

| <u>Satellite Name</u>           | NORAD ID | Int'l Code | <u>Period</u><br>[minutes] | <u>Longitude</u> | BAND                            | LOWER DOWN LINK FREQ   | LOCAL OSCIL FREQ (L.O.)                 |
|---------------------------------|----------|------------|----------------------------|------------------|---------------------------------|------------------------|---|
| <u>INTELSAT 1002</u>            | 28358    | 2004-022A  | 1436.1                     | 1° W             | C<br>circular<br>Ku lo<br>Ku hi | 3700<br>10700<br>11700 | 5150<br>circular<br>9750/10600<br>10750 |
| <u>INSAT 2E</u>                 | 25666    | 1999-016A  | 1444.9                     | 3.7° W           |                                 |                        |   |
| <u>AMOS 2 / AMOS 3</u>          | 28132    | 2003-059A  | 1436.1                     | 4° W             | Ku lo                           | 10700                  | 9750/10600                              |
| <u>THOR 3</u>                   | 25358    | 1998-035A  | 1436.1                     | 4.3° W           | Ku hi                           | 11700                  | 10750                                   |
| <u>ATLANTIC BIRD 3</u>          | 27460    | 2002-035A  | 1436.1                     | 5.1° W           | C<br>circular<br>Ku lo<br>Ku hi | 3700<br>10700<br>11700 | 5150<br>circular<br>9750/10600<br>10750 |
| <u>NILESAT (101)</u>            | 25311    | 1998-024A  | 1436.1                     | 7° W             | Ku hi                           | 11700                  | 10750                                   |
| <u>NILESAT 102</u>              | 26470    | 2000-046B  | 1436.1                     | 7° W             | Ku hi                           | 11700                  | 10750                                   |
| <u>NILESAT 201</u>              | 36830    | 2010-037A  | 1436.1                     | 7.1° W           |                                 |                        |   |
| <u>ATLBIRD 4A (HOT BIRD 10)</u> | 33750    | 2009-008B  | 1436.1                     | 7.3° W           | Ku lo<br>Ku hi                  | 10700<br>11700         | 9750/10600<br>10750                     |
| <u>TELECOM 2D</u>               | 24209    | 1996-044B  | 1436.1                     | 7.8° W           | Ku lo                           | 10700                  | 9750/10600                              |
| <u>ATLANTIC BIRD 2</u>          | 26927    | 2001-042A  | 1436.1                     | 8.1° W           | Ku lo<br>Ku hi                  | 10700<br>11700         | 9750/10600<br>10750                     |
| EXPRESS A3 / AM44               |          |            |                            | 11.0°W           | C<br>circular<br>Ku lo          | 3700<br>10700          | 5150<br>circular<br>9750/10600          |
| <u>ATLANTIC BIRD 1</u>          | 27508    | 2002-040A  | 1436.1                     | 12.5° W          | Ku lo<br>Ku hi                  | 10700<br>11700         | 9750/10600<br>10750                     |

|                             |       |           |        |         |                                 |                        |   |
|-----------------------------|-------|-----------|--------|---------|---------------------------------|------------------------|---|
| <u>SATCOM C3</u>            | 22117 | 1992-060B | 1484.4 | 13.6° W |                                 |                        |   |
| <u>EXPRESS 4A</u>           | 27441 | 2002-029A | 1436.1 | 14° W   | C<br>circular<br>Ku lo          | 3700<br>10700          | 5150<br>circular<br>9750/10600          |
| <u>TELSTAR 12 (ORION 2)</u> | 25949 | 1999-059A | 1436.1 | 15° W   | Ku lo<br>Ku hi                  | 10700<br>11700         | 9750/10600<br>10750                     |
| <u>INMARSAT 3-F2</u>        | 24307 | 1996-053A | 1436.1 | 15.5° W |                                 |                        |   |
| <u>INTELSAT 901</u>         | 26824 | 2001-024A | 1436.1 | 18° W   | C<br>circular<br>Ku lo          | 3700<br>10700          | 5150<br>circular<br>9750/10600          |
| <u>NSS 5 (INTELSAT 803)</u> | 24957 | 1997-053A | 1436.1 | 20° W   | C                               | 3700                   | 5150                                    |
| <u>NSS 7</u>                | 27414 | 2002-019A | 1436.1 | 22° W   | C<br>circular<br>Ku lo<br>Ku hi | 3700<br>10700<br>11700 | 5150<br>circular<br>9750/10600<br>10750 |
| <u>GORIZONT 27</u>          | 22245 | 1992-082A | 1437   | 22.3° W |                                 |                        |   |
| <u>THAICOM 2</u>            | 23314 | 1994-065B | 1445.8 | 24.4° W |                                 |                        |   |
| <u>INTELSAT 905</u>         | 27438 | 2002-027A | 1436.1 | 24.5° W | C<br>circular<br>Ku lo          | 3700<br>10700          | 5150<br>circular<br>9750/10600          |
| <u>INTELSAT 907</u>         | 27683 | 2003-007A | 1436.1 | 27.5° W | C<br>circular<br>Ku lo          | 3700<br>10700          | 5150<br>circular<br>9750/10600          |
| <u>INTELSAT 801</u>         | 24742 | 1997-009A | 1436.1 | 29.6° W |                                 |                        |   |
| <u>INTELSAT 705</u>         | 23528 | 1995-013A | 1436.1 | 29.6° W |                                 |                        |   |
| <u>HISPASAT 1D</u>          | 27528 | 2002-044A | 1436.1 | 30° W   | Ku                              | 11700                  | 10750                                   |

|   |       |           |         |         |               |                  |                  |
|---|-------|-----------|---------|---------|---------------|------------------|------------------|
| <a href="#"><u>HISPASAT 1C</u></a>            | 26071 | 2000-007A | 1436.1  | 30° W   | Ku            | 11700            | 10750            |
| <a href="#"><u>INTELSAT 903</u></a>           | 27403 | 2002-016A | 1436.1  | 34.5° W | C<br>circular | 3700             | 5150<br>circular |
| NSS 10  | 28526 | 2005-003A | 1436.11 | 37.5°W  | C             | 3700             | 5150             |
| TELSTAR 11N                                   | 34111 | 2009-009A | 1436.11 | 37.6°W  | Ku            | 11700            | 10750            |
| SES 6<br>(PLANNED)                            |       |           |         | 40°W    |               |                  |                  |
| <a href="#"><u>NSS 806 (INTELSAT 806)</u></a> | 25239 | 1998-014A | 1436.1  | 40.5° W | C             | 3700<br>circular | 5150<br>circular |
| <a href="#"><u>INTELSAT 11 (PAS 11)</u></a>   | 32253 | 2007-044B | 1436.1  | 43° W   | C<br>Ku       | 3700<br>11700    | 5150<br>10750    |
| <a href="#"><u>INTELSAT 14</u></a>            | 36097 | 2009-064A | 1436.1  | 45° W   | C<br>Ku       | 3700<br>11700    | 5150<br>10750    |
| <a href="#"><u>INTELSAT 1R (PAS 1R)</u></a>   | 26608 | 2000-072A | 1436.1  | 50° W   | C<br>Ku       | 3700<br>11700    | 5150<br>10750    |
| <a href="#"><u>INTELSAT 707</u></a>           | 23816 | 1996-015A | 1436.1  | 53° W   | C<br>Ku       | 3700<br>11700    | 5150<br>10750    |
| INTELSAT 27<br>(PLANNED)                      |       |           |         | 55°W    |               |                  |                  |
| <a href="#"><u>INTELSAT 805</u></a>           | 25371 | 1998-037A | 1436.1  | 55.5° W | C             | 3700             | 5150             |
| <a href="#"><u>INTELSAT 9 (PAS 9)</u></a>     | 26451 | 2000-043A | 1436.1  | 58° W   | C<br>Ku       | 3700<br>11700    | 5150<br>10750    |
| INTELSAT 21<br>(PLANNED)                      |       |           |         | 58°W    |               |                  |                  |

|                                 |       |           |         |         |             |               |                |
|---------------------------------|-------|-----------|---------|---------|-------------|---------------|----------------|
| <u>INTELSAT 16</u>              | 36397 | 2010-006A | 1436.1  | 58.1° W | Ku          | 11700         | 10750          |
| <u>AMAZONAS</u>                 | 28393 | 2004-031A | 1436.1  | 61° W   | C<br>Ku     | 3700<br>11700 | 5150<br>10750  |
| AMAZONAS 2                      | 35942 | 2009-054A | 1436.09 | 61.1°W  | C<br>Ku     | 3700<br>10700 | 5150<br>10750  |
| <u>ECHOSTAR 12 (RAINBOW 1)</u>  | 27852 | 2003-033A | 1436.1  | 61.3° W | Ku circular | 12200         | 11250 circular |
| <u>ECHOSTAR 3</u>               | 25004 | 1997-059A | 1436.1  | 61.4° W | Ku circular | 12200         | 11250 circular |
| <u>ECHOSTAR 15</u>              | 36792 | 2010-034A | 1436.1  | 61.6° W | Ku circular | 12200         | 11250 circular |
| <u>ECHOSTAR 6</u>               | 26402 | 2000-038A | 1436.1  | 61.6° W | Ku circular | 12200         | 11250 circular |
| <u>ESTRELA DU SOL-TELSTAR14</u> | 28137 | 2004-001A | 1436    | 63.1° W | Ku          | 11700         | 10750          |
| STAR ONE C1                     | 32293 | 2007-056A | 1436.13 | 65.0°W  | C<br>Ku     | 3700<br>11700 | 5150<br>10750  |
| <u>AMC-4 (GE-4)</u>             | 25954 | 1999-060A | 1436.1  | 67° W   | C<br>Ku     | 3700<br>11700 | 5150<br>10750  |
| STAR ONE C2                     | 32768 | 2008-018B | 1436.11 | 70.0°W  | C<br>Ku     | 3700<br>11700 | 5150<br>10750  |
| <u>AMC-6 (GE-6)</u>             | 26580 | 2000-067A | 1436.1  | 72° W   | C<br>Ku     | 3700<br>11700 | 5150<br>10750  |
| <u>NIMIQ 5</u>                  | 35873 | 2009-050A | 1436.1  | 72.7° W | Ku          | 12200         | 11250          |
| DirecTV 1R                      | 26402 | 2000-038A | 1436.10 | 73.0°W  | Ku          | 12200         | 11250          |

|   |       |           |        |         |                  |               |                        |
|---|-------|-----------|--------|---------|------------------|---------------|------------------------|
| <a href="#"><u>HORIZONS 2</u></a>           | 32388 | 2007-063B | 1436.1 | 74° W   | Ku               | 12200         | 10750                  |
| <a href="#"><u>ECHOSTAR 4</u></a>           | 25331 | 1998-028A | 1436.1 | 76.8° W | Ku circular      | 12200         | 11250 circular         |
| <a href="#"><u>ECHOSTAR 8</u></a>           | 27501 | 2002-039A | 1436.1 | 77° W   | Ku circular      | 12200         | 11250 circular         |
| <a href="#"><u>ECHOSTAR 1</u></a>           | 23754 | 1995-073A | 1436.1 | 77.1° W | Ku circular      | 12200         | 11250 circular         |
| <a href="#"><u>AMC-2 (GE-2)</u></a>         | 24713 | 1997-002A | 1436.1 | 78.9° W | C<br>Ku          | 3700<br>11700 | 5150<br>10750          |
| <a href="#"><u>AMC-5 (GE-5)</u></a>         | 25516 | 1998-063B | 1436.1 | 79° W   | Ku               | 11700         | 10750                  |
| <a href="#"><u>INTELSAT 3R (PAS 3R)</u></a> | 23764 | 1996-002A | 1436.9 | 43.1° W | C<br>Ku          | 3700<br>11700 | 5150<br>10750          |
| <a href="#"><u>AMC-9 (GE-12)</u></a>        | 27820 | 2003-024A | 1436.1 | 83° W   | C<br>Ku          | 3700<br>11700 | 5150<br>10750          |
| <a href="#"><u>AMC-16</u></a>               | 28472 | 2004-048A | 1436.1 | 85° W   | Ku               | 11700         | 10750                  |
| SES 2 (PLANNED)                             |       |           |        | 87°W    |                  |               |                        |
| <a href="#"><u>AMC-3 (GE-3)</u></a>         | 24936 | 1997-050A | 1436.1 | 87° W   | C<br>Ku          | 3700<br>11700 | 5150<br>10750          |
| <a href="#"><u>GALAXY 28 (IA 8)</u></a>     | 28702 | 2005-022A | 1436.1 | 89° W   | C<br>Ku          | 3700<br>11700 | 5150<br>10750          |
| <a href="#"><u>GALAXY 17</u></a>            | 31307 | 2007-016B | 1436.1 | 91° W   | C<br>Ku          | 3700<br>11700 | 5150<br>10750          |
| <a href="#"><u>NIMIQ 1</u></a>              | 25740 | 1999-027A | 1436.1 | 91.1° W | C<br>Ku circular | 3700<br>11700 | 5150<br>10750 circular |

|  |       |           |         |          |                     |               |                           |
|--|-------|-----------|---------|----------|---------------------|---------------|---------------------------|
| <a href="#"><u>NIMIQ 2</u></a>               | 27632 | 2002-062A | 1436.1  | 91.1° W  | C<br>Ku<br>circular | 3700<br>11700 | 5150<br>10750<br>circular |
| <a href="#"><u>GALAXY 25 (TELSTAR 5)</u></a> | 24812 | 1997-026A | 1436.1  | 93.1° W  | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| <a href="#"><u>GALAXY 3C</u></a>             | 27445 | 2002-030A | 1436.1  | 95.1° W  | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| <a href="#"><u>GALAXY 19</u></a>             | 33376 | 2008-045A | 1436.1  | 97.1° W  | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| GALAXY 16                                    | 29236 | 2006-023A | 1436.1  | 99.0°W   | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| SES 1  | 36516 | 2010-016A | 1436.10 | 101.1°W  | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| <a href="#"><u>AMC-1 (GE-1)</u></a>          | 24315 | 1996-054A | 1436.1  | 103° W   | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| <a href="#"><u>AMC-18</u></a>                | 29644 | 2006-054B | 1436.1  | 104.9° W | C                   | 3700          | 5150                      |
| <a href="#"><u>AMC-15</u></a>                | 28446 | 2004-041A | 1436.1  | 105° W   | Ku                  | 11700         | 10750                     |
| <a href="#"><u>GALAXY 15</u></a>             | 28884 | 2005-041A | 1435.3  | 105.1° W | C                   | 3700          | 5150                      |
| <a href="#"><u>ANIK F1</u></a>               | 26624 | 2000-076A | 1436.1  | 107.3° W | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| <a href="#"><u>ANIK F1-R</u></a>             | 28868 | 2005-036A | 1436.1  | 107.3° W | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |
| <a href="#"><u>ECHOSTAR 10</u></a>           | 28935 | 2006-003A | 1436.1  | 110.2° W | Ku<br>circular      | 12200         | 11250<br>circular         |
| <a href="#"><u>ANIK F2</u></a>               | 28378 | 2004-027A | 1436.1  | 111.1° W | C<br>Ku             | 3700<br>11700 | 5150<br>10750             |

|   |       |           |         |          |                |                   |                   |
|---|-------|-----------|---------|----------|----------------|-------------------|-------------------|
| <a href="#"><u>SATMEX 6</u></a>               | 29162 | 2006-020A | 1436.1  | 113° W   | C<br>Ku        | 3700<br>11700     | 5150<br>10750     |
| <a href="#"><u>SATMEX 5</u></a>               | 25558 | 1998-070A | 1436.1  | 116.7° W | C<br>Ku        | 3700<br>11700     | 5150<br>10750     |
| <a href="#"><u>ANIK F3</u></a>                | 31102 | 2007-009A | 1436.1  | 118.7° W | Ku<br>circular | 11700             | 10750             |
| <a href="#"><u>ECHOSTAR 7</u></a>             | 27378 | 2002-006A | 1436    | 118.8° W | Ku<br>circular | 12200             | 11250<br>circular |
| <a href="#"><u>ECHOSTAR 14</u></a>            | 36499 | 2010-010A | 1436.1  | 118.9° W | Ku<br>circular | 12200             | 11250             |
| <a href="#"><u>GALAXY 23 (TELSTAR 13)</u></a> | 27854 | 2003-034A | 1436.1  | 120.9° W | C<br>Ku        | 3700<br>11700     | 5150<br>10750     |
| <a href="#"><u>GALAXY 18</u></a>              | 32951 | 2008-024A | 1436.09 | 123.0°W  | Ku             | 10700             | 10750             |
| <a href="#"><u>AMC-21</u></a>                 | 33275 | 2008-038B | 1436.1  | 124.9° W | C<br>Ku        | 3700<br>11700     | 5150<br>10750     |
| <a href="#"><u>GALAXY 14</u></a>              | 28790 | 2005-030A | 1436.1  | 125° W   | C              | 3700              | 5150              |
| <a href="#"><u>HORIZONS 1 (GALAXY 13)</u></a> | 27954 | 2003-044A | 1436.1  | 127° W   | C<br>Ku        | 3700<br>11700     | 5150<br>10750     |
| <a href="#"><u>CIEL-2</u></a>                 | 33453 | 2008-063A | 1436.1  | 128.8° W | Ku<br>circular | 12200             | 11250<br>circular |
| <a href="#"><u>ECHOSTAR 2</u></a>             | 24313 | 1996-055A | 1437    | 128.9° W | Ku             | 12200<br>circular | 11250<br>circular |
| <a href="#"><u>AMC-11 (GE-11)</u></a>         | 28252 | 2004-017A | 1436.1  | 131° W   | C              | 3700              | 5150              |
| <a href="#"><u>GALAXY 12</u></a>              | 27715 | 2003-013B | 1436.1  | 133° W   | C              | 3700              | 5150              |

|                                       |       |           |        |          |   |      |      |
|---------------------------------------|-------|-----------|--------|----------|---|------|------|
| <a href="#"><u>AMC-10 (GE-10)</u></a> | 28154 | 2004-003A | 1436.1 | 135° W   | C | 3700 | 5150 |
| <a href="#"><u>AMC-7 (GE-7)</u></a>   | 26495 | 2000-054B | 1436.1 | 137° W   | C | 3700 | 5150 |
| <a href="#"><u>AMC-8 (GE-8)</u></a>   | 26639 | 2000-081B | 1436.1 | 138.9° W | C | 3700 | 5150 |