

# Results, 1981 IARU Radiosport Championship

By Mark J. Wilson,\* AA2Z

While most people were outside last July enjoying the beach, cookouts, nice weather and all the other pleasures of summer, thousands of dedicated contestants throughout the world were actively engaged in the 1981 IARU Radiosport Championship. Hams in the United States and Canada, in the Soviet Union, in Bahrain and Liberia, in Japan and Thailand, were all making contacts with other hams throughout the world. In all, 1483 participants submitted entries (down slightly from 1501 last year), signaling that the Radiosport Championship is indeed a very popular contest.

The International Amateur Radio Union added two new members to the union, San Marino and Andorra, since the 1980 contest, bringing the total number of member societies to 113. Welcome aboard!

As usual, summer propagation conditions from the United States left something to be desired. Most of the action was on 15 meters this time around, with 20 running a close second. However, there were plenty of good multipliers to be found on 80, 40 and 10 meters for those operators willing to patiently listen for weak signals. Knowledge of sunset/sunrise times is essential during this contest to catch those rare zones at the peak times.

A look at the top scores table shows many, many high scores from the Soviet Union and Eastern Europe. The Radiosport Championship is probably more popular among hams in those countries than any other contest. We received more than 300 Soviet logs this year listing contacts with thousands of different "U" call signs.

The 1981 contest saw several new records. N2ALK at K2TR just narrowly beat the old K5TM/K5ZD W/VE mixed record, while K5GN operating K5GA squeaked by K1KI's cw-only record from 1980. On the W/VE multioperator front, a seasoned crew at A16V smashed the record set at W6RDF last year. Only one new world record to report, with LU8DQ using some outstanding trans-equatorial propagation to set a new cw-only record as he has done every year since the first Radiosport.

The next running of the IARU Radiosport Championship is July 10-11, 1982. See you then?



From left to right then going up are: KM8Y, W8YZ then KA8EEA, WD8QKK, KK8K, WB8SEZ, and AK8H of W8YZ multioperator station fame.



WB9JKI — top code operator from Illinois in the 1981 contest.



SM0CCM (background) checks the logs as KR6Q fills 'em using the call sign K6TMB/OH0 from Aland Island.

## Top Scores — W/VE

| Mixed         |           | Phone         |           |
|---------------|-----------|---------------|-----------|
| K2TR (N2ALK)  | 1,383,642 | K6HNZ         | 930,832   |
| WA6DBC        | 905,590   | VE7CC         | 923,731   |
| K5KG          | 622,089   | AA8U          | 735,065   |
| N7DF          | 521,835   | AG7M          | 597,811   |
| N8II          | 494,856   | AI8D          | 579,200   |
| KU6J          | 443,646   | K8MJZ         | 576,576   |
| WB8JBM (AA8S) | 388,056   | WB5DDI        | 523,925   |
| AA4NC         | 385,000   | N4UH          | 495,410   |
| K8BEC         | 377,880   | K1WW          | 429,613   |
| N6VI (N6MI)   | 323,733   | K7NW          | 394,725   |
| CW            |           | Multioperator |           |
| K5GA (K5GN)   | 1,076,400 | AI6V          | 2,064,650 |
| K7NHV (N6TR)  | 815,606   | N2RM          | 1,549,560 |
| K6LL          | 791,910   | W6YX          | 1,394,787 |
| K1KI          | 767,100   | N4VV          | 1,371,843 |
| K7GM          | 695,808   | K1ZZ          | 1,364,856 |
| KN5G          | 679,768   | W5WMU         | 1,317,200 |
| K1XA          | 644,292   | KN8R          | 1,224,308 |
| N4DW          | 644,266   | K0CL          | 1,213,520 |
| K5NW          | 643,600   | AD8I          | 1,172,309 |
| KM5R          | 640,224   | W5XZ          | 1,130,006 |

## Top Scores — World

| Mixed          |           | Phone         |           |
|----------------|-----------|---------------|-----------|
| UA1DZ          | 1,466,450 | HA5NP         | 1,185,480 |
| **K2TR (N2ALK) | 1,383,642 | OK6DX         | 1,050,060 |
| UB5LAW         | 1,306,742 | K6HNZ         | 930,832   |
| UM8MAO         | 1,259,544 | VE7CC         | 923,731   |
| UC2ACA         | 1,233,869 | HA5EIV        | 900,500   |
| UI8LAG         | 1,150,373 | OH1IJ         | 857,490   |
| YU1DW          | 1,071,918 | 4X6DX         | 840,942   |
| UQ2GDQ         | 1,071,480 | UA0WAY        | 744,744   |
| Y22OM          | 982,800   | AA8U          | 735,065   |
| UB5AAF         | 908,747   | UA6ALL        | 680,734   |
| CW             |           | Multioperator |           |
| *LU8DQ         | 1,797,400 | XE2QQ         | 2,652,364 |
| UP2NK          | 1,250,865 | UK2BBB        | 2,526,520 |
| UP2NV          | 1,249,740 | UK2PCR        | 2,419,375 |
| **K5GA (K5GN)  | 1,076,400 | UK6LAZ        | 2,414,340 |
| AH6BK (K7TI)   | 1,015,854 | **AI6V        | 2,064,650 |
| N5RM/NH0       | 939,205   | UK5MAF        | 1,940,888 |
| UB5ZAT         | 857,790   | HG6V          | 1,888,125 |
| K7NHV (N6TR)   | 815,606   | OK1KSO        | 1,811,160 |
| EA2IA          | 806,505   | UK0AMM        | 1,564,862 |
| UW3HV          | 801,486   | N2RM          | 1,549,560 |

\*New world record

\*\*New W/VE record

\*Assistant Communications Manager, ARRL

## Multplier Leaders (Total, 1.8 MHz, 3.5 MHz, 7 MHz, 14 MHz, 21 MHz, 28 MHz, VHF)

| Phone + CW    |     |    |    |    |    |    |    |   |
|---------------|-----|----|----|----|----|----|----|---|
| K2TR          | 162 | 2  | 16 | 23 | 40 | 49 | 30 | 2 |
| UC2ACA        | 149 | 11 | 15 | 25 | 39 | 39 | 20 | - |
| UA6LFX        | 143 | 7  | 12 | 25 | 34 | 41 | 24 | - |
| UA1DZ         | 139 | 9  | 13 | 26 | 40 | 37 | 14 | - |
| OK2BLG        | 133 | 2  | 15 | 17 | 41 | 38 | 20 | - |
| UB5AAF        | 131 | 5  | 12 | 20 | 39 | 34 | 20 | 1 |
| CW            |     |    |    |    |    |    |    |   |
| K5GA          | 156 | 5  | 18 | 28 | 40 | 39 | 25 | - |
| LU8DQ         | 152 | 5  | 20 | 32 | 36 | 33 | 26 | - |
| K1KI          | 150 | 5  | 13 | 24 | 45 | 40 | 23 | - |
| UB5ZAT        | 135 | 11 | 13 | 21 | 33 | 34 | 23 | - |
| UP2NK         | 133 | 6  | 9  | 28 | 37 | 33 | 19 | 1 |
| Phone         |     |    |    |    |    |    |    |   |
| OK6DX         | 132 | -  | 9  | 16 | 40 | 38 | 29 | - |
| DL8PC         | 117 | 1  | 12 | 10 | 37 | 37 | 18 | 2 |
| AA8U          | 113 | 2  | 4  | 11 | 35 | 49 | 11 | 1 |
| K6HNZ         | 112 | -  | 3  | 12 | 37 | 40 | 20 | - |
| HA5NP         | 111 | -  | 9  | 16 | 34 | 34 | 18 | - |
| Multioperator |     |    |    |    |    |    |    |   |
| AI6V          | 175 | 7  | 13 | 31 | 52 | 44 | 24 | 4 |
| UK2PCR        | 175 | 8  | 18 | 31 | 48 | 45 | 24 | 1 |
| UK6LAZ        | 170 | 8  | 15 | 32 | 42 | 44 | 28 | 1 |
| UK2BBB        | 168 | 5  | 14 | 32 | 48 | 46 | 21 | - |
| HG8V          | 159 | -  | 14 | 21 | 45 | 56 | 22 | 1 |

## SOAPBOX

The Radiosport is the perfect combination of the November SS and the CQ WW DX Contest. No matter what time of day it is, there are stations that the "little pistols" can work (KB9AW). Why not make this a two weekend contest? One weekend for phone and another for cw (I2UIY). I found the conditions to be very poor during the period of the contest. You will notice that there are very few Japanese stations worked from here — a very unusual situation for a

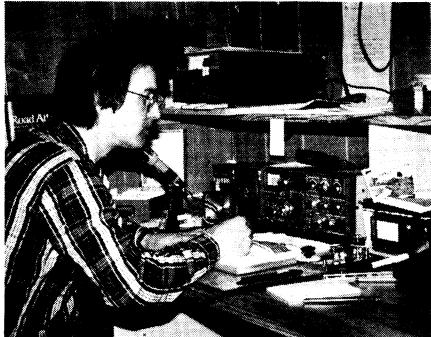
contest weekend (ZL2RY). I like the Radiosport scoring system, which makes it worthwhile to hunt the stations outside your zone and continent rather than sitting in one spot calling "CQ." It gives us little guys a shot at using strategy to make up for a lack of high power amplifiers and monster antennas (WA2SEL). Conditions on the high bands were down from last year, but the low bands were improved. Please don't change the scoring system. This contest has something for everyone the way it is set up now. We stand a chance to win here in W5, but note that the chief com-

petition came from W1 and W7. Both ends and the middle of the country can do well in this contest. The strategy is the only difference. My best moment was actually hearing LU8DQ on 160 meters. Wow! (K5GN). I'm glad that I could get in this contest just to have a good time and not threaten those who were risking exhaustion and hyper-tension trying to win (AF3Z). Thank goodness for cw. Without it I could not have operated in the contest at all. I developed a severe case of laryngitis before the contest. Used cw exclusively in the contest to save my voice for my job — radio announcer. Had to go through life as Freddy the Frog for awhile. Maybe I should have gone on ssb "ribbit ribbit" — might have been effective against the Woodpecker. Hi! (W7JYW). My special moment was working two "new ones" (JT0WA and 4X4VL) within 15 minutes, using just my barefoot TR-3 and a 40-meter dipole on 15 meters (K6ZH). I'm really glad that there's at least one good contest that I can operate while I'm out of school. I can never forget that it's summer what with the desert temperatures passing the century mark and the L-4B a-frying' beside me. Whew! (KB7PJ). This is a grueling contest for us "old timers." In the ARRL DX Contest, at least, one has the opportunity to choose single-band entry and thus get some decent sleep. One small rule change which would help this situation would be to make the minimum "off" time 4 hours instead of half-hour increments. This rule change would also minimize the temptation to cheat by listening for multipliers during a series of 30-minute quasi "off times." "Rubber-clocking" would also be reduced. As you know, multipliers are extremely important in this contest. Also, the paperwork associated with this contest is a nightmare. I guess that there's not much that can be done about that, but on the summary sheet do you really need QSO points broken down by band? (K6LL). My intense concentration in the dwindling hours of the Radiosport was interrupted by the unexpected appearance of gentle giant WB8PBC, who easily goes about 6'8". His entrance into the shack startled me a bit — with a gasping moan, I flipped over backwards in the operating chair. Fortunately, George lifted me back into place instantly, and I was able to resume the run without missing a beat. Thank goodness for memory keyers (K1XA).

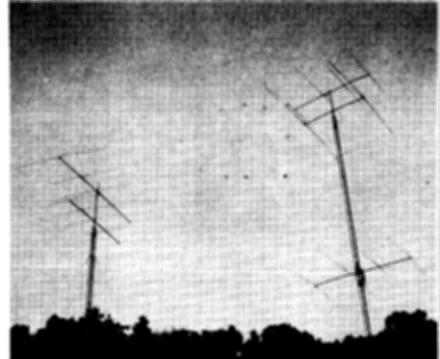
## Scores

Scores are listed by ITU zone, then by country within that zone. The line score (example — KL7Y 264, 496-1023-61-A) indicates the call sign used, the total score, the number of valid contacts, the number of ITU zone multipliers, and the entry class. The entry class letters indicate: A — single operator, mixed mode; B — single operator, cw only; C — single operator, phone only; D — multioperator, single transmitter.

|   |  |   |   |   |  |   |   |   |                    |
|---|--|---|---|---|--|---|---|---|--------------------|
| <b>Zone 1</b>   | W6DNY<br>N6IP (+AG1E)<br>391,460-1050- 92-D  | 4752- 99- 16-B  | K46V<br>KDGLB<br>WD5JMC<br>N6MB (+W2KVA, WA61ET)<br>378,360-1031- 90-D                          | 54,850- 341- 50-C<br>28,160- 254- 32-C<br>9106- 86- 29-C<br>378,360-1031- 90-D  | Utah   | 521,835-1483- 95-A<br>5911- 93- 23-A<br>4400- 52- 22-A<br>26,271- 95- 63-B  | W5VSZ<br>KS5M<br>KC5IG  | 33,696- 224- 39-B<br>310,590-1146- 87-C<br>8560- 157- 16-C  |                    |
| <b>Alaska</b>   | <b>Los Angeles</b>   |   |   |   | <b>Washington</b>  |   | <b>Northern Texas</b>   |   |                    |
| KL7Y<br>KL7AF<br>WB7SVT/KL7 (WA4CP, opr.)<br>3724- 78- 14-B                         | N6V1 (N6MI, opr.)<br>393,733-1016- 93-A  | 98,280- 440- 65-A   | W6DEERA<br>N6NE<br>N6NW<br>N6QW<br>K46FV<br>WB2KXC/6  | 56,672- 427- 44-A<br>52,252- 318- 52-A<br>24,678- 260- 27-A<br>233,091- 767- 89-B<br>9369- 140- 27-B<br>3120- 78- 13-C      | W7PQE<br>K7WA<br>KG5W/7<br>W6LUR<br>K171<br>80,520- 464- 55-B<br>2880- 60- 27-B<br>W7BYK<br>W7R7RM<br>K7RS<br>K7RS | 108,744- 456- 69-A<br>65,127- 349- 51-A<br>19,504- 86- 53-A<br>3,120- 157- 10-A<br>6048- 60- 27-B<br>2880- 60- 18-B<br>597,811-1769- 97-C<br>394,725-1141- 95-C<br>1,394,787-2328-151-D<br>184,184- 607- 56-D | KA5W<br>W9P/W5<br>K51P<br>K51R<br>K51M<br>WB5PKH<br>WB5VZL (WD5BIK, opr.)<br>K55OR<br>W51KTD<br>K2SCU/5<br>K5FUU (+AF5K, K5MM, KM5s, K, X, WD5JBA)<br>896,793-2010-123-D  | 284,958- 871- 81-A<br>116,928- 503- 64-A<br>63,600-1560-111-B<br>64,000- 100- 70-B<br>167,325- 693- 75-B<br>122,368- 596- 64-B<br>78,228- 450- 53-B<br>70,752- 338- 66-B<br>288,861-1010- 70-C<br>1,819,800- 597- 74-C<br>76,734- 380- 63-C<br>896,793-2010-123-D |                    |
| <b>Zone 2</b>   | <b>British Columbia</b>  | <b>Orange</b>   | <b>Santa Clara Valley</b>   | <b>Washington</b>   | <b>Northern Texas</b>  |   |   |   |                    |
| VE7FFI<br>VE7ZK<br>VE7IQ<br>VE7CC<br>VE7TAR (VE7DQS, 2 oprs.)<br>127,673- 567- 61-D | W6TSE<br>W6BJS<br>N6M<br>W6JAH<br>W6PE<br>AC6H<br>WD6EWG<br>AA6DP<br>NC6T (+N6DFY) | 193,759- 890- 71-A<br>191,520- 567- 96-A<br>40,660- 1175- 88-B<br>367,840-1112- 102-B<br>388,028-1002-102-B<br>104,920- 546- 61-B<br>92,140- 422- 68-B<br>82,044- 515- 53-B<br>592,365-1768-105-D | W6OWQ (+K46V, W6B6C)<br>1,394,787-2328-151-D<br>184,184- 607- 56-D                              | W7PQE<br>K7NW<br>WA7PVE<br>W6LUR<br>K7RS  | 597,811-1769- 97-C<br>K7NW<br>WA7PVE<br>107,000- 375- 55-C<br>37,556- 341- 41-C                                    | K55W<br>W9P/W5<br>K51P<br>K51R<br>K51M<br>WB5PKH<br>WB5VZL (WD5BIK, opr.)<br>K55OR<br>W51KTD<br>K2SCU/5<br>K5FUU (+AF5K, K5MM, KM5s, K, X, WD5JBA)<br>896,793-2010-123-D                                      | 284,958- 871- 81-A<br>116,928- 503- 64-A<br>63,600-1560-111-B<br>64,000- 100- 70-B<br>167,325- 693- 75-B<br>122,368- 596- 64-B<br>78,228- 450- 53-B<br>70,752- 338- 66-B<br>288,861-1010- 70-C<br>1,819,800- 597- 74-C<br>76,734- 380- 63-C<br>896,793-2010-123-D |   |                    |
| <b>Zone 3</b>   | <b>Saskatchewan</b>  | <b>W7</b>   | <b>Wyoming</b>  | <b>Oklahoma</b>   | <b>Southern Texas</b>  |   |   |   |                    |
| VE5AAD<br>VE5AAC  | 49,134- 415- 38-B  | K6AA (KE6B, N6C, N6HE, WB6KWW, oprs.)<br>237,204-1194- 66-D   |   | WA5YTX  | 41,642- 272- 47-B  | WSAS<br>KK5I<br>N0IN/5<br>WSTZN   | K5KG<br>N5BA<br>K51P<br>K51R<br>K51M<br>WB5YXK<br>K5GA (K5GN, opr.)<br>K55W<br>W51KTD<br>K2SCU/5<br>K5FUU (+AF5K, K5MM, KM5s, K, X, WD5JBA)<br>896,793-2010-123-D   | 41,538- 308- 43-B<br>22,048- 116- 52-B<br>10,426- 123- 26-B<br>21,816- 254- 27-C  |                    |
| <b>Zone 4</b>   | <b>Quebec</b>  | <b>Sacramento Valley</b>  | <b>Arizona</b>  | <b>Zone 7</b>   | <b>Arkansas</b>  | <b>W5</b>   | <b>W5</b>   |   |                    |
| VE2JR<br>VE2WA  | 30,970- 173- 38-A<br>65,018- 58-B  | K16O<br>NGJM<br>AF6D<br>NGWR<br>WD6EFU<br>A16V (+N6s KT, TU, WA6VEF)<br>2,064,650-3113-175-D  | W6BEZO<br>KE7W<br>K6LL<br>K7GM<br>K67P<br>WA/YUL<br>K7K7H (+WB7P7T, opr.)<br>460,320-1306-105-D | 100,386- 603- 54-A<br>17,802- 100- 43-B<br>16,775- 65- 61-B<br>12,200- 156- 25-C<br>741- 17- 13-C<br>16,34- 210- 29-C       | K9VGB<br>K5EB<br>W5EIJ   | 64,844- 304- 58-A<br>161,352- 667- 74-B<br>15,776- 134- 34-B  | K5KG<br>N5BA<br>W5YXK<br>K5GA (K5GN, opr.)<br>K55W<br>W51KTD<br>K2SCU/5<br>K5FUU (+AF5K, K5MM, KM5s, K, X, WD5JBA)<br>896,793-2010-123-D  | 622,089-1531-117-A<br>232,734- 904- 79-A<br>52,417- 293- 53-A   |                    |
| <b>Zone 5</b>   | <b>Ontario</b>   | <b>San Diego</b>  | <b>Idaho</b>  | <b>Louisiana</b>  | <b>Mississippi</b>   | <b>W6</b>   | <b>W6</b>   |   |                    |
| VE3FEA<br>VE3GCE<br>VE3MFT  | 19,720- 142- 34-A<br>164,520- 656- 70-A<br>28,608- 274- 24-B                       | W6ABCB<br>W6SRM<br>K6ND<br>K6ZH<br>K6KW<br>K6EE<br>W6BIP (+WA6DJ1)<br>234,234- 578- 99-D  | K7PGL<br>W7JYV<br>K7NHV (N6TR, opr.)<br>815,606-1594-131-B                                      | 38,016- 294- 36-A<br>86,064- 545- 48-B  | K5KLA<br>W5OB<br>N5RMD<br>W5WMO (+N5AN, WA5OIH)<br>1,317,200-242-148-D   | 425,184-1024-103-B<br>59,200- 203- 64-B<br>24,960- 180- 39-C<br>12,000- 100- 31-C<br>W5XZ (+K3JTT)<br>50,006-2258-31-D  | K5KG<br>N5BA<br>W5YXK<br>K5GA (K5GN, opr.)<br>K55W<br>W51KTD<br>K2SCU/5<br>K5FUU (+AF5K, K5MM, KM5s, K, X, WD5JBA)<br>896,793-2010-123-D  | 622,089-1531-117-A<br>232,734- 904- 79-A<br>52,417- 293- 53-A   |                    |
| <b>Zone 6</b>   | <b>W6</b>  | <b>San Joaquin Valley</b>   | <b>Oregon</b>   | <b>Mississippi</b>  | <b>Colorado</b>  |   |   |   |                    |
| <b>East Bay</b>   | K56Q<br>KS6H<br>K6CSL  | W6MYP<br>W6KRO<br>Santa Barbara   | K7BYL<br>W7TC<br>W7YAQ<br>K7KJM<br>W7EEI<br>WA7VYV (+WA6VNA, RPJ)                               | 5505- 147- 15-A<br>146,034- 763- 63-B<br>133,475- 415- 95-B<br>88,556- 467- 52-B<br>44,443- 220- 49-C<br>129,828- 557- 62-D | N5EA (AE5V, KA3BER, KC5CZ, N4XC, WDE5AE, oprs.)<br>556,500-1520-105-D  | N5XA  | 182,160- 694- 69-B  | AD0O  | 116,480- 652- 65-A |



LA9FY gave it a go on phone in the 1981 Radiosport Championship.



The man and his machines — K8CC at the controls of station W8UA in Michigan.



From February 1982 QST © ARRL

| Indiana                                      | PY1BPE                   | 6593- 99- 19-C                              | UK9QAM (UA9s QU, QDS, QEP, QE2, oprs.)            | OE7SHI                         | 30,008- 364- 22-B | Austria                   | German Democratic Republic |
|--|--------------------------|---|---|--------------------------------|-------------------|---------------------------|----------------------------|
| KC9C   | 21,041- 105- 53-A        |   | 158,766- 732- 47-D                                | OE9SHL                         | 32,291- - - 49-C  | Y22OMA/ 982,800-2189-20-A |                            |
| WD8BDP                                       | 40,950- 293- 45-B        |   |   |                                |                   | Y35LM 711,348-1583-102-A  |                            |
| W9XD   | 4,520- - - 20-B          |   |   |                                |                   | Y37UF 88,312- 576- 56-    |                            |
| KB9XQ  | 3,850- 79- 14-B          |   |   |                                |                   | Y53YN 85,727- 421- 59-    |                            |
| WD9EME                                       | 3,840- 66- 20-C          |   |   |                                |                   | Y21JH 59,850- 282- 63-    |                            |
| WD9DGA (+KA9FUL, KB9MO)                      | 201,190- 954- 62-D       |   |   |                                |                   | Y23RJ 40,598- 239- 53-    |                            |
| KA9L (+N9V)                                  | 120,384- 686- 64-D       |   |   |                                |                   | Y35SK 35,498- 201- 51-    |                            |
| KA9CGA (+KA9FSC)                             | 23,766- 203- 34-D        |   |   |                                |                   | Y35UO 30,500- 171- 46-    |                            |
| Wisconsin                                    |                          |   |   |                                |                   | Y41YN 21,320- 167- 40-A   |                            |
| NA9W   | 56,644- 380- 49-A        | LA9HN 228,956- 860- 74-A                    | UA9KBC 197,640- 706- 61-B                         | Y31ZE 22,550- 801- 75-         |                   |                           |                            |
| WB9YCN                                       | 360- 21- 8-A             | LA4YV 86,602- 520- 53-B                     | UA9PKL 45,674- 279- 41-B                          | Y51XE 48,384- 318- 36-B        |                   |                           |                            |
| K9GDF  | 24,208- 288- 34-B        | LA7SI 3,900- 40- 25-B                       | UA9PKW 38,304- 271- 42-B                          | Y23CM 16,065- 106- 35-B        |                   |                           |                            |
| WB9RK  | 23,200- 130- 50-C        | LA2TO 36,736- 230- 41-C                     |   | Y24EA 10,564- 58- 38-B         |                   |                           |                            |
| WB9NKC                                       | 2240- 42- 20-C           | LA9FY 36,072- 253- 36-C                     |   | Y24ZH 2,070- 131- 26-B         |                   |                           |                            |
| KS9FI  | 75- 15- 3-C              | LA3HL 12,857- 187- 23-C                     |   | Y22UB 89,231- 104- 21-B        |                   |                           |                            |
| Finland                                      |                          |   |   | Y34SE 7780- 36- 36-B           |                   |                           |                            |
| Zone 9                                       |                          |   |   | Y23HN 34,20- 65- 15-B          |                   |                           |                            |
| OH7NW  | 39,150- 218- 45-A        |   |   | Y82ZL 2767- 43- 11-B           |                   |                           |                            |
| OH2B8  | 1050- 17- 14-A           |   |   | Y55XL 2688- 50- 16-B           |                   |                           |                            |
| OH3WS/4                                      | 260,463- 943- 79-B       | E15DP 57,456- 408- 38-C                     |   | Y26RM 1064- 61- 7-B            |                   |                           |                            |
| OH6MM  | 169,592- 652- 68-B       |   |   | Y27HN 385- 36- 5-B             |                   |                           |                            |
| OH7UO  | 85,158- 380- 54-B        |   |   | Y23HA 294- 14- 7-B             |                   |                           |                            |
| OH8LB  | 58,545- 361- 45-B        |   |   | Y23DK 23,31- 31-B              |                   |                           |                            |
| OH2BSA                                       | 32,809- 227- 43-B        | F6FBQ 215,930- 786- 65-A                    |   | Y49ZL 84- 7- 4-B               |                   |                           |                            |
| OH2BBT                                       | 6210- 155- 15-B          | F6DKV 140,504- 637- 49-B                    |   | Y38YK 93,092- 409- 68-C        |                   |                           |                            |
| OH2BU  | 3025- 295- 25-B          | F6EQV 102,624- 509- 48-B                    |   | Y44XF 61,617- 335- 47-C        |                   |                           |                            |
| OH2DN  | 2907- 47- 17-B           | F8TM 51,984- 212- 57-B                      |   | Y47XF 53,703- 334- 51-C        |                   |                           |                            |
| OH1CI  | 2178- 33- 18-B           | F3AT 21,320- 123- 40-B                      |   | Y45MF 45,156- 223- 53-C        |                   |                           |                            |
| OH1HJ  | 85,790- 1964- 101-C      | F6DMQ 454,202- 1459- 74-C                   |   | Y28EF 28,350- 250- 38-C        |                   |                           |                            |
| OH1AA  | 1592- 41- 1-C            | F6FJA 3,691- 143- 51-C                      |   | Y26VN 26,350- 201- 38-C        |                   |                           |                            |
| OH6EF  | 1071- 35- 9-C            | F6DRP 16,552- 169- 24-C                     |   | Y55UG 68,82- 96- 18-B          |                   |                           |                            |
| OH5QG  | 20- 4- 1-C               | F6GKAW (F6s B80, D2S, E8N, GDK, GWV, oprs.) |   | Y36YC 4598- 63- 22-C           |                   |                           |                            |
| OH1AH (OH1s BC, EH, HS, KC, OH7TC, oprs.)    | 906,816-2138- 96-D       | F6BVB (+F5WV)                               |   | Y26LN 2896- 47- 16-C           |                   |                           |                            |
| OH3AA (OH3s IQ, KS, K9s)                     | 226,704-1023- 48-D       |   |   | Y33TA 2190- 38- 15-C           |                   |                           |                            |
| OH3AA (OH3s IQ, KS, K9s)                     | 148,464- 759- 48-D       |   |   | Y42TC 1630- 73- 10-C           |                   |                           |                            |
| Zone 10                                      |                          |   |   | Y35WL 420- 26- 5-C             |                   |                           |                            |
| Mexico                                       |                          |   |   | Y25QG 358- 29- 5-C             |                   |                           |                            |
| XE1VV  | 221,722-1080- 59-A       | Aland Islands                               | G3XTT 85,629- 283- 69-A                           | Y54ZA (Y54s TA, UA, XA, oprs.) |                   |                           |                            |
| XE1OJO                                       | 180,695- 779- 71-C       | OH2VZ/OH9                                   | G3ESF 263,386- 849- 79-B                          | 222,360- 756- 85-D             |                   |                           |                            |
| XE1ZZA                                       | 81,651- 493- 51-C        |   | G4JBH 28,766- 211- 38-C                           |                                |                   |                           |                            |
| XE1EL  | 8,890- 311- 34-C         |   | G4JJE (+G4CV2)                                    |                                |                   |                           |                            |
| XE2QQ (K5s WA, ZD, KN9H, N5s CDO, JJ, oprs.) | 2,652,364-5212-143-D     |   | 91,902- 510- 51-D                                 |                                |                   |                           |                            |
| Dominican Republic                           |                          |   |   |                                |                   |                           |                            |
| H18GBG                                       | 36,324- 608- 18-C        | Denmark                                     | GM4FDM 310,800-1049- 74-A                         | Romania                        |                   |                           |                            |
| Panama                                       |                          |   |   | Y06WUG 48,714- 357- 46-A       |                   |                           |                            |
| HP1XAT                                       | 52,572- 399- 39-B        | LX1RK 8188- 100- 23-C                       | Y03CR 130,985- 502- 67-B                          |                                |                   |                           |                            |
| HPIAC  | 10,956- 120- 22-B        |   | OK1AEH 3332- 52- 14-B                             |                                |                   |                           |                            |
| Puerto Rico                                  |                          |   | OK3CEL 3141- 131- 9-B                             |                                |                   |                           |                            |
| KP4V   | 598,665-1460-107-B       |   | OK1CAH 1834- 40- 10-B                             |                                |                   |                           |                            |
| KP4BO  | 120,934- 769- 46-C       |   | OK1AIA 1834- 25- 10-B                             |                                |                   |                           |                            |
| Neth. Antilles                               |                          |   | OK1MSO 1562- 30- 11-B                             |                                |                   |                           |                            |
| K8UNP/PJ2                                    | 336,875- 893- 77-A       | Sweden                                      | OK1TW 1443- 25- 13-B                              |                                |                   |                           |                            |
| Costa Rica                                   |                          |   | OK3CRB 1332- 98- 6-B                              |                                |                   |                           |                            |
| T12LO  | 11,400- 116- 25-C        |   | OK1DLD 1064- 51- 8-B                              |                                |                   |                           |                            |
| Belize                                       |                          |   | OK3COK 945- 29- 9-B                               |                                |                   |                           |                            |
| VP1BCX                                       | 43,160- 315- 40-C        |   | OK1AQH 360- 24- 5-B                               |                                |                   |                           |                            |
| Bermuda                                      |                          |   | OK2KBT 10,050-1850-132-C                          |                                |                   |                           |                            |
| W4KFC/VP9                                    | 4500- 124- 15-B          |   | OK1MSN 423,864-1099- 87-C                         |                                |                   |                           |                            |
| Zone 11                                      |                          |   | OK3CFB 329,312- - - 82-C                          |                                |                   |                           |                            |
| Dominican Republic                           |                          |   | OK2BT1 34,476- 318- 39-C                          |                                |                   |                           |                            |
| H18GBG                                       | 36,324- 608- 18-C        |   | OK3CRH 4005- 71- 15-C                             |                                |                   |                           |                            |
| Panama                                       |                          |   | OK1KSO (OK1s AII, JCW, JJB, WT, oprs.)            |                                |                   |                           |                            |
| HP1XAT                                       | 52,572- 399- 39-B        |   | Y18,110-2985-130-D                                |                                |                   |                           |                            |
| HPIAC  | 10,956- 120- 22-B        |   | OK3KFF (OK3s CPQ, CYQ, oprs.)                     |                                |                   |                           |                            |
| Puerto Rico                                  |                          |   | 1,079,520-202-130-D                               |                                |                   |                           |                            |
| KP4V   | 598,665-1460-107-B       |   | OK1KCU (Multiop.)                                 |                                |                   |                           |                            |
| KP4BO  | 120,934- 769- 46-C       |   | 997,044-2099-114-D                                |                                |                   |                           |                            |
| Neth. Antilles                               |                          |   | OK3KFO (OK3s CPQ, CYQ, CXF, CXW, FW, D1C1, oprs.) |                                |                   |                           |                            |
| K8UNP/PJ2                                    | 336,875- 893- 77-A       |   | 804,529-2059-101-D                                |                                |                   |                           |                            |
| Costa Rica                                   |                          |   | OK3KEE (OK3s CGQ, CTL, TKA, oprs.)                |                                |                   |                           |                            |
| Zone 12                                      |                          |   | 343,742-1094- 86-D                                |                                |                   |                           |                            |
| Colombia                                     |                          |   | OK3RXA (+OK3s WA, ZMD)                            |                                |                   |                           |                            |
| HK3BON                                       | 102,025- 551- 53-C       |   | 19,245- 915- 63-D                                 |                                |                   |                           |                            |
| HK3L   | 75,096- 360- 22-C        |   | OK3KEX (OK3s CGQ, CYQ, oprs.)                     |                                |                   |                           |                            |
| HK1ENH                                       | 23,494- 227- 23-C        |   | 116,982- 482- 67-D                                |                                |                   |                           |                            |
| Peru   |                          |   | OK2KQX (Multiop.)                                 |                                |                   |                           |                            |
| OA8V   | 77,486- 364- 43-C        |   | 101,517- 494- 57-D                                |                                |                   |                           |                            |
| Zone 13                                      |                          |   | OK3KXC (OK3s CKQ, COV, ZLL, oprs.)                |                                |                   |                           |                            |
| Brazil                                       |                          |   | 91,215- 597- 45-D                                 |                                |                   |                           |                            |
| PY8ZLC                                       | 42,874- 333- 26-B        | Zone 28                                     | OK3KXR (Multiop.)                                 |                                |                   |                           |                            |
| PT7ZMG                                       | 129,267- 493- 53-C       |   | 91,309- 590- 36- 52-D                             |                                |                   |                           |                            |
| PS7KM  | 86,654- 73- 4-C          |   | OK1KOK (Multiop.)                                 |                                |                   |                           |                            |
| PY1EAH                                       | 104- 6- 4-C              |   | 17,094- 110- 33-D                                 |                                |                   |                           |                            |
| Zone 14                                      |                          |   | OK1KTW (Multiop.)                                 |                                |                   |                           |                            |
| Argentina                                    |                          |   | 15,048- 164- 19-D                                 |                                |                   |                           |                            |
| LU9EIE                                       | 405,614- 798-103-A       |   | OK2KPS (Multiop.)                                 |                                |                   |                           |                            |
| LU9BD  | 1,797,400-2436-152-B     |   | 1,246,246- 129- 26-D                              |                                |                   |                           |                            |
| LU1EWL                                       | 83,325- 311- 55-B        |   | OK2KYC (Multiop.)                                 |                                |                   |                           |                            |
| LU1VZ (LU1VK, opr.)                          | 47,840- 210- 46-C        |   | 8100- 92- 25-D                                    |                                |                   |                           |                            |
| Zone 15                                      |                          |   | Poland  |                                |                   |                           |                            |
| Brazil                                       |                          |   | SP7KTF (SP7LIH, opr.)                             |                                |                   |                           |                            |
| PY2ZEZ                                       | 73,560- 349- 40-A        |   | 131,425- 568- 59-A                                |                                |                   |                           |                            |
| PY1ZFO (W9VA, opr.)                          | 510,660-1144- 90-B       |   | SP7PAW 80,548- 352- 66-A                          |                                |                   |                           |                            |
| PY1DF  | 36,064- 323- 23-B        |   | SP9CTW 41,364- 198- 54-A                          |                                |                   |                           |                            |
| Z259FR                                       | 3,768- 323- 32-C         |   | SP5SE5 64- 38-A                                   |                                |                   |                           |                            |
| PP2ZDD                                       | 295,756-1798- 35-C       |   | SP31OE 1452- 21- 12-A                             |                                |                   |                           |                            |
| PT2LS  | 39,115- 203- 39-C        |   | SP5PGIQ 188,020- 630- 79-B                        |                                |                   |                           |                            |
| Zone 16                                      |                          |   | SP2GOW 10,000- 149- 25-B                          |                                |                   |                           |                            |
| Argentina                                    |                          |   | SP5SPB 9060- 308- 30-B                            |                                |                   |                           |                            |
| LU9EIE                                       | 405,614- 798-103-A       |   | SP5SPB 7965- 79- 27-B                             |                                |                   |                           |                            |
| LU9BD  | 1,797,400-2436-152-B     |   | SP6FER 33,726- 177- 42-B                          |                                |                   |                           |                            |
| LU1EWL                                       | 83,325- 311- 55-B        |   | SP9EMI 26,130- 202- 39-B                          |                                |                   |                           |                            |
| LU1VZ (LU1VK, opr.)                          | 47,840- 210- 46-C        |   | SP8BVO 19,360- 214- 22-B                          |                                |                   |                           |                            |
| Zone 17                                      |                          |   | SP5PAW 16,160- 129- 32-B                          |                                |                   |                           |                            |
| Colombia                                     |                          |   | SP5GAW 10,180- 159- 32-B                          |                                |                   |                           |                            |
| HK3BON                                       | 102,025- 551- 53-C       |   | SP2GOW 9060- 308- 30-B                            |                                |                   |                           |                            |
| HK3L   | 75,096- 360- 22-C        |   | SP5SPB 7965- 79- 27-B                             |                                |                   |                           |                            |
| HK1ENH                                       | 23,494- 227- 23-C        |   | SP8BAB 8850- 127- 25-B                            |                                |                   |                           |                            |
| Peru   |                          |   | SP9AXY 26,144- 76- 24-B                           |                                |                   |                           |                            |
| OA8V   | 77,486- 364- 43-C        |   | SP9AKD 12,040- 224- 38-B                          |                                |                   |                           |                            |
| Zone 18                                      |                          |   | SP9AKD 54,756- 346- 54-A                          |                                |                   |                           |                            |
| Svalbard                                     |                          |   | SP4JIGK 31,324- 266- 41-A                         |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   | SP3EAT 1,274- 214- 23-B                           |                                |                   |                           |                            |
| Norway                                       |                          |   | SP3EDB 80,982- 1768- 26-B                         |                                |                   |                           |                            |
| KA9L (+N9V)                                  | 101 oprs.)               |   | SP3EQZ 219,000- 114- 20-A                         |                                |                   |                           |                            |
| KA9CGA (+KA9FSC)                             | 23,766- 203- 34-D        |   | YU1DW 1,071,918-2115-113-A                        |                                |                   |                           |                            |
| KA9L (+N9V)                                  | 101 oprs.)               |   | YU1JOWW 14,040- 20- 20-A                          |                                |                   |                           |                            |
| KA9CGA (+KA9FSC)                             | 23,766- 203- 34-D        |   | YU7NZR 1008- 34- 9-A                              |                                |                   |                           |                            |
| Zone 19                                      |                          |   | YU7PH 19,244- 706- 79-B                           |                                |                   |                           |                            |
| European R.S.F.S.R.                          |                          |   | YU7SF 94,107- 443- 57-B                           |                                |                   |                           |                            |
| UA1DZ  | 1,466,450-2530-139-A     |   | YU4JAW 91,316- 603- 37-B                          |                                |                   |                           |                            |
| UA1ZBW                                       | 371,184- 900- 88-A       |   | YU3JCM 90,722- 388- 54-B                          |                                |                   |                           |                            |
| UV1WY  | 200,464- 582- 88-B       |   | YU1JNU 42,121- 201- 38-B                          |                                |                   |                           |                            |
| UA1ZCZ                                       | 28,971- 272- 29-B        |   | YU1JZU 37,827- 325- 27-B                          |                                |                   |                           |                            |
| UA1ZCX                                       | 6048- 164- 12-B          |   | YU1EIA 37,638- 408- 27-B                          |                                |                   |                           |                            |
| UA1ZDX                                       | 258,010- 300- 70-C       |   | YU1ZPFT 11,214- 134- 21-B                         |                                |                   |                           |                            |
| UA1ZEX                                       | 4,320- 340- 40-C         |   | YU1TORQ 11,178- 119- 27-B                         |                                |                   |                           |                            |
| UA1ZAS (5 oprs.)                             | 139,842- 830- 51-D       |   | YU1OVO 9918- 65- 38-B                             |                                |                   |                           |                            |
| UA1ZBB (3 oprs.)                             | 28,913- 283- 29-D        |   | YU1NP 1827- 41- 9-B                               |                                |                   |                           |                            |
| Zone 20                                      |                          |   | YU1NP 1827- 41- 9-B                               |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9XWT                                       | 6,6492- 382- 38-A        |   |   |                                |                   |                           |                            |
| UA9XKA                                       | 366,928-1068- 76-B       |   |   |                                |                   |                           |                            |
| UA9XWQ                                       | 39,882- 251- 34-C        |   |   |                                |                   |                           |                            |
| UA9XDG (UA9s COC, CPL, & 1 opr.)             | 400,900-1138- 76-D       |   |   |                                |                   |                           |                            |
| Zone 21                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9BBT                                       | 93,054- 530- 39-B        |   |   |                                |                   |                           |                            |
| Argentina                                    |                          |   |   |                                |                   |                           |                            |
| LU9EIE                                       | 405,614- 798-103-A       |   |   |                                |                   |                           |                            |
| LU9BD  | 1,797,400-2436-152-B     |   |   |                                |                   |                           |                            |
| LU1EWL                                       | 83,325- 311- 55-B        |   |   |                                |                   |                           |                            |
| LU1VZ (LU1VK, opr.)                          | 47,840- 210- 46-C        |   |   |                                |                   |                           |                            |
| Zone 22                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9QAM (UA9s QU, QDS, QEP, QE2, oprs.)       | 5,151,610-640-3077-117-D |   |   |                                |                   |                           |                            |
| Zone 23                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9BBT                                       | 93,054- 530- 39-B        |   |   |                                |                   |                           |                            |
| Brazil                                       |                          |   |   |                                |                   |                           |                            |
| PY2ZEZ                                       | 73,560- 349- 40-A        |   |   |                                |                   |                           |                            |
| PY1ZFO (W9VA, opr.)                          | 510,660-1144- 90-B       |   |   |                                |                   |                           |                            |
| PY1DF  | 36,064- 323- 23-B        |   |   |                                |                   |                           |                            |
| Z259FR                                       | 3,768- 323- 32-C         |   |   |                                |                   |                           |                            |
| PP2ZDD                                       | 295,756-1798- 35-C       |   |   |                                |                   |                           |                            |
| PT2LS  | 39,115- 203- 39-C        |   |   |                                |                   |                           |                            |
| Zone 24                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9QAA (UA9s QBB, QDL, oprs.)                | 1,511,610-640-3077-117-D |   |   |                                |                   |                           |                            |
| Zone 25                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9BBT                                       | 93,054- 530- 39-B        |   |   |                                |                   |                           |                            |
| Brazil                                       |                          |   |   |                                |                   |                           |                            |
| PY2ZEZ                                       | 73,560- 349- 40-A        |   |   |                                |                   |                           |                            |
| PY1ZFO (W9VA, opr.)                          | 510,660-1144- 90-B       |   |   |                                |                   |                           |                            |
| PY1DF  | 36,064- 323- 23-B        |   |   |                                |                   |                           |                            |
| Z259FR                                       | 3,768- 323- 32-C         |   |   |                                |                   |                           |                            |
| PP2ZDD                                       | 295,756-1798- 35-C       |   |   |                                |                   |                           |                            |
| PT2LS  | 39,115- 203- 39-C        |   |   |                                |                   |                           |                            |
| Zone 26                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9KBC                                       | 197,640- 706- 61-B       |   |   |                                |                   |                           |                            |
| UA9PKL                                       | 45,674- 279- 41-B        |   |   |                                |                   |                           |                            |
| UA9PKW                                       | 38,304- 271- 42-B        |   |   |                                |                   |                           |                            |
| Zone 27                                      |                          |   |   |                                |                   |                           |                            |
| Asiatic R.S.F.S.R.                           |                          |   |   |                                |                   |                           |                            |
| UA9KBC                                       | 197,640- 706- 61-B       |   |   |                                |                   |                           |                            |
| UA9PKL                                       | 45,674- 279- 41-B        |   |   |                                |                   |                           |                            |
| UA9PKW                                       | 38,304- 271- 42-B        |   |   |                                |                   |                           |                            |
| Zone 28                                      |                          |   |   |                                |                   |                           |                            |
| Federal Republic of Germany                  |                          |   |   |                                |                   |                           |                            |
| HA4XH  | 650,196-1287-116-A       |   |   |                                |                   |                           |                            |
| HA9LM  | 404,404-1177- 77-B       |   |   |                                |                   |                           |                            |
| HA8UB  | 323,248-1030- 89-B       |   |   |                                |                   |                           |                            |
| HA3PT  | 68,980- 213- 13-B        |   |   |                                |                   |                           |                            |
| HA5NP  | 1,185,480-2603-111-C     |   |   |                                |                   |                           |                            |
| HA5EV  | 900,500-1975-100-C       |   |   |                                |                   |                           |                            |
| HA5EV  | 1,188,125-3016-159-D     |   |   |                                |                   |                           |                            |
| HG1WV  | 1,494,284-3015-124-D     |   |   |                                |                   |                           |                            |
| HG5A (HG5s CA, HO, HA7RY, HAB1, oprs.)       | 1,546,723-3073-109-D     |   |   |                                |                   |                           |                            |
| HA5KK  | 1,356,723-3073-109-D     |   |   |                                |                   |                           |                            |
| HA5KKG                                       | 1,840,209-1832-127-D     |   |   |                                |                   |                           |                            |
| HA5KDB (6 oprs.)                             | 1,840,209-1832-127-D     |   |   |                                |                   |                           |                            |
| HA5KFN (6 oprs.)                             | 168,558- 809- 62-D       |   |   |                                |                   |                           |                            |
| HA5KFT (6 oprs.)                             | 168,480- 814- 54-D       |   |   |                                |                   |                           |                            |
| Switzerland                                  |                          |   |   |                                |                   |                           |                            |
| HB9AON/P                                     | 34,439- - - 19-A         |   |   |                                |                   |                           |                            |
| HB9AW  | 104,958- 422- 63-B       |   |   |                                |                   |                           |                            |
| HB9DX  | 32,750- 185- 50-B        |   |   |                                |                   |                           |                            |
| HB9AGH                                       | 22,044- 113- 44-B        |   |   |                                |                   |                           |                            |
| HB9BRQ                                       | 14,400- 374- 71-B        |   |   |                                |                   |                           |                            |
| HB9QA  | 6,748- 89- 28-B          |   |   |                                |                   |                           |                            |
| HB9BYN                                       | 10,080- 34- 12-B         |   |   |                                |                   |                           |                            |
| HB9ASJ                                       | 19,040- 170- 35-C        |   |   |                                |                   |                           |                            |
| Italy  |                          |   |   |                                |                   |                           |                            |
| I2UIY  | 45,045- 493- 33-A        |   |   |                                |                   |                           |                            |
| I2PVX  | 284,760- 997- 84-B       |   |   |                                |                   |                           |                            |
| I2ZVF  | 6,708- 145- 12-B         |   |   |                                |                   |                           |                            |
| I0RIZ  | 284,525- 820- 95-C       |   |   |                                |                   |                           |                            |
| I1BVGJ                                       | 10,180- 34- 12-B         |   |   |                                |                   |                           |                            |
| I4CSP  | 29,435- 841- 35-C        |   |   |                                |                   |                           |                            |
| Bulgaria                                     |                          |   |   |                                |                   |                           |                            |
| Z2AF   | 12,716- 111- 34-A        |   |   |                                |                   |                           |                            |
| Z1RN   | 7,400- 102- 20-A         |   |   |                                |                   |                           |                            |
| Z23CWT                                       | 42,517- 347- 71-B        |   |   |                                |                   |                           |                            |
| Z2SD   | 17,180- 263- 20-B        |   |   |                                |                   |                           |                            |
| Z2ZKK  | 53,064- 321- 44-C        |   |   |                                |                   |                           |                            |
| Z1QZR  | 7,716- 33- 9-C           |   |   |                                |                   |                           |                            |
| Z2KKZK (3 oprs.)                             | 19,035- 251- 27-D        |   |   |                                |                   |                           |                            |
| Greece                                       |                          |   |   |                                |                   |                           |                            |
| SV9AU  | 523,944-1838- 76-C       |   |   |                                |                   |                           |                            |
| SV9AN  | 58,960- - - 40-C         |   |   |                                |                   |                           |                            |
| SP9KKM/9 (Multiop.)                          | 37,023- 251- 41-D        |   |   |                                |                   |                           |                            |
| Dodecanese                                   |                          |   |   |                                |                   |                           |                            |
| SV9AA/5                                      | 4832- 102- 16-B          |   |   |                                |                   |                           |                            |
| Crete  |                          |   |   |                                |                   |                           |                            |
| SV9BE/9                                      | 13,728- 66- 14-B         |   |   |                                |                   |                           |                            |
| Bulgaria                                     |                          |   |   |                                |                   |                           |                            |
| Z2AF   | 12,716- 111- 34-A        |   |   |                                |                   |                           |                            |
| Z1RN   | 7,400                    |   |   |                                |                   |                           |                            |

