# Results, First ARRL RTTY Roundup 

# . . .RTTY is a whole different animal!-WB7Y 

By Hal Blegen, WA7EGA<br>12910 Broadway<br>Spokane, WA 99216<br>and Billy Lunt, KR1R<br>Contest Manager

0n a mid-winter weekend last January, the ARRL kicked off the opener of what may well become the superbowl of keyboard contesting. The RTTY Roundup was so popular that the density of RF colliding over Colorado raised the mean temperature of the state four degrees. The hydroelectric power required for all that key-down contesting is suspected of dropping the level behind the Grand Coulee Dam (WA) by nearly a foot.

The popularity of the Roundup could have been predicted. Where else can you find a fast-paced, worldwide, RTTY contest with a schedule that allows the contestant to take the XYL out to dinner Friday, have a leisurely breakfast the next morning, get six hours of sleep Saturday night and be finished in time to watch 60 Minutes on Sunday? KL7PG pointed out with a bit of understatement, "...It certainly was well attended as the bands were very crowded."

Who says January isn't contest season? Any time QSOs exceed 700 in a 24 -hour contest, it makes a definitive statement about participation. Totals like that the first time out on a 24 -hour digital (RTTY) contest make a statement that probably should be printed in rescue-orange headlines!

Although certificates are awarded by section and country, not by overall competition, NG7P's effort from Lake Stevens, WA clearly illustrates the pace of the new contest. Earl's 768 QSOs and 96 multipliers earned him the world top score. In a photo finish, a scant two-multiplier margin separated NG7P from RTTY newcomer K6LL. The next-highest score was submitted by KT1N, who placed third in a field that included over 300 logs from 39 countries and 49 states.

Most experienced RTTY contest operators subscribe to some form of WB7RBJ's one-hunk-of-metal-unison rule: "THE AMPLIFIER IS PART OF THE ANTENNA AND THE ON/OFF SWITCH IS WIRED TO THE COFFEE POT." The Roundup is the first RTTY contest with a place for the folks that do not heat their homes with

| Single Operator Top Ten |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| W/VE-Low Power |  | W/VE-High Power |  | DX-Low Power |  | DX-High Power |  |
| Call | Score | Call | Score | Call | Score | Call | Score |
| AA5AU | 44,616 | NG7P | 73,728 | K2BMINP2V | 42,772 | KP2N | 46,200 |
| NTEV | 37,000 | K6LL | 72,447 | 4M5RY | 33,768 | HK1LDG | 42,930 |
| VE6ZX | 33,210 | KT1N | 69,102 | (VV5KAJ, |  | KL7XD | 29,952 |
| KDEPY | 31,692 | W3LPL | 66,255 | HI3ADI | 31,875 | OK2FD | 19,800 |
| WJ7S | 29,120 | (W3EKT |  | FFiNZH | 18,612 | XE1VV | 15,960 |
| NUOP | 24,948 | WS71 | 52,380 | G®atk | 17,784 | OH2LU | 9,840 |
| NO1Y | 24,794 | WA7EGA | 48,720 | G4SKA | 15,820 | SM4CMG | 6,600 |
| AA5FR | 23,004 |  |  |  |  |  |  |
| K1EVU | 21,520 18,564 | WF5E | 47,168 | CX5BX | 14,160 11,160 | HP1AC | 5,546 |
| KD4W | 18,864 |  | 41,322 | 9Y4DG | 10,860 | DK3EA | 3,975 |
|  |  | KEQKB | 41,308 | AL7BK | 10,659 |  |  |

Multioperator High Scorers

| W/VE-Low Power |  | W/VE-High Power |  | DX-Low Power |  | DX-Low Power |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Call | Score | Call | Score | Call | Score | Call | Score |
| N2DCP | 17,019 | WAgVQR | 19,584 | HA5KAG | 15,300 | UZ9CWA | 27,720 |
| WAgQIT | 13,462 | WB6WQA | 12,168 | OE1XJA | 5,428 | JA1YFG | 6,240 |
| KI7T | 11,088 | W3EAX | 3,713 | HGQD | 308 |  |  |
| NOFMR | 10,450 |  |  | N4TRAMM | 143 |  |  |

their final tubes. Barefooters competed in their own group and peanut whistles outnumbered barn-burners by nearly three to one! One of the top-ten DXers, 9Y4DG, expressed amazement at what could be done with 50 watts and a multiband anten-
na, "Who said contesting is only for the Big Guns?"
"I only operated 10 meters with 50 watts out and a dipole, but I enjoyed it very much. I hope you continue having the RTTY Roundup in the years to come"-


Bob, AA5FR, finished eighth-place W/VE low-power from his NTX QTH.


N2FF tunes for another multiplier. Frank finished first-place low power in the NLI Section.

Single-Operator Division Leaders

|  | Low Power |  | High Power |  |
| :--- | :--- | ---: | :--- | ---: |
| Division | Call | Score | Call | Score |
| Atlantic | WA3ZKZ | 13,455 | W3LPL | 66,255 |
|  |  |  | (W3EKT,op) |  |
| Canada | VE6ZX | 33,210 | VE3JAN | 2,496 |
| Central | WB9MSM | 12,768 | W9HLQ | 5,130 |
| Dakota | NT0V | 37,000 | KEQKB | 41,308 |
| Delta | AA5AU | 44,616 | K5KLA | 3,552 |
| Great Lakes | W8LNK | 10,443 | W8MQK | 35,061 |
| Hudson | WA2PNI | 16,170 | K2NJ | 41,322 |
| Midwest | NUOP | 24,948 | K6WZ | 33,726 |
| New England | NO1Y | 24,794 | KT1N | 69,102 |
| Northwestern | WJ7S | 29,120 | NG7P | 73,728 |
| Pacific | KD6PY | 31,692 | N6GG | 41,085 |
| Rocky Mountain | NFQB | 8,477 | NQQI | 6,174 |
| Roanoke | KI4MI | 15,318 | AA4CK | 2,262 |
| Southeastern | KD4W | 18,864 | AA4TH | 47,437 |
| Southwestern | WB6SSW | 10,545 | K6LL | 72,447 |
| West Gulf | AA5FR | 23,004 | WF5E | 47,168 |



Charles, WB3DDF, amassed 202 QSOs and 63 multipliers and finished first-place low-power in the MDC Section.

| Single-Operator Continental Leaders |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Continent | Low Power Call | Score | High Power Call | Score |
| Africa | EABAKQ | 8,910 | - |  |
| Asia | JA1DFQ | 6,944 | JR1IJV | 1,176 |
| Europe | FF1NZH | 18,612 | OK2FD | 19,800 |
| North America | K2BMINP2V | 42,772 | KP2N | 46,200 |
| Oceania | WH61 | 9,702 | KH2D | 3,772 |
| South America | 4M5RY (YV5KAJ,op) | 33,768 | HK1LDG | 42,930 |



JA1AYC has been a ham for 34 years and one of his favorite modes is RTTY. Masao finished second-place low-power in Japan.

KC7MJ. There seems to be a mystique about the attic. "QRP RTTY really works! I used a 5 -watt rig and a dipole in the attic,'' from NI1L. 'I used 100 watts to a random-wire antenna in the attic. I'm looking forward to the next contest"NJ1H. WA3SDV brags, "I made all my QSOs with 30 watts to an attic-mounted indoor dipole!"

A ground-mounted, 5-band vertical and 100 watts provided AA5AU with all the clout he needed to corner the low-power, world top score with 507 QSOs. More QSOs but fewer multipliers was the story for K2BMI/VP2V, whose 578 QSOs earned him second-best score for barefoot operation. During his 22 -hour effort he also boasted the top low-power QSO rate. Third overall and second place in the W/VE low-power went to NTØV with 500 QSOs.

Despite the anticipated information lag in getting word of a new contest to the DX community, logs from outside the US accounted for one out of four. Ron, KP2N, was the number one DX station with 550 QSOs. "The caliber of operation has greatly improved," he said, "I worked only 3 stations who sent a string of RYs!" HK1LDG was second in the DX highpower class, followed by KL7XO.

Out of 52 logs from DX stations in the 150-W class, K2BMI/VP2V gets first bow,
followed by 4M5RY (operated by YV5KAJ) in second and HI3ADI third. Of the six logs from Canada, VE6ZX was notable with 405 QSOs, followed by VE3UR and VE6BS.

WAØVQR (plus NØBG) took the honors among the multioperators with 306 QSOs. The team at N2DCP placed second, with WAØQIT finishing third.

The Roundup packed its share of troubles. Bob, 7J6CAS, on Okinawa described the effects of a direct lightning hit on a 3-wavelength rhombic. "Great contest," he wrote, ". . . you missed a good light show." Lightning also had VE3JAN scrambling, ". . . had to disconnect all the antennas and gear for several hours." SM5CZD lost a round to weather. "After the storm," he said, "all I had left was 50 watts and a longwire antenna." Mother Nature didn't let veteran RTTY op ND2K off the hook either. ". . . wet snow and ice formed on all the antennas due to a storm," he said. But at least a Saturday morning thaw brought him a happy ending, ". . . 6 minutes before the end I worked J52US!"

The Roundup was especially tough for the Novices and Techs who had only one band to operate. "It was frustrating hearing all the DX just outside of the Novice portion of 10 meters'KB5ECK/T. Midwinter propagation also
was a factor for some. "There was no propagation on Saturday from G land but it was much better Sunday. I enjoyed it immensely"-GøATK. Although he finished in the high-power top ten, KE0KB also commented on propagation, "Even though the conditions were not the best, it was near nonstop action.' ZL2AKI wasn't so lucky, "RTTY was quite active but conditions were against a better score at this end." There was also some grumbling from VK2BQQ, "I think I'm faster with paddles than I am with the keyboard." Multiop entry HGØD said they never did get their RTTY modems to work right.

Although open to all digital modes, nearly all the activity was on Baudot. Packeteer ON6CR remarked, "...not many stations on packet here in Europe." And KA1RJJ suggested, 'I noticed very little packet activity during the contest. Maybe an incentive is needed for next year?"

George, KB2VO/4, laments, 'I wasted 7 hours at a dull party with the XYL..well, you understand..." Even with multiple power outages, XE1VV captured 5th place in the high-power DX category. AA5FR lost his computer halfway through the contest. Beam trouble forced GI4TSK to a ground-mounted vertical and WAøOUI said he invited Murphy to be second op, "I almost blew up the rig exceeding the
duty cycle!" "Never," said WB6SMX, "try to voltage feed a random wire anywhere near a computer."

The low-power category, in concert with a simplified exchange and scoring system, attracted a lot of folks who were new to RTTY contesting. ". . first time on RTTY," said 11-year-old KA1SSU, "and I had lots of fun!" 5Z4BH wrote, "been a ham for 26 years and this is my first contest...extremely interesting mode!" OE3GOU said it was his first. "Thanks for having the RTTY Roundup," said KA2AEY, "This was my first contest ever."

After 34 years, K4IBP finally tossed his hat in the ring saying that he enjoyed "...everything but the paperwork." Second-place world winner K6LL commented, "This was my first experience on RTTY and I really enjoyed it." It was also a first effort for NUØP. "The pileups are different," he said, 'You have to be quick on the keyboard to work two a minute. I can't wait for next year!"

After running the first day on low power, WS7I said, 'It got a little slow and I got bored so I switched on the amp." Although he finished 5th in high power and earned section-winner wallpaper, he was his own biggest critic. "Boy was that dumb," he said, 'I was almost 40,000 before I
changed classes." (Top low-power score was 44,616.)

VE3UR set the tone, "Congratulations on your first RTTY Roundup. It was a dandy and I sure enjoyed it." GWØANA praised the ops, ". . .thanks to all the competitors in the contest for their sportsmanlike attitude." "What a breath of fresh air," from KC7MM. "Great contest! Next year I plan to operate the entire 24 hours"-WA9AKT. VE2OWL remarked, ". . . I sure enjoyed this one. The pace was different." WD0E described their multiop entry, "My son Tom, NØISE and I had a blast! We will be back next year for sure!"

Long-time RTTY DXer/contest-op K6WZ wrote, 'I've been in more than a hundred RTTY contests and this one looks to be one of the best." KB4YBR/T was also full of praise, "What a great first contest. I had a ball and can't wait until next year." From NØFMR, ". . .great contest. Let's do it again soon," and WA6SDM lamented, "Do we have to wait a whole year. . ?"' W4RQK summed it up, "Let's do it again next year!"-WA7EGA

## Soapbox

I'm glad to see a new RTTY contest. I hope to see everyone next year. 73 and good DX (EA5FKI).

Thanks for a very good contest (G4SKA). A fine contest. I enjoyed the nice opening on 10 meters where I was able to speed up to a $31-\mathrm{QSO} / \mathrm{hour}$ rate (YO2IS). Thanks again for providing a weekend of fun. All the best for 1989 and aloha (WH6I). The contest was enjoyable and a long overdue ARRL event. I'm looking forward to it becoming an annual event (K1EVU). It was a pleasure working the contest. Thanks for putting contests like these together (WA2MBQ). RTTY contests are the only contests I enter. I've been active on RTTY since 1965. I sure wish you had a contest like this a long time ago. Keep it up! (N2FF). I had a great time! After a long spell since our last rag chew, I worked my old friend Al, W8PBX. I'm looking forward to next year's contest (KD2XN). I had lots of fun with this contest. Let's do it again next year! (WA3INX). I really enjoyed this contest. I hope it becomes a permanent fixture! (WB4M). I had loads of fun! Please make it a regular contest (WASVBE). The rig broke down Sunday morning, but I managed a temporary fix that lasted for 3 more QSOs (KGSEG). I learned a lot about RTTY operation and realized quickly that RTTY is a whole different animal! (WB7Y). Thanks for the fastest-paced RTTY contest I have ever experienced, including operating from the Galapagos Islands. I hope all the participants had as much fun as I did and I'm already looking forward to next year! (WA7EGA). I had a great time. I could have made more contacts but took a break to QSO a long-lost friend (K8OSF). Having been off RTTY for about two years, the contest was great motivation to get everything up and running again. I'm looking forward to 1990 (KC8YL). This was my first-ever contest entry and I hope to make RTTY Roundup an annual event (KC8FS). Just wish I could have operated more than just the 2 hours I did, but I had to work both days. Next year! (WB9B). It was great to see such a good turnout (WB9MSM). It was a fun, low pressure contest (WA日VQR).

## Scores

Scores are listed by continents, countries and ARRLCRRL sections. DX stations are listed first then US and Canada. Each line score lists (call, score, number of QSOs, number of multipliers, hours operated and power ( $A=$ less than 150 W output; $B=$ more than 150 W output).

| DX |  |  | France |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Africa |  |  | FFiNZH | 18,612-188- | 89-24-A |
|  |  |  | England |  |  |
| Cenery letande |  |  |  |  |  |
| Easaka | 8,910-162- | 55-16-A | $\begin{aligned} & \text { GoATK } \\ & \text { G4SKA } \end{aligned}$ | $\begin{aligned} & 17,784-247- \\ & 15,820-220- \end{aligned}$ | $\begin{aligned} & 72-24 A \\ & 70-24 A \end{aligned}$ |
| EABRA | 6,750-125- | 54-24-A | GAARF | $6,201-117$ | 70-24-A $53-12-A$ |
| EABAZM | 437-23- | 19-24-A | G4MKO | $5,310-118-$ | $\begin{aligned} & 50-1<-A \\ & 45-18-A \end{aligned}$ |
| Kenya |  |  | Northem Iroland |  |  |
| 524BH (KB7NK,Op) |  |  | G14TSK | 1,664 52- | 32-13-A |
| Zzmbla |  |  | Wales |  |  |
| 2ancu | 2400-62. | 40-17-A | gwanka | 5,661-111- | 51-22-A |
| 92KF | 2,480-62. | 40-17A |  | Hungary |  |  |
| Asla |  |  |  |  |  |  |
| Kerea |  |  | HA1YA 1,272. 53-24-8-AHA5KAG (HA5s AEX,CE,HABNP,ops)15,300-222-68-21-A |  |  |
| HLPFN 792-36-22-24A |  |  |  |  |  |  |  |  |
| Jupan |  |  | HGED (HACS BW,DR,HA,HG,Ops)$300-22-14-24-A$ |  |  |
| JA1DFQ | 6,944-124- | 56-24A | Norway |  |  |
| JA1AYC | 6,360-120- | 53-9A |  |  |  |  |  |  |
| 7JeCas | 4,680-117. | 40-24A | LA7AJ | 5,733-117. | 49-15-B |
| JR1JV 1,176- 42- $28-7-B$JA1YFG (JO1RUR,JP1JFG,ops) |  |  | LAdBX | 1,736-56- | 31-9-A |
| JA1YFG | $\begin{aligned} & \text { RUR,JP1JFG, } \\ & 6.240-120 . \end{aligned}$ | $\begin{aligned} & \mathrm{ops}) \\ & 52-24-8 \end{aligned}$ | Austria |  |  |
| Actatic RSF8R |  |  | $\begin{aligned} & \text { OESGOU } \\ & \text { OE1XJA (OE1 } \end{aligned}$ | 2,380-70 | 34-16-A |
| UASFBV 2,940-84-35-24-A UZ9CWA (UA9B CGA,CFV,SWW,CR, UVSCAF,0ps) 27,720-315-88-24-B |  |  |  | 5,428-118. | 46-24-A |
|  |  |  | Fintand |  |  |
|  |  |  |  |  |  |  |  |  |
| Europe |  |  | OH2LU | 9,840-164 | 60-12-B |
| Fed Rep of Gormany |  |  | Czechoelovalia |  |  |
| dKJEA | 3,975-75- | 53-24-B | OK2FD | 19,800-264- | 75-17-8 |
| DF9XI | 2,193-51- | 43-24B | Belgium |  |  |
| DLPRBV | 1,848-56- | 33-24-A |  |  |  |  |  |  |
| DKTFP/P | 1,189-41 | 29-24A | ON6CR | 30-6- | 5- 6-A |
| DKAN | 1,131-30- | 29-24A | Donmmank |  |  |
| DK5KJ | 750. $30-$ | 25-24B |  |  |  |  |  |  |
| DLZYAK | 231-21- | 11-4-8 | OZ1OI | 132. 12- | 11-24A |
| Speln |  |  | Sweden |  |  |
| EA5FKI | 4,914 91- | 54-24-A | SMMCMG | 6,600-120- | 55-15-B |
| Irotend |  |  | SMMSBKASM7BGE | 2,340- 65 | 36-12-A |
|  |  |  | 989.43 | 23-9A |
| El9CB | 7,387-130-53-16-A |  |  | SM5CZD | 420. 28 - | 15-10-A |
|  |  |  | SM5EIT | 208-16- | 13-24-B |
|  |  |  | Poland |  |  |
|  |  |  | SP3SUN | 14.105-155- | 91-24-A |


| $\begin{aligned} & \text { SP2UUU } \\ & \text { SP3BGD } \end{aligned}$ | $\begin{array}{rr} 285-19 \\ 16-\quad 4 \end{array}$ | $\begin{array}{r} 15-24-A \\ 4-24-B \end{array}$ |
| :---: | :---: | :---: |
| Europeen Ruselan RSFSR |  |  |
| UA3TN | 920-46- | 20-24-A |
| Romania |  |  |
| YO21S | 10,150-175- | 58-24A |
| YOBUN | 2,170-70- | 31-24A |
| YO6CFB | 1,568-56- | 28-24-A |
| YO7FT | 15414 | 11-24A |
| North America |  |  |
| Dominican Republic |  |  |
| HI3ADI | 31,875-425- | 75-17-A |
| Panama |  |  |
| HP1AC | 5,546-118- | 47-24-B |
| Aleaka |  |  |
| KLIXD | 29,952-384 | 78-19-B |
| AL7BK | 10,659-187- | 57-14A |
| KLTPG | 9,050-181- | 50-13-A |
| KL7CO | $968-44$ | 22-24-B |
| Virgin lelands |  |  |
| KP2N | 46,200-550- | 84-22-B |
| Brtish Virgin lelende |  |  |
| K2BMINP2V | 42,772-578- | 74-22-A |
| Moxico |  |  |
| XE1V | 15,960-295- | 56-24-B |
| Oceania |  |  |
| Guam |  |  |
| KH2D | 3,772-92- | 41-24-B |
| Hewall |  |  |
| WHEI | 9,702-198- | 49-11-A |
| Australla |  |  |
| VK28CO | 765-45- | 17-24A |
| Now Zoelend |  |  |
| ZL2AKI | 2,627-71- | 37-23-A |
| South America |  |  |
| Urugury |  |  |
| CX5BX | 11,160-180- | 62-24-A |


| Colombla |  |  | Rhode leland |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HK1LDG | 42,930-477- | 90-24-8 | KB1EM | 10,080-180- | 56-10-A |
| Brazh NIW 1,017-71. 27-10A |  |  |  |  |  |
| PT28W | 8,232-147. | 56-15-A | Western Meseachusetts |  |  |
| Venezuela |  |  | W1BYH | 14,256-198- | 72-24-B |
|  |  |  | WB1GSO | 6,804-126- | 54-15-B |
| 4M5RY (VV5KAJ,op) |  |  | KA1GFU | 4,752-108- | 44-18-A |
|  | 33,768-252-1 | 134-22-A | KAIIFE | 726-33- | 22-8-A |
| Trinided and Tobego |  |  | 2 |  |  |
| 9Y4DG | 10,860-181- | 60-18-A | Eastern Now York |  |  |
| Mertime Moblie |  |  | WM2U | 4,141-101- | 41-15-A |
|  |  |  | WB2SPN | 2,128-56- | 38-8-A |
|  |  |  | KE2LJ | 1,500-50- | 30-11-A |
|  |  |  | W1KHQ | 646-34- | 19-4-A |
| W |  |  | KB2GKY/N | 570. 30- | 19-17-A |
| 1 |  |  | NYC-Long latand |  |  |
| Connecticut |  |  | KC2FDN2FF | 30,030-385- | 78-24-B |
| NO1Y NT1I | 24,794-322- | 77-24-A |  | 9,180-170- | 54-22-A |
|  | 5,500-110- | 50-11-A | W2AYJ | $3,900-100-$ 2,014 | - $38-10-\mathrm{A}$ |
| KH6CP/1 | 2,496-78- | 32-11-A | $\begin{aligned} & \text { KD2BW } \\ & \text { K2RY1 } \end{aligned}$ | 1,736-56- | 31-98 |
| KY1T | 1,696-53- | 32-7-A |  | 1,326-51- | 26-6-A |
| N11L NFIJ | 1,456-56- | 28-10-A | Northern New Jersey |  |  |
|  | $\begin{array}{ll} 720 & 30 \\ 640 & 32 \end{array}$ | 24-4A | K2NJ | 41,322-428. | 97-24-B |
|  |  | 20-2-B | WA2IKL | 16,215-235- | 69-24B |
| Eaptern Massachusetts |  |  | WA2PNI | 16,170-245- | 66-24-A |
| KTiN | 69,102-698- | 99-24-B | ND2K | 7,830-145- | 54-11-A |
| WIIHN | 13,084-184 | 71-24B | KE2CG | 5,700-100- | 57-16-B |
| W1TR | 11,592-184 | 63-17-A | KD2L K2BO | 2,244 ${ }^{504}$ 28- | 33-6-B $18-24-8$ |
| N1FIO | 10,726-173- | 62-16-A |  | 504.28 | 18-24B |
| WIHFN | 7,670-130- | 59-13-A | Westem Now York |  |  |
| W1AX | 3,285-73- | 45-48 | WBEZQP | 7,168-128- | 56-22-A |
| WAITPE | 1,749-53- | 33-9A | KD2XN | 5,760-120- | 48-13-A |
| Malne |  |  | W2YRH | 5,460-105- | 52-24-B |
| KIEVU | 21,520-269 | 80-13-A | K2PYM | 1,995-57. | 35-18-A |
| KC1BS | 800-31- | 26-10-A | Kazaey | 735-35- | 21-7-B |
| Now Hampehtre |  |  | 3 |  |  |
| NU1E <br> KA1LMR <br> NJ 1 H <br> W1UBG <br> WB2MBQ | 18,000-225- | 80-24-A | Deleware |  |  |
|  | 13,333-199 | 67-18-A |  |  |  |
|  | 5,780-120- | 48-14A | N3DLM | $798-42 .$ | 19-9-B |
|  | 672-28- | 24-24-B | Esatern Pen | noytuania |  |
|  |  |  | NT3B KW3F | $\begin{array}{r} 12,888-179 \\ 6,032-116- \end{array}$ | $\begin{aligned} & 72-18-A \\ & 52-13-A \end{aligned}$ |


| N380U | 5,424-113- | 48-19-A | KD4VR | 1,664 52. | 32-10-A | Orange |  |  | 8 |  |  | lowa |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WB3FIZ | 3,854-82- | 47. 8-A | WIUDB/4 | 594-33- | 18-7-A | werwo |  |  | 8 |  |  | lowa |  |  |
| W3GU | 3,772-82- | 46-10-8 | KFAWB (+ NAUNE) |  | 50-23-A | K16X | 2,418-78- | 31-11-A | Michigan |  |  | NUPP | 24,948-324- | 77-24-A |
| KC3ST | 2,240-56- | 40-11-A |  | 4,850-97- |  |  |  |  | WBMCK | 35,061-403- | 87-22-B | Kanses |  |  |
| N3FOG/ | $1,550-62$. $780-39$ | 20-12-A | Tennesee |  |  | Santa Clara Valley |  |  | N8ABW | 14,780-246- | 60-17-B | Kowz | 33,728-462. | 73-24-8 |
| WA3SDV | 432. 27. | 16- $6-A$ | K41BP | 9,858-159- | 62-16-A | KDGPY | $31,692-417-$ $3,612-84$ | 76-24-A | KOCV | 11,457-201. | 57-24-8 | NOHYG | 3,816-106- | 36-13-A |
| W3GBG | 425-25- | 17-11A | KDAMM | 7,975-145- | 55-13-A | WDGFPJ | $3,612-84$ 1,104 |  | K80sF | 4,536-108- | 42-10-A | KCOSIXN | 548-42. | 13-24-A |
| W3KV | 272. 17. | 18-24-8 | WAMJY | 3,128-68- | 46-24-A |  | 1,104 46- | 24-10-A |  | 3,150-75- | 42-12-A | NEFMR (+ | PF) |  |
| N3DIZT | $30-6$ | 5- 3-A | WAAMCZ | 1,590-53- | 30-8-A | Sm Francia |  |  |  | 2,144-67. | 32-17-A |  | 10,450-209 | 50-19-A |
| KA3DSX (+K | A3HNM) <br> 5,909-127- | 47-18-A | KBAYBRT | 532-38- | 14-13-A | W6JOX | 2,013-61- | 33-13-A | Onlo |  |  | Minnesota |  |  |
| Maryland-DC |  |  | Virginia |  |  | Smen Joequin Valiey |  |  | AB8K 22,640-283-80-18-B |  |  | KEAKB |  |  |
|  |  |  | KF4FP | 2,516-68. | 37-24-A | WeMTJ | 8,840-144. | 60-23-B | WBPENK | 11,830-182. | 65-14-B $59-21-A$ |  | 41,124-447. | 92-24-B |
|  | W3LPL (W3EKT,OP) | 105-24-B | AAACK | 2,262-58- | 39-5-B |  |  |  | WB8YJF | 10,032-152. | 68-14-A | KDESF | $1,560-60-$ $1,430-65$ | $26-12-A$ $22.7 A$ |
| WB3DDF | 12,726-202. | 63-22-A | 5 |  |  | Secramento Velloy |  |  | NONB | 4,950-110- | 45-23-A | Wetiv | 1,242-54 | 23-24-B |
| N3UN | 11,946-181. | 68-11-A | 5 |  |  | N6GG | 41,085-495- | 83-20-8 | WBEXI | 2,800-72. | 39-17-A | Wheort (+ | EOB) |  |
| WBewry/ | 10,050-201- | 50-20-A | Arkenses |  |  | 7 |  |  | WBEWTS <br> KE8UA | 2,142- 63. $2,072-56-$ | 34 $37-21-A$ |  | 13,462-254 | 53-24-A |
| $\begin{aligned} & \text { W3EAX (KA1GD,KD3FU,OPS) } \\ & 3,713-79-47-8-8 \end{aligned}$ |  |  | WA5VBE | 1,952-61- | 32-7-A | Artzona |  |  | KC8YL WBVO | 2,040-60- | 34-24-A | Miseour |  |  |
|  |  |  | Louletena |  |  |  |  |  | 1,040-40- | $26-6-\mathrm{A}$ | WACOUI | 5,490-120 | 45-19-8 |
|  |  |  | AA5AU <br> KG5EG <br> K5KLA <br> WB5ASD <br> KB5NR | 44,616-507. | 88-24-A | K6LL | 72,447-779- | 93-24-B |  | WBidM | $945.35-$ | 27- 5-A | KBAANP/T | 469-39- | 12.13-A |
| Weatem Penneytrania |  |  |  | 18,600-300- | 62-22-A | KC7M | 3,630-101- | 36-10-A | N8RETT | 612. 36 | 17-14-A | N9BU | 378-27. | $14-24-A$ |
| WA3inx | 2,304-64 | 36-15-A |  | 3,552-74 | 48-11-B | N7LOS | $\begin{aligned} & 2,294 \\ & 1,947 \\ & \hline 59 \end{aligned}$ | $\begin{aligned} & 31-8-A \\ & 33-12-A \end{aligned}$ | WABMM | 240. 20 | 12-7A | North Daket |  |  |
| 4 |  |  |  | 2,108- $\mathbf{1 , 9 8 0}$ | $31-24-A$ $35-8-A$ | W7KB | 315- $21-$ | 15-4-8 | Weat Virg |  |  | NTON | 37,000-500- | 74-24A |
| Coorgla |  |  |  | 1,800.50. | か- |  | 221-17- | 13-1.A | WABFLF KC8FS | $\begin{array}{r} 5,244-114 \\ 2132 \quad 70 \end{array}$ | 46-19-A $27-20-A$ | WBLHS | 5,547-129 | 43-24-A |
|  |  |  | Miselsalppl |  |  | Ematem Washington |  |  |  |  |  | Neb |  |  |
| MATH | 47,437-533- | 89-24-B | KBSECKT | 1,098-61- | 18-14A |  |  |  | 9 |  |  |  |  |  |
| KD4W | 18,884-262. | $72.17-A$ $57.18-A$ | W5VZF (+KB | 4HB,WACDEE |  | WATEGA | 48,720-609 | $80-20-\mathrm{B}$ |  |  |  | KB6IC | 19,108-281- | 68-24-8 |
| KLTTF/4 | 6,370-130. | 49-24-B |  | 3,07\%-114 | 27-24-A | K7GS | 10,540-170- | 62-12-A | Minots |  |  | South Davo |  |  |
| NN4K | 2,196-61. | 36-10-A | North Toxes |  |  | KC7MM | 3,996-108- | 37-24A | WDgozv | 7,128-132- | 54. 7-A | WAOVORI + |  |  |
| KK4DF | 2,100-60- | 35-10-A | MasFR |  | 81-21-A | WTZRR | 2,100-75- | 28-13-A | WPHLQ | 5,130-114- | 45-24-8 | WALVOM | 19,584 306 | 64-18-8 |
|  |  |  |  |  | 45-23-A | K7JRN | 1,878-67. | 28-20-A | KR9G | 4,108-79- | 52-16-A |  | 10,504 300 |  |
| Kentucky |  |  | $\begin{aligned} & \text { WMGH } \\ & \text { KF5SSH } \\ & \text { KA5ZBT } \end{aligned}$ | 2,812-78- | 37-15-A | Idaho |  |  | WOFFA | $3,828-116-$ $3,388-77$. | $33-13-8$ <br> 44 <br> 17 | VE |  |  |
| KHON | 5,040-112- | 45-14A |  | 1,643-53- | 31-24A | WB7Y | 13,624-262. | 52-18-A | WAgAKT | 2,170-70- | 31-10-A |  |  |  |
| WBalkP | 2,145-55- | $39-10-A$ | Odiahoma |  |  | WSTU | 90.10 | 9 1-A | WAOYII | 2,117-73- | 29.14 A | Cusber |  |  |
| North Carolina |  |  |  |  |  | KB7FNIT | 88.11 - | 8. 6-A | NGGTT | 1,475-59- | 25-24-A | VEROWL | 3,980-88- | 45-20-A |
| KLAMI WBAM | 15,318-207- | 7422-A |  | 3,774-111. | 34.8-8 |  |  |  | WB9B | 425-25- | 17. 3-A |  | 2,613-67- | 39-24-A |
|  | 10,354-167- | 62-14A | South Texes |  |  | Oregon |  |  | Incliona |  |  | Ontario |  |  |
| K4JYS | 8,758-151- | 58-15-A |  |  |  | WJ7s | $29,120-364$ $9,900-150$ | -60-24A |  |  |  | VE3UR | 18,504-257- | 72-24A |
| KD4OM | 4,183-89 | 47-16-A | $\begin{aligned} & \text { KSLTW } \\ & \text { KSEJLL } \end{aligned}$ | $\begin{gathered} 4,105-119 \\ 204 \quad 17 \end{gathered}$ | 35- 7-A |  |  | 68-17-B $52-16-B$ | KgVak |  |  | VESJAN | 2,498-64- | 39-198 |
| NaRTK | 2,940-70- | 42-17A |  |  | 12. 3-A | W7MP | 4,578-88- | 52-16-B |  | ${ }_{1,624}^{2,124-59}$ | 30-24-8 |  |  |  |
| WAADAZ | 1,271- 41- | 31-4A |  |  |  | NJ7S | 2,708-60- | 41-11-A | KD9HT | 1,624 900 | $29-24-8$ $25-4$ | Alberta |  |  |
| KCAHIU/T | 93 | 3. 1-A | WF5E |  |  | K7SGT | 2,360-59- | 40-15-A |  |  |  | VE6zX | 33,210- |  |
| Northern Florida |  |  |  | 47,188-536- | 88-24-B | Weatern Waehington |  |  | Wheconein |  |  | VEbBS | 13,719-269- | 51-23-A |
|  |  |  | 6 |  |  | NG7P WA7PVE | 73,728-788- | $\begin{aligned} & 96-24-B \\ & 44-12-A \end{aligned}$ | WBoMSM <br> NXSH | $\begin{array}{r} 12,788-228- \\ 4,410-105- \end{array}$ | $\begin{array}{r} 56-24-A \\ 42-19-A \end{array}$ | Check Logs |  |  |
|  |  |  | K17T (+ WBTVHL,WLTV) |  |  |  |  |  |  |  |  |  |
|  |  |  | Los Angeles |  | 48-22-A | 0 |  |  | SM6EZI, SP2FN, YO2CMI, KB2CLO. WBAFY |  |  |  |
|  |  |  | WB6SSW | 10,545-185- |  |  |  |  | 57-20-A |  |  |  |
| South Carolina |  |  |  |  | $\begin{aligned} & \text { WBCN } \\ & \text { KEGT } \end{aligned}$ | 4,232-92- | 46-15-A | Wyoming |  |  | Colorado |  |  |  |  |  |
| WAABHK | 2,301-59 | 39-7-A | 2,300-50. | 46-13-A |  | KB7M | 4,480-112- | 40-18-A |  |  |  | $\begin{aligned} & \text { NFBB } \\ & \text { NCaU } \\ & \text { KEBP } \\ & \text { K3ZMOT } \\ & \text { WDEE } \\ & \text { NMSE } \end{aligned}$ | 8,477-173- | 49-12-A |  |  |  |
|  |  |  | WEOSMX | 50. 50 | 5-24A |  |  |  | 6,174-147. | 42-8-8 |  |  |  |  |
| Southem Florida |  |  | WB6WCA (+NGCEZ) ${ }_{\text {12,16e-234-52-16-B }}$ |  |  |  |  |  | 5,168-123- | 42-24A |  |  |  |  |
| KB2VO | 28,026-346- | 81-18-B |  |  |  | 495-33- |  |  | 15-10-A |  |  |  |  |
| WAROK | 4,047-71- | 57-17-A |  |  |  | 160-8-1 |  |  | 7. 1-A |  |  |  |  |

From September 1989 QST © ARRL

