | 329,460 |
| AA6KX | 48,060 | K1IU | 288,508 |
| KA4RRU | 37,400 | K4VUD | 280,608 |
| K5ED | 28,620 | NY1E | 276,450 |
| K7FR | 21,840 | KS3F | 231,168 |
| WA6FGV | 20,678 | VG1YX | 218,892 |
| WF4U | 18,360 | N8RA | 184,106 |
| N9NE | 16,598 | N2EOC | 183,098 |
| K7YHA | 15,088 | NR5M | 168,168 |
|  |  | K5XI (KE5 | 149,732 |
| Mixed Mode, Low Power |  | CW Only, QRP |  |
| W3EP | 279,992 | WO2N | 38,880 |
| WA6KUI | 249,528 | WT3W | 34,404 |
| WAØQOA | 243,832 | W4DEC | 29,792 |
| K2YY | 162,162 | N8AP | 28,620 |
| K4ZGB | 146,880 | N4ROA | 22,984 |
| N7LOX | 138,936 | KA1O | 18,480 |
| K1HMO | 134,400 | K2SM | 16,940 |
| N6NF | 123,696 | WM4U | 16,520 |
| K4BAI | 108,800 | K8LJQ | 15,232 |
| W3UJ | 106,944 | NM1K | 11,336 |
| Mixed Mode, High Power |  | CW Only, Low Power |  |
|  |  | AC1O/4 | 205,500 |
| N4ZC (WZ3Q,op) |  | K3MQH | 128,928 |
|  | 635,056 | KMOQ | 121,472 |
| AC4NJ (WC4E | op) | N4MO | 112,060 |
|  | 609,132 | KR4DL | 106,020 |
| W5WMU | 533,600 | W5HUQ | 97,732 |
| K3ZO | 447,016 | AA8AV | 76,792 |
| W1FEA | 305,900 | WS1E | 76,096 |
| WS1M | 268,320 | KN4Y | 73,800 |
| K6LL | 242,148 | NW6S | 71,940 |
| W9XT | 201,600 | CW Only, High Power |  |
| K5ZD | 200,124 |  |  |
| KD21 | 197,400 | N2AA | 203,904 |
| Phone Only, QRP |  | N4BP | 190,092 |
|  |  | VE9ST | 189,696 |
| KA3JSO WE2H | $\begin{array}{r} 18,032 \\ 9,636 \end{array}$ | W3GH N8SR | 179,256 119,040 |
| N8LMT | 8,500 | KB4GID | 117,760 |
| W6CN | 7,616 | WD4AHZ | 106,560 |
| KB1AWI/T | 6,156 | KB9S | 105,728 |
| AB4KL | 4,680 | N6YK/7 | 93,032 |
| WBøIWG/T | 2,040 | WM4Z | 93,024 |
| K06KA | 1,224 |  |  |
| N3PFF | 1,044 | Multioperator |  |
| N8ZR/Ø | 840 | WS4F | 549,672 |
| Phone Only, Low Power |  | VE3XO | 429,746 |
|  |  | KA2DRH <br> AA1JD | $\begin{aligned} & 427,056 \\ & 416.264 \end{aligned}$ |
| KC3PZ | 125,664 | AA8U | 407,430 |
| KD4HXT/T | 107,040 | WØAIH | 401,920 |
| WB2BZR/3/T | 96,348 | N5OLS | 343,976 |
| N8TLZ | 79,212 | NCOP | 343,720 |
| AA5FJ | 69,960 | WA2JQK | 339,456 |
| WA4ZXA | 65,514 | W9OEH | 330,132 |
| N3ADL | 55,572 |  | -330,132 |
| AD4TG | 54,480 |  |  |
| N5OKR | 50,400 |  |  |
| KG7IZ | 49,610 |  |  |

If you talk to many of this year's participants, you'll find a common phrase: interesting. Whether it was Todd, WDØT, working the E and F openings to the East Coast on Saturday morning, or Don, VE6JY, working a few African stations, virtually everyone found something this year that piqued their interest. Not to mention all those "sunspot cycle junkies" addicted to this contest, if only to keep track of what happens next.

Novices or Technicians with 10 -meter privileges had a field day working stations in this contest. Are you tired of tuning from 28.300 to 28.500 MHz and hearing nothing but hiss? When the $10-$ Meter Contest hits, you should find lots of people to work who you've never heard before-from new states to new countries. Everyone has to start somewhere! More than 70 Novices and Technicians took our advice this year, and their results were impressive. Two of the top three finishers in the Phone-Only, Low-Power category were Technicians. Dan, KD4HXT, made 892 QSOs with just 100 W and a tribander. Great effort!

So don't let another 10-Meter Contest pass
you by. It may not be an easy weekend, but we think you'll find it rewarding. Besides, who knows what propagation we'll have offered to us? This year's contest will be December 9 and 10 , so don't miss out!

## Backscatter

The propagation was interesting, given this time of the sunspot cycle. The Northeast had F-layer propagation to all continents except Asia, and many hours of sporadic E on Saturday and Sunday (W3EP). Although I haven't operated in a contest since 1968 , I still find them as addictive as they were back then. I just wish my apartment was rotatable and the dipole in my bedroom was always in that optimum position (W1DYJ). Two days before the contest I put the finishing touches on the tower and antenna, and completed them that evening in the dark! At 2350 Z I was still wiring antennas, rotators and the phase-matching network into the shack, and I didn't fire up the amp until 0030 Z . Isn't this the way it's supposed to be? Thank goodness everything played right the first time (KD1NG). What a fun contest! I look forward to this operating event each year. Saturday night brought outstanding conditions, even well after sunset. The contest was exciting and loads of fun (N1QME). This was my first attempt at working QRP. I operated for approximately eight hours and there was a great deal of activity (KD2IX). This year's contest marks the second full sunspot cycle in which I've been active. The sporadic E made for interesting openings from here to the Maritime provinces of Nova Scotia and New Brunswick, and I worked down into Virginia and west into Ohio (WB2AMU). Murphy entered the picture; I had a couple of leaky power lines in the neighborhood and an S5 noise level periodically for the balance of the contest. My biggest thrill was having the 5 W call me (N5OKR). I enjoyed the contest; it was a lot of fun trying to dig out the contacts, and surprising when they came back to you (KC4YM). Ten meters was unpredictable this year. There were times African stations would be booming in, then South America, New England, followed by California and Hawaii. Then the cycle would start all over again, with a few north central stations thrown in (W9CNF). Murphy struck me twice. The first mishap occurred when conditions toppled downward, then, to add insult to injury, my rotator gave up the ghost and quit. The only good thing that happened was that the beam stuck in a northerly direction and, despite the appearance of Murphy, we did well and had a lot of fun (WD4AHZ). This was my first contest and I found it a great experience. I'll certainly be back for next year's contest (KE4PUC/T). I was surprised by the variety of brief openings. It helped to hone my contesting skills and techniques. This was the most exciting contest I've been in on the past three years (KD4IBI/T). I enjoyed my first contest. My dad, WD4KXB, piqued my interest and the bug has bitten. It was a fun experience (KC4SZT). I'm 14 years old and have only been a ham for a short time. It was fun to contact Brazil and Canada because these were my first contacts outside the US (KE6GDA). I worked every possible mode of communication, from backscatter to meteor! We had great openings to Ohio, Florida and Maryland (W1FEA). The sunspot cycle made it fun to watch signals because every conceivable mode of propagation came and went. This was a real study in propagation characteristics of the 10 -meter band (AA7BG). There were good E openings to the eastern areas and then short openings to Canada, the Dakotas and Wyoming. These were the highlights of my contest weekend. It made for a diversity of propagation (N9AG). Propagation conditions were on the low side, but I enjoyed working the backscatter at night. This was what made the contest a lot of fun (WA8RCN). There was a nice band opening on Saturday morning, but it was just a juicy little tidbit to whet my appetite for the next contest (K90SH). There were good $\mathrm{E}_{\mathrm{s}}$ openings on Saturday morning. Sunday was down a little, with the high point being able to work a few European stations. This made my whole weekend worthwhile (W9XT). It was fun to fire up the old rig for a change. I usually enter mixed mode, but

inadvertently left my mike at college. I found out that CW was interesting and a lot of fun (NEØP). This contest was a lot of fun, even for one who's just eight years old, and I enjoyed working many US stations and a few foreign ones. This gives me a chance to practice my operating and contest skills, and maybe I will become one of the topnotch contesters in the future (KBØNLC). We were able to work many QSOs in one three-hour period Saturday morning, this made for an interesting time (KRØB). Murphy has his way of making contesting interesting-my power amplifier died on Sunday morning, but I was able to put the old home-brew amp in line at about half the power. It didn't make any difference in completing QSOs (KMØL). This was a great contest. The band really was great on Saturday morning with excellent $E_{s}$ and F -layer openings to the East Coast, which made the contest interesting. The exciting part was working the meteor and backscatter for most of the Stateside contacts. It was great to have K1LL to QSO with during the slow periods (WDØT). I was surprised to hear and work EL2PP, specially at this low end of the sunspot cycle, it certainly made my day (VE6JY). My time was limited to about $2 \frac{1}{2}$ hours, but it was enjoyable to just participate in the contest (VE6BF). It seems that the best-laid plans seem to go astray, because my logging program didn't arrive until after the contest, and it was a

Region Leaders

challenge and fun putting all the contacts in later. Try to read your writing after a few days away from it. The band only opened for short periods of time, but I enjoyed them anyway (VE7NF). I was only able to operate about 19 hours and propagation was poorer than usual, but I persevered and made a few contacts, and still enjoyed it ( 5 Z 4 FO ) We had interesting propagation, and I could hear the Europeans and Africans working lots of US stations. Propagation was on the low side from the Canary Islands. There were strange beam headings for contacts (north and south). This made for interesting contacts (EA1AK/EA8). It certainly was a humbling experience operating the contest during this low end of the sunspot cycle, but it was still enjoyable (7Z5OO). It was a trying experi ence from this part of the world, but I made a few contacts running QRP (TA2ZO). Propagation to the north and south was good and there were openings to the US. I heard South American stations. It was an interesting contest (JA2OJ). Propa gation here for me was strictly to Oceania, but it was still a pleasant experience (JA1RAT). It was a pleasant surprise last year to win my category and it feels good to win something. Propagation wasn' the best this year. I enjoyed the contest and will be back stronger than ever in the next one (CTIEAT) My biggest thrill was working FO5OK at 1639 Z during the opening to the US (CT8T). This was my first 10-Meter Contest and it was a lot of fun (EA4AHW). I enjoy the 10-Meter Contest because it's possible to have fun with a small antenna system (F6KBI ). Ten meters wasn't dead, but only a few paths, like Europe to Africa or South America were open. There was a surprising $30^{\circ}$ opening with the East Coast of the US. I made a few Asian contacts, but no JAs nor VKs were heard. Ten meters is still interesting, surprising and a good platform to improve a contester's skills. It's a surprise what you can do with low power and good antennas (I4MFA). I worked a lot of backscatte over Europe. There were good, but short opening to the US (I4UFH). Now I know what VHF con testing feels like. It was exciting (OS6TT). It was easier to work South Africa and South America

## Contesting from Uruguay-Always an Adventure

Everyone always seems to have a good contesting story. This time we highlight the CWØA crew and its tales from the 10-Meter Contest Crypt, as told by Pedro, CX5BW:
"We used a W9GR DSP kit I built from QST (see September 1992 QST, page 43). It performed well with the weak and noisy signals I heard on the band. The rest of our station consists of Yaesu FT-757 and FT-990 transceivers; a homebrew four-tube 4CX250B power amplifier, and a KLM KT-34XA antenna.
"We weren't as lucky as we were in years past. The most important thing, though, is to be in the competition, even if we found making a high score difficult.
"The band was only open about 20 hours and the openings were poor indeed. The lack of JAs really cut our score. As you know, when the band is absolutely closed for the Northern Hemisphere, we can continue working them here, making QSOs at a low rate. The signals are weak, but sometimes the effect allows us to be the winners. This year we could hear but a small quantity of them.
"We also had blackouts, three overall, with the one Saturday afternoon the worst. We had to operate for about two hours on battery, with reduced output on our rig. We had to use the car battery out of Geo, CX8BBH's car. We promised him we'd push his car home if the battery died while we were using it!"

than to work Europe (PA3GHP). This was my 15th 10-Meter Contest and I get just as excited with this contest as I did in my first one (YU7SF). The conditions were rather bleak, but enjoyable. I had to operate between being a chaperone on a high school campout, and with an S9 static level and winds 30 to 45 miles per hour, it made operating precarious. I had fun, anyway. (NH6YK/T). The conditions, as expected, were interesting! NorthSouth path was sort of okay, but anything from east or west was peculiar and patchy. Great way to learn about the peculiarities of this band in low sunspot cycles. A reasonable number of VKs active for those who bothered to look into the South Pacific (VK5GN). I express my deepest thanks for the contest and found it exciting and interesting (LU7EE).

## Scores

Scores are listed by DXCC Countries and ARRLIRAC Sections. Line scores list call sign, score, QSOs, multipliers, class ( $A=$ Mixed Mode, B = Phone only, $C=C W$ only, $D=$ Multioperator), and power (A = QRP, B = Low Power, C = High Power). Division Leaders are listed in boldface.

| Africa |  |  |  |
| :---: | :---: | :---: | :---: |
| Mauritania |  |  |  |
| 5T5JC | 260,000 | 628 | 130 AB |
| Kenya |  |  |  |
| 5Z4FO | 4,464 | 53 | 31 A B |
| Zambia |  |  |  |
| 9J2FR | 141,732 | 762 | 93 BC |
| Angola |  |  |  |
| D2EGH | 81,144 | 588 | 69 B C |
| Canary Islands |  |  |  |
| EA1AK/EA8 | 73,568 | 266 | 88 A B |
| EA8BXQ | 4,740 | 79 | 30 B B |
| EABAHH | 420 | 21 | 10 BC |
| South Africa |  |  |  |
| ZS6RI | 132,924 | 506 | 106 A C |
| ZS9UF (ZS6YA,op) |  |  |  |
|  | 84,000 | 560 | 75 B B |
| ZS6HO | 5,832 | 108 | 27 B C |
| ZS1AFX | 64,960 | 232 | 70 CB |
| Asia |  |  |  |
| Israel |  |  |  |
| 4X1VF | 700 | 25 | 7 CB |
| Kuwait |  |  |  |
| 9K2YY | 5,616 | 108 | 26 B C |
| Qatar |  |  |  |
| A71CW (SP5EXA,op) |  |  |  |
|  | 2,142 | 41 | 17 A C |
| Saudi Arabia |  |  |  |
| 72500 (K3UOC,op) |  |  |  |
|  | 8,844 | 76 | 33 A C |
| Japan |  |  |  |
| JR4GPA | 1,920 | 40 | 16 A A |
| JE7DOT | 110 | 9 | 5 A A |
| JH4UTP/1 | 12,558 | 181 | 23 A B |
| JF®SGW | 3,920 | 59 | 20 A B |
| JA4ETH | 3,432 | 33 | 11 AB |
| JA1BUI | 3,384 | 70 | 18 A B |
| JK2VOC | 3,336 | 95 | 12 AB |


| JA2OJ | 1,472 | 30 | 16 A B | JAØYAK (JF1USQ,JK2PVL, JEQETP,ops) |  |  |  | EA1XU | 1,280 | 40 | 16 B B | Switzerland |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JF3LGC | 540 | 20 | 9 AB |  |  |  |  | EA3FEJ | 380 | 19 | 10 BB |  |  |  |  |
| JL1MWI | 540 | 32 | 6 A B |  |  |  |  | EA7FLA | 300 | 15 | 10 BB | HB9FAP HB9DX | 6,552 704 | 64 16 | $\begin{aligned} & 36 \text { A B } \\ & 11 \text { C C } \end{aligned}$ |
| 7J1ABD | 462 | 19 | 7 AB | urkey |  |  |  | EA7BA | 22,428 | 178 | 63 B C | HB9DX |  |  |  |
| JA1AAT | 264 | 14 | 6 A B | TA2ZO | 30 | 3 | 3 A A | EA3AFR | 11,070 | 123 | 45 B C | Italy |  |  |  |
| JA4AQR/3 | 256 | 13 | 6 A B |  |  |  |  | EA3AAY | 8,272 | 94 | 44 B C | I4MFA |  |  |  |
| JA1JNR | 228 | 11 | 6 A B | Uzbekis |  |  |  | EA5RC | 2,100 | 42 | 25 B C | IVMFA | 1,440 3,400 | 68 | 16 AA |
| JA9XAT | 204 | 10 | 6 A B | UK8FF | 48 | 4 | 3 CB | EA1AKP | 1,056 | 33 | 16 B C | IN3ASW | 2,640 | 55 | 25 B C |
| JF3NLQ | 12,282 | 190 | 23 A C | Asiatic Russia |  |  |  | EA3BOX | 1,020 | 30 | 17 B C | IK5TSS | 2,64 | 3 | 24 BC 3 CA |
| JA5FDJ | 3,382 | 51 | 19 A C |  |  |  |  | EA1YO | 624 | 26 | 12 BC | I4UFH (+12VXJ,14s JMY, YSS,IK4IEE) |  |  |  |
| JA1WYQ | 1,638 | 35 | 13 AC | UAøSJ | 84 | 14 | 3 BA | EA3AJW | 468 | 13 | 9 C B |  |  |  |  |
| JEØEHE | 408 | 34 | 6 A C | Hong Kong |  |  |  | EA2IA | 20,868 | 111 | 47 C C | II2T (+ops) 28,320 183 59 D <br> IK5EEE (+IK5s MEQ,VLQ,VZC, WWB)    |  |  |  |
| JA1AB | 162 | 14 | 3 AC |  |  |  |  | EA7DPU 4,000 $40 \quad 25$ C C |  |  |  |  |  |  |  |
| JF3EIU | 1,914 | 87 | 11 BA | vS6BG | 10,112 | 158 | 16 CC | EA3CWK ( |  |  |  |  | 1,330 | , 35 | 19 D |
| JA70WD | 5,434 | 143 | 19 B B | India |  |  |  |  | 50,244 | 204 | 79 D |  | 1,330 | 35 | 19 D |
| JH2MYN | 2,652 | 102 | 13 B B |  |  |  |  | Balearic Islands |  |  |  | Luxembourg |  |  |  |
| JH1UUT | 864 300 | 48 25 | 9 9 B B | VU2PTT | 3,888 | 42 | 27 A B | EA6PZ | ds | 7 | 5 B C | LX1KC | 7,250 | 125 | 29 B C |
| JH2WHS | 182 | 13 | 7 B B | Europe |  |  |  | France |  |  |  | Bulgaria |  |  |  |
| JH1TYU | 132 | 11 | 6 BB |  |  |  |  | LZ2FM | 40 | 5 | 4 BB |  |  |  |  |
| JL6ATQ | 126 | 9 | 7 BB | Portugal |  |  |  |  |  |  |  | F5SNV | 8,640 | 98 | 32 AB | Finland |  |  |  |
| JH1RMH | 112 | 14 | 4 BB | CT1EATCT1EPC |  |  |  | F5PRH | 4,092 | 56 | 22 AB |  |  |  |  |  |  |  |  |
| JR7LVK | 70 | 7 | 5 B B |  | 2,852 | 62 | 23 B B | F6DZD | 1,196 | 26 | 13 A B | OH7LNI | $\begin{array}{r} 324 \\ 2 \end{array}$ | 27 | $\begin{aligned} & 6 \text { B C } \\ & 1 \text { B C } \end{aligned}$ |  |  |  |  |
| JR1MRG | 50 | 5 | 5 B B |  | 2,184 | 52 | 21 B B | FB10MN | 196 | 10 | 7 AC |  |  |  |  |  |  |  |  |
| JQ1BNL | 2,160 | 90 | 12 BC | CT1EDA <br> CT8T (CT1DVV. op) |  | 4 | 4 B B | F2RO | 448 | 16 | 14 BB |  |  |  |  |  |  |  |  |
| JA2GHP | 432 | 24 | 9 BC |  |  |  |  | F5JBF | 228 | 19 | 6 B B | Czech Republic |  |  |  |  |  |  |  |
| JA6UBK | 800 | 25 | 8 C A |  | 35,502 | 291 | 61 B C | F6KBI | 16,482 | 201 | 41 B C |  |  |  |  |  |  |  |  |
| JE1PMQ | 180 | 9 | 5 CA | Federal Rep of Germany |  |  |  | F5PCX | 2,268 | 54 | 21 B C | OK1TW | 2,128 | 28 | 11 BA 19 CC |  |  |  |  |
| JA6YBR | 4,200 | 75 | 14 CB |  |  |  |  | F5TDK | 2,196 | 61 | 18 B C | OK1TY | 2,128 |  |  |  |  |  |  |
| JF3IUC | 3,240 | 81 | 10 CB | DLIDQY | 324 | 36 | 9 AA | F5HWB | 418 | 19 | 11 B C | Belgium |  |  |  |  |  |  |  |
| JA3ARM | 2,160 | 54 | 10 C B | DL3HRA | 1,116 | 41 | 19 AB | F8WE | 304 | 19 | 8 B C |  |  |  |  |  |  |  |  |
| JJ6TWQ | 1,520 | 38 | 10 C B | DLIDWT | 90 | 5 | 5 A B | F5DE/P | 41,440 | 185 | 56 C C | ON5EU | ${ }^{90}$ | 11 | 3 A A |  |  |  |  |
| JA3EEM | 868 | 31 | 7 C B | DL5JAA/P | 3,424 | 82 | 16 AC | F6EQV | 2,560 | 40 | 16 C C | OS6TT | 18,144 4 | 252 | 36 BC |  |  |  |  |
| 7K1EQC | 480 | 20 | 6 C B | DL8MEJ | 1,470 | 49 | 15 B B | F6KLO (F5s HAS,NBX,F6CQU ops) |  |  |  | OS4WW (ON4WW,op) |  |  |  |  |  |  |  |
| JH3AIU | 264 | 11 | 6 CB | DK5VO | 480 | 20 | 12 BB |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| JO1WIZ | 180 | 9 | 5 C B | DJ®BX | 2 | 1 | 1 BB | TM6P (F1HAR,F5HRY,F6s EPY, |  |  |  |  | 41,808 | 268 | 39 CC |  |  |  |  |
| JJ1LRD | 100 | 5 | 5 C B | DL8PC | 3,404 | 74 | 23 B C | HPP,ops | 22,090 | 184 | 47 D | Denmark |  |  |  |  |  |  |  |
| JE2WEN | 3,080 | 70 | 11 CC | DJ5GG | 2,048 | 32 | 16 CB | F5LBL (+N | 10,800 | 150 | 36 D |  |  |  |  |  |  |  |  |
| JA5APU | 1,152 | 36 | 8 C C | DF5WN | 264 | 11 | 6 C B | TM5M (FA1MXI,F5s MYH,MXH, <br> RWA,ops) 6,150 85 |  |  |  | $\begin{aligned} & \text { OZ5EV } \\ & \text { OZ1BMA } \end{aligned}$ | 1,280 | 40 | 10 CB |  |  |  |  |
| JL2LPX | 704 | 22 | 8 CC | DK3KD | 3,724 | 49 | 19 CC |  |  |  | 25 D |  | 720 | 18 |  |  |  |  |  |
| JJ3YBB (JH1ORL,JA3s FHL,LHL,PJL, JE3TXA,JH3s FBS,FQF,JI3ERV, JR7OMD,ops) |  |  |  | Spain |  |  |  | England |  |  |  | Netherlands |  |  |  |  |  |  |  |
|  |  |  |  | EA3ALVEA1DDEA4AHW | 3,640 | 52 | 28 AB | GøAEV GøTDX | $\begin{array}{r} 5,082 \\ 392 \end{array}$ | $\begin{aligned} & 53 \\ & 14 \end{aligned}$ | $\begin{array}{r} 33 \mathrm{AA} \\ 7 \mathrm{CA} \end{array}$ | PA3GHP <br> PA3CNI | $\begin{aligned} & 650 \\ & 320 \end{aligned}$ | $\begin{aligned} & 25 \\ & 10 \end{aligned}$ | $\begin{array}{r} 13 \mathrm{BB} \\ 8 \mathrm{CB} \end{array}$ |  |  |  |  |
|  | 31,280 | 350 | 44 D |  | 2,244 | 66 | 17 AB |  |  |  |  |  |  |  |  |  |  |  |  |
| JE3ZFS (JF | M,JK3H | H, ops) |  |  | 1,064 | 28 | 14 AB | Wales |  |  |  | Slovenia |  |  |  |  |  |  |  |
|  | 6,528 | 133 | 16 D | EA3GIW EA5AEK EA3GHQ | 32 | 8 | 2 BA |  |  |  |  |  |  |  |  |  |  |  |  |
| JA2YEX (JF | , JI2s IR | ,QKJ, | UNR, |  | 13,160 | 140 | 47 BB | GWøARK | 340 |  | 17 |  |  |  |  | 10 BC | S50R S51RW S59L S51DX |  |  |  |
| JJ2s HAW | ,TQO, |  |  |  | 5,904 $\mathbf{2 , 6 4 0}$ | 82 | 36 B B 24 |  |  | $\begin{array}{r} 1,728 \\ 42 \end{array}$ |  | $54$ | $\begin{array}{r} 16 \mathrm{BA} \\ 3 \mathrm{~B} \mathrm{~B} \end{array}$ |  |  |  |  |
| JA2YKA (JG | 2,420 | - 80 | 10 D | EA3AML | 2,640 1,748 1,7 | 45 | 24 19 | Hungary HABVK |  | 7,360 |  | 115 | 3 BB 32 BC |  |  |  |  |
|  | 2,034 | 95 | 9 D | EA5AAJ | 1,722 | 41 | 21 B B |  | 8,624 | 98 | 22 CC | S51DX |  |  |  |  |  |

प5F2


\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline KR \& 8,160 \& 120 \& 34 \& N5OLS (+AA5B \& \& \& \& K17XD \& 12,720 \& 159 \& 40 B \& NABW \& 1,932 \& 46 \& 21 BC \\
\hline \({ }^{\text {N2EGO}}\) \& 5,252 \& 101 \& 26 BB \& \& 343,976 \& 1277 \& 124 D \& KB7UEP \& 7,770 \& 105 \& 37 BB \& KD8FW \& 4,400 \& 50 \& \({ }^{22} \mathrm{CA}\) \\
\hline KC2X \& 329,460 \& 1938 \& 85 B C \& KC5CP (+NET) \& 61,710 \& 267 \& 85 D \& W7WKB \& 3,306 \& 57 \& 29 BB \& NBZAW \& 48 \& 4 \& \({ }^{3} \mathrm{CA}\) \\
\hline W4PZV \& 45,760 \& 440 \& 52 BC \& \& \& \& \& \& \& \& \& KFBTM \& 43,632 \& 201 \& 54 CB \\
\hline WIENZ \& 8,120 \& 116 \& 35 BC \& West Texas \& \& \& \& Idaho \& \& \& \& \& 34,400 \& 215 \& 40 CB \\
\hline AC10/4 \& 205,500 \& 684 \& 75 CB \& K5ED \& 28,620 \& 195 \& 54 A A \& K7NHA \& 4,784 \& 58 \& 23 A B \& WB80R \& 9,720 \& 90 \& 27 CB \\
\hline WA4HOF \& 8,856 \& 76 \& 27 CB \& NZ5M \& 64 \& 5 \& 4 AB \& AB7CZ \& 360 \& 17 \& 9 AB \& WT8P \& 7,560 \& 70 \& 27 CB \\
\hline N4BP \& 190,092 \& 651 \& 73 CC \& \& \& \& \& KA7T \& 38,700 \& 225 \& 43 CB \& W8IDM \& 5,544 \& 63 \& 22 CB \\
\hline WD4AHZ \& 106,560 \& 435 \& 60 CC \& 6 \& \& \& \& \& \& \& \& \& 5,520 \& 60 \& \({ }^{23} \mathrm{CB}\) \\
\hline KR4YL (+KD4s \& CDA,GMD \& , HVC) \& \& 5 \& \& \& \& Montana \& \& \& \& AF8C \& 108 \& 9 \& 3 CB \\
\hline \& 145,266 \& 667 \& 93 D \& East Bay \& \& \& \& N7ML \& 165,416 \& 528 \& 116 A C \& K8SJ \& 14,832 \& 103 \& \({ }^{36} \mathrm{C}\) \\
\hline W4HAW (WB2FK \& \& \& XB,PJ \& WA1HFN \& 848 \& \& \& W7LR \& 15,824 \& 94 \& 56 A C \& W8PN \& 8,320 \& 80 \& \({ }^{26} \mathrm{C}\) C \\
\hline QH,VB1,KE4s \& S CGQ, EM \& RR, IEJ, \& NLW, \& KF6CU \& 616 \& 22 \& 14 BC \& N91T \& 23,520 \& 245 \& 48 BC \& K180 \& 2,112 \& 32 \& 16 Cc \\
\hline NLX, PWE,N4S \& \({ }_{43,112}\) \& 17 \& 68 D \& Hawaii \& \& \& \& \& 44,928 \& 215 \& 52 Cc \& WV8 \& 1,440 \& 24 \& \\
\hline \& \& 1 \& 0. \& whвсонг \& \& \& \& Nevada \& \& \& \& \& 74,108 \& \& 97 D \\
\hline Tennessee \& \& \& \& KHGGMP \& 17,106 \& 81 \& \({ }_{13}{ }^{2} \mathrm{BB}\) B \& W7HO \& 968 \& 23 \& 11 AB \& K8CX (+NE \& \({ }^{61,864}\) \& 260 \& 76 D \\
\hline WAGKU \& 249,528 \& 746 \& 111 AB \& NH6YK/T \& 1,222 \& 47 \& 13 BB \& N7XCZ \& 3,224 \& 62 \& 26 B B \& NO8C (+KB \& JT,PVQ, \& N8s D \& x,ROD) \\
\hline KO4EW \& 76,928 \& 422 \& \({ }^{64} \mathrm{AB}\) \& KG \& 61,714 \& 523 \& 59 BC \& N6YKT \& 93,032 \& 401 \& 58 CC \& \& \& 248 \& 69 D \\
\hline N4USG W4OGG \& 18,228
1,680 \& 140
40 \& \[
\begin{aligned}
\& 42 \mathrm{AB} \\
\& 14 \mathrm{AB}
\end{aligned}
\] \& Los Angeles \& \& \& \& Oregon \& \& \& \& ( + \& \& 311 \& 59 \\
\hline kc5bak \& 19,092 \& 222 \& 43 BB \& WAGGDS \& \& \& \& WD7X \& 77,106 \& 469 \& 71 AB \& W8NP (+KF8U \& \& \& \\
\hline KE4DOC \& 18,408 \& 177 \& 52 BB \& WA7BNM \& 15,522 \& 123 \& \({ }_{39} \mathrm{AB}\) \& KJTCY \& 3,066 \& 63 \& 21 AB \& \& 37,920 \& 215 \& 60 D \\
\hline KD4AYU/ \& 6,336 \& \({ }_{28}^{96}\) \& 33 B B \& K6ZCL \& 656 \& 32 \& 8 AC \& WG7A \& 18.568 \& 109 \& \({ }^{44} \mathrm{~A} \mathrm{C}\) \& KB8TLF (+KAB \& \& \& \\
\hline \({ }_{\text {KC4PDY }}\) \& 784 \& 28 \& 14 BB
52 BC \& KJ6HO \& 38,220 \& 455 \& 42 BB \& W7YAQ \& \begin{tabular}{c}
13,662 \\
3 \\
\hline
\end{tabular} \& \({ }_{69}^{199}\) \& 33 AC \& \& \& 219
124 \& 41 D \\
\hline Ks2X \& 13,440 \& 192 \& 35 BC \& WAGHX \& \({ }_{1}^{2,028}\) \& 78
34 \& 13 BB \& AATKF \& 34,208
5,208 \& \({ }_{308}\) \& \({ }_{44}^{26} \mathrm{CB}\) \& KB8OEFT (+ \& в \({ }^{\text {¢MK) }}\) \& \& \\
\hline WMAU \& 16,520 \& 118 \& \({ }^{35} \mathrm{CA}\) \& WB6NFO \& 17,328 \& 228 \& \({ }_{38}{ }^{18} \mathrm{BC}\) \& W7TC \& 3,432 \& 39 \& 22 CB \& \& 6,496 \& 12 \& \\
\hline WD4OH \& 9,828 \& 87 \& 27 CA \& N6GL \& 15,120 \& 126 \& 30 CB \& KU7K (+KA7s A \& ARC,WDM \& ,KD7a \& \& W8VND (KD4M \& E,KB8UU \& \& \\
\hline wowl \& 32,680 \& 215 \& \({ }^{38} \mathrm{CB}\) \& W6BIV \& 4,480 \& 56 \& 20 C B \& K17AF) \& 19,456 \& 152 \& 32 D \& N8XX, ops) \& 2,352 \& 56 \& 21 D \\
\hline K4XG \& 22,576 \& 166 \& \({ }^{34} \mathrm{CB}\) \& W6SGJ \& 3,080 \& 55 \& 14 CB \& Utah \& \& \& \& KB8PCM/N + + \& 136 \& \& \\
\hline WATYU \& 6,348
3,784 \& \({ }_{43}^{69}\) \& 23 CB
22 CB \& NGTCZ \& 48 \& 4 \& \({ }^{3} \mathrm{CB}\) \&  \& \& \& \& \& \& 16 \& 4 D \\
\hline K4LTA \& 80,136 \& 378 \& 53 C \& \begin{tabular}{l}
N8SR \\
AB6FO
\end{tabular} \& 119,040
17248 \& 480
154 \& 62 CC
28 \& K6xO/ \& \({ }_{9}^{1,216}\) \& \({ }_{83}\) \& \({ }_{36} \mathrm{ABC}\) \& West Virginia \& \& \& \\
\hline AC4ZD (+NET) \& 31,200 \& 198 \& 39 D \& \& \& \& \& WA6HXE \& \({ }_{6,336}\) \& 99 \& 32 BB \& NF3X \& 4,092 \& 48 \& 31 AA \\
\hline Virginia \& \& \& \& range \& \& \& \& WA7DAM \& 5.456 \& 61 \& 22 CB \& \& 38,352 \& 183 \& 68 A B \\
\hline A4RR \& 37,400 \& 195 \& 68 A A \& K8JCV \& 121,856
69948 \& 349 \& 198 \& W7JEX \& 1, \& 25 \& \({ }_{13}{ }^{2} \mathrm{CB}\) \& NBYYS \& 4,278 \& 82 \& \({ }_{23} \mathrm{AB}\) \\
\hline WF4U \& 18,360 \& 121 \& 51 AA \& KEGAGR \& 27,520 \& 320 \& 43 BB \& W7HS \& 7,000 \& 70 \& 25 Cc \& No9s \& 660 \& 21 \& 11 AB \\
\hline AD4DG \& 60,844 \& 334 \& 82 AB \& \& \& \& \& \& \& \& \& NBTLZ \& 79,212 \& 574 \& 69 B B \\
\hline N4OT \& 47,492 \& 220 \& 62 A B \& KK6RG \& 21,100 \& 50 \& 21 BB \& Western Was \& shingto \& \& \& N4PUV/T \& 11,520 \& 144 \& 40 B B \\
\hline KB4RME \& 21,240 \& 190 \& 45 AB \& WAGGFR \& 1,672 \& 44 \& 19 BB \& WUTF \& 9,928 \& 89 \& 34 AA \& KF8UM \& 85,200 \& 568 \& 75 BC \\
\hline K4UK \& 19,928 \& 112 \& 53 AB \& NW6S \& 71,940 \& 327 \& 55 CB \& N7LOX \& 138,936 \& 583 \& 84 AB \& KV8S \& 3,168 \& 44 \& 18 CA \\
\hline WB4RDV \& 15,600
7,812 \& 118
92 \& 40 AB \& K6VI \& 51,648 \& 269 \& 48 CB \& W70N \& \({ }^{68,514}\) \& \({ }^{323}\) \& 57 AB \& \& 176 \& 268 \& 58 CC \\
\hline WA4DAI \& 7,378 \& 73 \& \({ }_{31} \mathrm{AB}\) \& \& ,800 \& 60 \& 20 CB \& W7LZP \& 99,684 \& 500 \& 78 AC \& \& 7,986 \& 106 \& 33 D \\
\hline TG \& 6,696 \& 57 \& 31 AB \& Santa Barba \& \& \& \& W7LRD \& 10,912 \& 130 \& 32 AC \& \& \& \& \\
\hline KR4CZ \& 2,392 \& 35 \& 23 A B \& WA6FG \& 20,678 \& 131 \& \& we7Uum \& 14,430 \& 195 \& 37 BB \& 9 \& \& \& \\
\hline WB4GVZ \& 30,784 \& 296 \& 52 B B \& W7CB \& 109,674 \& 545 \& \({ }_{81} \mathrm{AC}\) \& KF7GA \& 3,350 \& 67 \& 25 B B \& \& \& \& \\
\hline KD41BIT \& 27,720 \& 252 \& 55 BB \& WASVGI \& 18,122 \& 122 \& 41 A C \& KB7YCJ \& 1,848 \& 44 \& 21 B B \& minois \& \& \& \\
\hline KE4GWV/ \& 23,954 \& 203 \& 59 B B \& K06KA \& 1,224 \& 36 \& 17 BA \& K7NCG \& 9,744 \& 174 \& 28 B C \& WA9Bow \& 84,036 \& 324 \& 94 AB \\
\hline W4TMN \& 120 \& 10 \& 6 BB \& \({ }_{\text {NE6FF }}\) \& 2,600
1,428 \& 32 \& 25 BB
21 BC \& WATUVJ \& 30,528 \& 212 \& 36 CB \& WA9AXL \& 20,590
7 \& 78 \& \({ }_{33} \mathrm{AB}\) \\
\hline KFAYH \& 91,390 \& 703 \& 65 BC \& K6VMN \& 1,026 \& 27 \& 19 BC \& WC70 \& 26,492 \& 179 \& 37 CB \& N9TMU \& 2,760 \& 56 \& 23 AB \\
\hline K04MR \& 59,214 \& 417 \& 71 B \& \& \& \& \& N70 \& 24,48 \& 153 \& 40 CB \& N4OGW \& 77,488 \& 285 \& 84 AC \\
\hline KE9A \& 29,820 \& 210 \& 71 BC \& Santa Clara \& Valley \& \& \& W7RGL \& 11,400 \& 95 \& 30 CB \& woss \& 18,762 \& 117 \& \\
\hline N4MM \& \({ }^{25,680}\) \& 214 \& \({ }^{60 \mathrm{BC}}\) \& AAGKX \& 48,060 \& 287 \& 54 \& (+KB7Y \& YTJ) \& 256 \& \& N9LCR \& 33,110 \& 301 \& 55 BB \\
\hline NAROA \& 22,984 \& 169 \& \({ }_{34} \mathrm{CA}\) \& N6NF \& 123,696 \& 643 \& 72 AB \& \& 18,432 \& 256 \& \& KF9US \& \({ }^{6,586}\) \& 89 \& 37 BB \\
\hline KG4W \& 71,008 \& 316 \& 56 CB \& N6NM \& 1,800 \& \({ }_{32} 26\) \& 18 AB
11 AB \& Wyoming \& \& \& \& N9JFW \& 1,596 \& 42 \& \({ }^{25} 19 \mathrm{BB}\) \\
\hline KJ4OP \& 67,032 \& 290 \& 57 CB \& AJGT \& 57,552 \& 358 \& 66 A C \& N7RPC \& 1,216 \& 34 \& 16 AB \& K90M \& 58,696 \& 250 \& 58 CB \\
\hline W54NH/4 \& 16,280 \& \({ }_{10}^{96}\) \& \({ }^{42} \mathrm{CB}\) \& AB6YL \& 15,980 \& 133 \& 47 AC \& W7SE \& 61,936 \& \({ }_{3} 31\) \& 79 AC \& NA1R \& 46,144 \& 205 \& 56 CB \\
\hline N4SLP \& 48 \& 4 \& 3 Cc \& \({ }_{\text {KDG6PB }}\) \& 3,216 \& 67 \& 22 BB \& KB7M \& \({ }_{2}^{1} 24\) \& 13 \& 9 BB \& W90F (+KS90) \& 35,672 \& 182 \& 49 CC \\
\hline NO4K (+NET) \& 29,274 \& 166 \& 51 D \& \& 1,530 \& 45 \& \({ }_{17} 178\) \& NC70 \& 2,960 \& 37 \& 20 CC \& (+KSsO) \& 296,9 \& 982 \& 22 D \\
\hline WY2V (+NET) \& 3,840 \& 80 \& 24 D \& N2ALE \& 8 \& 4 \& 1 BB \& KB7YP (+N7VLL \& 8,436 \& 111 \& 38 D \& E9A (+WDS \& Tc, wigx) \& \& \\
\hline 5 \& \& \& \& \& \& 750 \& 57 B \& 8 \& \& \& \& \& 147,95 \& \& \\
\hline Arkansas \& \& \& \& \& 1,120 \& 35 \& 16 D \& \& \& \& \& WB9PVW,K \& \& \& \\
\hline N8VV \& 68,310 \& 283 \& 69 A B \& San Diego \& \& \& \& wB8BU \& 84,240 \& \& \& \& \& \& \\
\hline KBSEKX \& 2,880 \& 52 \& 24 AB \& w6uaf \& 70,350 \& 469 \& 75 A B \& N8FEH \& 54,270 \& 228 \& \({ }_{81} \mathrm{~A}\) B \& Indiana \& \& \& \\
\hline K5RO \& 47,944 \& 461 \& 52 BC \& EbJom \& 9,912 \& 107 \& 42 AB \& WD8S \& 8.526 \& 116 \& 29 AB \& W9M \& G,op \& \& \\
\hline Loulsiana \& \& \& \& W6 \& \({ }_{7}^{864}\) \& 112 \& \({ }^{8} \mathrm{ABC}\) \& KD8LU \& 5,376 \& \({ }^{83}\) \& 32 AB \& \& 27,328 \& 51 \& 61 A B \\
\hline Nz50 \& 48,840 \& 267 \& 74 AB \& ABENE \& 12,720 \& 105 \& \({ }_{30}{ }^{\text {c }}\) C B \& NBLAT \& 8,500 \& \({ }_{125}^{226}\) \& \({ }_{34}{ }^{61}\) A A \& \& 5,580 \& \& 31 AB \\
\hline W5wMU \& 533,600 \& 1458 \& 145 A C \& AAGEE \& 3,864 \& 46 \& 21 CB \& kb8ows/ \& 8,928 \& 186 \& 24 BB \& KB914T \& 1,598 \& 40 \& 17 AB \\
\hline N50CD \& 120,228 \& 526 \& 86 AC \& N6KI \& 75,296 \& 362 \& 52 Cc \& KEBNH \& 7,344 \& 102 \& 36 B B \& K9LA \& 64,242 \& 260 \& 83 AC \\
\hline AA5FJ \& 69,960 \& 636 \& 55 B B \& K6NY \& 14,080 \& 110 \& 32 CC \& N8woz \& 2,420 \& 55 \& 22 B B \& n9xBm/ \& 17,302 \& 211 \& 41 B \\
\hline NSSMQ \& 13,696 \& 214 \& \({ }^{32} \mathrm{~B}\) B \& \& \& \& \& K8CV \& 1,440 \& 45 \& 16 B B \& WD9ATU \& 2,970 \& \& 27 BB \\
\hline AB5HD \& 26,052 \& 167 \& 39 CB \& San Francis \& \& \& \& NBUWH \& 672 \& 24 \& 14 BB \& N9WPK \& 1,480 \& 37 \& 20 BB \\
\hline Mississippi \& \& \& \& WGESJ \& 13,944
32.480 \& \({ }_{203}^{166}\) \& \({ }_{40}^{42} \mathrm{~B} \mathrm{~B} \mathrm{~B}\) \& K8DJR
NBWAK \& \begin{tabular}{|c}
43,320 \\
3 \\
\hline
\end{tabular} \& \({ }^{361}\) \& \({ }_{23} \mathbf{6 0} \mathrm{BC}\) \& N9WPJ \& 1,444 \& 38
28 \& 19 BB
13 BB \\
\hline KB5IXI \& 23,644 \& 206 \& 29 AB \& KGUFY \& 7,424 \& 64 \& 29 CC \& NBAG \& 1,296 \& 36 \& 18 BC \& w9ysx \& 42,496 \& 332 \& 64 B C \\
\hline W5NGB \& 3,542 \& 65 \& \({ }^{23} \mathrm{AB}\) \& \& \& \& \& nBAP \& 28,620 \& 159 \& 45 CA \& KBøC \& 11,270 \& 115 \& 49 BC \\
\hline \({ }^{\text {ABEYG }}\) \& 17,850 \& 132 \& 51 AC \& San Joaquin \& Valley \& \& \& K8LLQ \& 15,232 \& 112 \& \({ }^{34} \mathrm{CA}\) \& AD40S \& 336 \& 14 \& 6 CB \\
\hline NSKKG \& 41,492 \& 506 \& 41 BB \& KJ6DL \& 55,188 \& 283 \& 63 AB \& AABAV \& 76,792 \& 330 \& 58 CB \& W9OEH (+WA8 \& 30c,wo \& SDL) \& \\
\hline N5XA \& 8,424 \& 78 \& 27 CC \& \({ }^{\mathrm{KCG6CEX}}\) \& 58,440 \& 453 \& 60 AC \& AABU (+K8MJZ \& , \(\mathrm{K} \times 788 \mathrm{CCG}\) \& KF8 \& \& \& 330,132 \& \& D \\
\hline New Mexico \& \& \& \& \({ }_{\text {KC6ES }}\) \& 1,504
1,400 \& \({ }_{35}^{47}\) \& 16 BB
20 BB \& \& 407,430 \& \& \& Wisconsin \& \& \& \\
\hline KN5H \& 182 \& \& 7 AB \& W6DPD \& 340 \& 17 \& 10 B B \& \& 40,290 \& 379 \& 51 D \& N9NE \& 16,598 \& 110 \& 43 AA \\
\hline KB5TTS/T \& \& 21 \& 9 BB \& KA6BIM \& 48,348 \& 474 \& 51 B C \& WB8G ( + Op) \& 21,400 \& 164 \& 50 D \& watuju \& 41.540 \& 208 \& 67 AB \\
\hline KBSTZJ \& 22,590 \& 251 \& 45 B C \& N6IFW \& 1,932 \& 46 \& 21 BC \& KABAMX (+AC8 \({ }^{\text {a }}\) \& \& \& \& NoNUNTT \& \begin{tabular}{l}
32,760 \\
\hline 1250
\end{tabular} \& 240 \& 63 AB \\
\hline KB5UL \& 26,852 \& 137 \& 49 CB \& Sacramento \& \& \& \& \& 4,368 \& 84 \& 26 D \& K90SH \& 12.560 \& 117 \& \({ }^{40} \mathrm{AB}\) \\
\hline North Texas \& \& \& \& K6BPB \& Valley \& \& \& N8MM \& 2,622 \& 57 \& 23 D \& K9KR \& 201,600
17,100 \& 160 \& 112 AC
45 AC \\
\hline wevx \& 66,518 \& 340 \& 79 A B \& AAGEW \& 3,296 \& \({ }_{59}^{64}\) \& \({ }_{18}{ }^{\text {A B B }}\) \& Ohio \& \& \& \& N9ISN \& 40,284 \& 373 \& 54 BB \\
\hline N6Zz \& 30,268 \& 210 \& 47 AB \& W1FEA \& 305,900 \& 938 \& 115 AC \& n8AXA \& 11,792 \& 88 \& 44 AA \& NovSLT \& 1.332 \& 37 \& 18 BB \\
\hline KY5N \& 12,312 \& 101 \& 38 AB \& K6VX \& 73,920 \& 350 \& \({ }^{84} \mathrm{AC}\) \& WABAJF \& 8,448 \& 86 \& 32 AA \& K9WTF \& 2,478 \& \& \({ }_{23}^{21} \mathrm{BC}\) \\
\hline KSSLG \& \({ }^{22,496}\) \& 267 \& \({ }^{37}{ }^{\text {A }}\) C \& N6RER \& 15,910 \& 185 \& 43 B B \& WABYRS \& 48,768 \& \({ }^{268}\) \& 64 A B \& K89S \& 5,152
105728 \& [13 \& \({ }^{23} \mathrm{CA}\) C \\
\hline NSVAV \& 18,486
1,554 \& 237
37 \& 39 B B
21 \& KC6DMQ \& 31,540 \& 125 \& 268 B
38 BC \& ND8L \& 27,572
19 \& 162
153 \& 61 A B
46 A \& KB9S \& 105,728
3,864 \& 413 \& \({ }_{23}^{64} \mathrm{C}\) C \\
\hline KC5AJX/T \& 930 \& 31 \& 15 в в \& WagVLs \& 392 \& 14 \& 7 CA \& K8KR \& 12,648 \& 133 \& 34 AB \& WEAIH (K®s Fis \& VF,TG, KM \& 00,w \& -uc, \\
\hline KC5ALW \& 13,104 \& 91 \& 36 CB \& KG6me \& 29,920 \& 187 \& 40 CC \& W8UPH \& 10,268 \& 83 \& 34 AB \& ops) \& 401,920 \& \& 128 D \\
\hline W3DYA \& \({ }^{2,200}\) \& 25 \& 22 CC \& 60 (+ops) \& 76,672 \& 534 \& 64 D \& W8PBX \& 7,280 \& 71 \& 26 A B \& \({ }^{\text {AA9 }}\) ( \({ }^{\text {( }}\) Ops) \& 22,586 \& 25 \& 46 D \\
\hline AA5UO (+N5XV \& V) \& \& \& \& \& \& \& KG8LL \& 976 \& 33 \& 8 AB \& 0 \& \& \& \\
\hline (+KB2INO \& O. K C'3SL \& \& JX, \& 7 \& \& \& \& W9XG \& 181,88888 \& 632 \& \(4.4 B\)
116 AC \& 0 \& \& \& \\
\hline FSS, HS, KJJV \& N,N5NOT \& T,N®1D \& \& Alaska \& \& \& \& WABRCN \& 48,950 \& \({ }_{337}^{632}\) \& 55 AC \& Colorado \& \& \& \\
\hline WA5MWD,WB \& BSYRD,W \& \& \& \& 6,012 \& \& \& \& 30,840 \& 176 \& 60 AC \& KFour \& 14,620 \& \& \\
\hline \& 30,100 \& 50 \& 43 D \& KL7FAP \& 16 \& 4 \& 2 BB \& NBFWA \& 35,400 \& 354 \& 50 BB \& WøRSR \& 10,919 \& 76 \& 44 AB \\
\hline Oklahoma \& \& \& \& Arizona \& \& \& \& KE8KT
N8KOJ \& 25,272
16,020 \& 234
178 \& 54 BB
45 BB \& NGKV \& 38,500
20,900 \& 221
190 \& \({ }_{55}^{70 \mathrm{AC}}\) \\
\hline WDSCSK \& 6,930 \& 99 \& 35 AB \& \& \& \& \& KB8SHE \& 13,340 \& 145 \& 46 BB \& N5ZR \& 20,902 \& 14 \& \({ }_{9}{ }^{\text {g B B }}\) \\
\hline WM42 \& 93,024 \& 408 \& 57 CC \& W4VZR \& \({ }_{2}^{14,310}\) \& \({ }_{36}\) \& \({ }_{21}^{44} \mathrm{AB}\) \& N8YPT/T \& 11,692 \& \({ }^{158}\) \& 37 BB \& кмө@ \& 121,472 \& 402 \& 73 CB \\
\hline South Texas \& \& \& \& \({ }_{\text {K6LL }}\) \& 242,148 \& \({ }_{451} 9\) \& \(102 A C\)
55

B \& WABKYZ \& 7,872 \& 123
103 \& 32 BB
37 BB \& AC6S \& ${ }_{6,156}^{7,952}$ \& 71
57 \& 28 CB
27 CB <br>
\hline WT5U \& 46,512 \& 231 \& 76 AB \& KGA7TILK \& 49,610
12 \& 451 \& 55 BB
31 BB \& KABWQL \& 5.148 \& 99 \& 26 B B \& KøGAS (+KJoc \& \& \& <br>
\hline KB5NFZ \& \& 159 \& ${ }^{3} \mathrm{ABB}$ \& N7UJJ \& 4,860 \& 90 \& 27 BB \& KABTCJJT \& 4,050
2 \& 81
50 \& 25 BB \& \& 39,530 \& 232 \& 67 D <br>
\hline ${ }_{\text {K13L }}^{\text {KıL }}$ \& 20,424 \& 159
90 \& 46 AC
34 AC \& NTWAO/T \& 176 \& 11 \& 88 B \& N8XLS \& 2,100
1,176 \& 4 \& 218 B
14 \& lowa \& \& \& <br>
\hline WASIYX \& 5,766 \& 93 \& 31 BB \& KC7FWM/N
W7Ys \& \& \& 4 BB
31 CB \& WD8PXF/N \& 702 \& 39 \& 9 BB \& Wepp \& 5,340 \& \& <br>
\hline KE4IPFT \& 3,100 \& 62 \& 25 B B \& KX7J \& 20,212
7,072 \& \& 31 CB
26 CB \& n8Qbz\% \& 336 \& 21 \& 8 B B \& WBbsNL \& 2,438 \& 53 \& 23 BC <br>
\hline ${ }_{\text {KBSUCO }}$ \& [694 \& ${ }^{33}$ \& ${ }_{78}{ }_{8} \mathrm{BB}$ \& NN7A \& 4,400 \& 50 \& 22 CB \& ${ }_{\text {NBIG }}$ \& ${ }_{36}^{42}$ \& 7 \& 388
38 \& WQout \& 624 \& 13 \& ${ }^{12} \mathrm{CB}$ <br>
\hline K5XI (KE5Fl,Op) \& ) \& \& \& Eastern Was \& hington \& \& \& W8SJu \& 13,104 \& 156 \& 42 BC \& ${ }_{\text {N }}^{\text {NCOPP }}$ (+WAgs \& ETC,Fis, ${ }^{396}$ \& 11 \& <br>
\hline \& 149,732 \& 913 \& 82 BC \& \& \& 182 \& \& 8KKF \& 8,968 \& 118 \& 38 BC \& woøv) \& 720 \& \& 130 D <br>
\hline N5NMX \& 25,520 \& 143 \& 44 CB \& N7RWH \& 3,600 \& 39 \& 25 A A \& W8NPF \& 8,560 \& 107 \& 40 BC \& \& \& \& <br>
\hline
\end{tabular}

| Kansas |  |  |  |
| :---: | :---: | :---: | :---: |
| wbøYJT | 21,624 | 167 | 53 AB |
| KAøSIX | 16,684 | 388 | 43 A B |
| KøWUI | 9,120 | 120 | 38 B B |
| NøYYO/T | 7,992 | 111 | 36 B B |
| WøSPF | 3,400 | 68 | 25 B B |
| NøSZE | 448 | 28 | 8 B B |
| WX0U | 6,844 | 118 | 29 B C |
| KøIEW | 5,120 | 80 | 32 B C |
| WI®R | 10,788 | 93 | 29 C B |
| NøOY | 1,404 | 27 | 13 CB |
| NøIN | 13,800 | 115 | 30 CC |
| KBøISS (+KøVXU,KCøEI) |  |  |  | KBøISS (+KøVXU,KCøEI)

$\begin{array}{lll}182,000 & 584 & 100 \cdot \mathrm{D} \\ \text { KBøOEC (+NøJO) }\end{array}$

| Minnesota |  |  |  |
| :---: | :---: | :---: | :---: |
| WAøBNX | 25,110 | 150 | 45 A B |
| NØAT | 24,840 | 154 | 45 A B |
| NøIOS | 23,900. | 184 | 50 A B |
| KOTT | 188,134 | 677 | 109 A C |
| WøUC | 594 | 19 | 9 A C |
| ACøW | 30,674 | 313 | 49 BB |
| KBøIXC/T | 2,352 | 56 | 21 B B |
| KBøNLC | 1,880 | 47 | 20 B B |
| WAøRPI | 3,760 | 47 | 20 C A |
| KBøzQ | 15,368 | 112 | 34 C B |
| KN®V | 24,800 | 155 | 40 CC |
| KRøB (+AF9T,N9BDM,KAøJZV,KJøB, KSøT,NGBKL, ops) |  |  |  |
|  | 176,600 | 693 | 100 D |


| Missouri |  |  |  |
| :---: | :---: | :---: | :---: |
| Waøx | 88,312 | 1064 | 83 A B |
| ND7M | 31,752 | 279 | 54 AB |
| WDøDVG/T (NøZOZ,op) |  |  |  |
|  | 2,592 | 46 | 18 A B |
| NX®I | 82,628 | 337 | 91 A C |
| AAбA | 24,768 | 181 | 36 A C |
| KMøL | 21,216 | 131 | 48 A C |
| N8ZR/ø | 840 | 30 | 14 BA |
| N9EID | 1,860 | 31 | 15 CA |
| KøRWL | 56,808 | 260 | 54 C B |
| KSøM | 18,876 | 116 | 39 C B |
| WDØAVV | 14,400 | 100 | 36 C B |
| AA@NB | 216 | 9 | 6 CB |
| K4VX | 38,304 | 170 | 56 C C |
| North Dakota |  |  |  |
| WBøO | 16,082 | 166 | 43 A C |
| South Dakota |  |  |  |
| WDøT | 63,788 | 271 | 74 A B |
| K1LL | 32,806 | 349 | 47 BB |
| WA2OJK | 144 | , | 8 B B |
| WøACT | 11,832 | 174 | 34 B C |
| VE |  |  |  |
| New Brunswick |  |  |  |
| VG9DXR (VE | DR,op) |  |  |
|  | 22,678 | 391 | 29 B B |
| VE9St | 189,696 | 739 | 64 CC |
| Nova Scotia |  |  |  |
| vgiaoe VG1YX | $\begin{array}{r} 70,656 \\ 218,892 \end{array}$ | $\begin{array}{r} 441 \\ 1479 \end{array}$ | $\begin{aligned} & 64 \mathrm{AB} \\ & 74 \mathrm{~B} \mathrm{C} \end{aligned}$ |
| Quebec |  |  |  |
| VG2AWR | 35,376 | 165 | 67 A B |
| VE2CUA | 4,410 | 105 | 21 B C |
| Ontario |  |  |  |
| VE3ZTH | 18,816 | 119 | 48 A B |
| VE3OIL | 4,264 | 79 | 26 A B |
| VE3RM | 113,620 | 457 | 95 A C |
| VE3ST | 1,512 | 27 | 18 A C |
| VA3TA | 15,308 | 178 | 43 B B |
| VA3WTO | 11,036 | 178 | 31 B B |
| VE3FVW | 2,000 | 50 | 20 B B |
| VE3WDJ | 1,792 | 56 | 16 B B |
| VE5ZDNE3 | 72 | 6 | 6 B B |
| VA3TT | 115,440 | 780 | 74 B C |
| VE3HX | 33,660 | 187 | 45 C B |
| VE3WZ | 8,520 | 71 | 30 CB |
| VE3FAL | 5,712 | 68 | 21 C |
| VE3VFR | 92,560 | 356 | 65 C C |
| VE3XO (+VA3DX,VE3s HQ,MV, WHE) |  |  |  |
|  |  |  |  |

## Saskatchewan

$\begin{array}{llll}\text { VE5SF } & 2,278 & 50 & 17 \mathrm{AB} \\ \text { VE5GC (+VE5MX) } \\ 8,960 & 77 & 35 \mathrm{D}\end{array}$

## Alberta

| VE6LDX | 5,760 | 96 | 30 AB |
| :---: | :---: | :---: | :---: |
| VE6JY | 12,580 | 170 | 37 BC |
| VE6SH | 432 | 12 | 9 C A |
| VE6BMX | 13,312 | 128 | 26 C B |
| VE6EZ | 4,576 | 52 | 22 C B |
| VG6BF (VE6BF,op) |  |  |  |
| British Columbia |  |  |  |
| VE7NF | 19,890 | 151 | 45 A B |
| VE7CFD | 20,210 | 235 | 43 BB |
| VE7XO | 10,578 | 129 | 41 B C |
| VE7DVV | 8,296 | 61 | 34 CB |
| VE7RCN (VE7CYT,op) |  |  |  |

## Northwest Territories

XN9JA $144 \quad 12 \quad 6$ A B

## Checklogs

AC4QX, DL1DWT, DL3HTR, EA1FFC,
EA3GDX, EA4BJD, EA4URE, EA5FID,
EA7ACM, F8KLY (F5s IRF,LOZ,ops),
K1AR, KB7NHD/T, KF9YT, KX5U, LT3V
(LU3VAO,op), LW2EWK, LW7EMM,
NZ9M, SP5XMM, SP7VCA, VE3BR,
VK4IV, VK4UR, W2LRJ, W2UL, W7LQU,
VK4IV, VK4UR, W2LRJ, W2UL, W7LQU
W8UE, WB1HBB, WB4RUA, ZS5NK.
GSF

