

# South Scanner Satellite Services Chart

Volume 11 - Issue # 1

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September 29, 2002

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Many hours of personal observations and contributor reports have been compiled into this chart. Errors are bound to happen, especially since services can change quickly. Care has been taken to check the accuracy of the information. The publisher, Robert Smathers, is not responsible for any errors. Corrections, new additions, or comments should be mailed to one of the following electronic mail addresses:

Internet: [roberts@nmia.com](mailto:roberts@nmia.com)

World Wide Web: <http://www.nmia.com/~roberts/>

If a piece of information is used in the chart, credit will be given in the special thanks section.

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The latest issue of the South Scanner Satellite Services Chart can always be found on the Robert Smathers Satellite TV web page:

<http://www.nmia.com/~roberts/> (and go to "Robert's Infofiles" section)

The latest ZIPped and UUENCODED South Scanner Satellite Services Chart can also be obtained by email. If you email me, I will send you a copy.

## INTRODUCTION

Welcome to the South Scanner Satellite Services Chart volume 11 number 1! This is a chart that I'm proud to say is used by home dish owners as well as by industry professionals.

This is a fresh, clean satellite chart with this edition. An edition has not been released since the days of volume 8 and a big part of it was the massive launching of replacement satellites into the domestic and international portions of the arc as well as the tedious service detail I used in prior editions. With a cleaner, simpler chart format for service changes and the fact the newer generation of satellites are young and designed for longer life, there should not be as many satellite changes to be edited and I should be able to keep up with the information flow. I hope to release this chart on a quarterly basis.

## NOTATIONS USED IN THIS CHART

**Occasional video:** Various types of occasional analog and/or digital feeds; if a primary user is found, I'll change "Occasional video" to the primary user's name. In this chart, primary users can be mentioned as using an transponder on an occasional basis. Those will be marked by the primary user followed by the "occ" notation.

**Occasional audio:** Audio is heard on an occasional basis or audio may be present on an occasional basis.

**(none):** I use this to describe a transponder that I have never observed video on or a service left and I have not seen any video since.

**VC2+:** The video or the channel is scrambled with the Motorola/General Instruments Videocipher II Plus System. Most of these VC-II Plus scrambled channels are available to the home dish owner in the United States via subscription.

**LEITCH:** The video or the channel is scrambled with the LEITCH Viewguard system. The LEITCH scrambled channels are not available to the home dish owner.

**Digital:** The video service is being transmitted in a digital format. Examples of digital formats are Scientific Atlanta's Powervu and Powervu Plus system, Motorola's Digicipher 1, Digicipher 2, and 4DTV systems, Wegener's DVR, Unity and MPEG-1 systems, Tandberg's Alteia Plus system, and Compression Labs Inc. Spectrumsaver system to name many.

**Digital audio:** The audio service is being transmitted in a digital format. Examples of these digital formats are the Comstream ABR-700, ABR-202 and ABR-200 systems, Wegener DR96Q and Unity systems, Scientific Atlanta SEDAT system, Starguide digital audio system, Digiciever audio system and IDC Flexroute system to name several.

**Analog Audio Subcarrier:** The audio service is delivered by an analog audio subcarrier. An analog audio subcarrier requires the presence of a video carrier to exist. If you take away the video carrier, the analog audio subcarrier disappears as well. In this chart, analog audio subcarrier frequencies are in **bold** and are indented when listed beneath an analog video service.

**FM2:** The audio is delivered via a method known as FM Squared. A simple explanation: FM Squared signals require a video carrier to exist. FM Squared signals are similar to analog audio subcarriers as we know it except for the fact that they are located below the 5.00 MHz audio subcarrier frequency that a normal satellite receiver can tune.

**SCPC:** The audio is delivered by a Single Channel Per Carrier (SCPC) analog transmission. A SCPC transmitted signal is transmitted with its own carrier, thus eliminating the need for a video carrier to be present to exist. Dozens of SCPC audio signals can be transmitted on a single transponder.

**ATIS:** Acronym for **A**utomatic **T**ransmitter **I**dentification **S**ystem -- the morse code identifier that contains the uplinker name, uplinker telephone number, and the uplinker license number. In this chart, ATIS entries are in **bold**, have the frequency of the ATIS signal listed, and are indented when listed beneath an analog video service. Part of the uplinker's phone number is crossed out to protect the privacy of the uplinker.

**Data Transmissions:** There are possible telephone, VSAT, digital audio signals, IP over Satellite, or other types of digital audio transmissions that I have not been able to lock onto with various satellite receivers.

**VBI:** This denotes the readable text in the Vertical Blanking Interval of the video. If an analog video service uses VBI text, I will note it in the chart in **bold** and indent it when listed beneath the analog analog video service.

**SNG:** Acronym for **S**atellite **N**ews **G**athering. Entries in this chart with "SNG" are places where digital video feeds transmitted from remote satellite news vehicles can be found.

- ATIS entries are decoded with the Norsat Microsat 150 multimedia satellite receiver.

## SPECIAL THANKS

Look for contributors' names here in future editions. There were no contributors to this edition.

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**Intelsat VII-A F7 - C-Band**

1 degree West Longitude

NORAD: 23816

Satellite Type: Space Systems/Loral FS-1300

Launched: March 14, 1996 (Ariane 44P)

Transponder Power: 6 transponders - 30 watts each (Global and Spot)

10 transponders - 20 watts each (Hemisphere)

10 transponders - 10 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Intelsat VII-A F7 - Ku-Band**

1 degree West Longitude

NORAD: 23816

Satellite Type: Space Systems/Loral FS-1300

Launched: March 14, 1996 (Ariane 44P)

Transponder Power: 14 transponders - 49-73 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(1/2/3 11 GHz, 77 MHz)
1/2	11747.5	(1/2/3 12 GHz, 77 MHz)
1/2	12547.5	(1/2/3 12 GHz, 77 MHz)
1/3	11010.0	(1X/2X/3 11 GHz, 112 MHz)
1/3	11765.0	(1X/2X/3 12 GHz, 112 MHz)
1/3	12565.0	(1X/2X/3 12 GHz, 112 MHz)
3/4	11075.0	(1/2/3 11 GHz, 72 MHz)
3/4	11830.0	(1/2/3 12 GHz, 72 MHz)
3/4	12630.0	(1/2/3 12 GHz, 72 MHz)
4/6	11135.0	(1X/2X/3 11 GHz, 112 MHz)
4/6	11890.0	(1X/2X/3 12 GHz, 112 MHz)
4/6	12690.0	(1X/2X/3 12 GHz, 112 MHz)
5/6	11155.0	(1/2/3 11 GHz, 72 MHz)
5/6	11910.0	(1/2/3 12 GHz, 72 MHz)
5/6	12708.0	(1/2/3 12 GHz, 72 MHz)
7/8	11495.0	(1/2/3 11 GHz, 72 MHz)
7/9	11514.0	(1/2/3 11 GHz, 112 MHz)
7/9	11514.0	(1X/2X/3 11 GHz, 112 MHz)
10/12	11638.0	(1/2/3 11 GHz, 112 MHz)
10/12	11638.0	(1X/2X/3 11 GHz, 112 MHz)

- East Ku-spot (beam 1) is Vertical linear polarized
- East Ku-spot (beam 1X) is Horizontal linear polarized
- West Ku-spot (beam 2) is Horizontal linear polarized
- West Ku-spot (beam 2X) is Vertical linear polarized
- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

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(no video reported)

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**Eutelsat Atlantic Bird 3 - C-Band**

5 degrees West longitude

NORAD: 27460

Satellite Type: Alcatel Space Spacebus 3000 B3

Launched: July 5, 2002 (Ariane 5G)

Transponder Power: 10 transponders - output power not known

Tr.	Downlink Freq in MHz	
C1(LH)	3670	(72 MHz)
C6(RH)	3670	(72 MHz)
C2(LH)	3728	(36 MHz)
C7(RH)	3728	(36 MHz)
C3(LH)	4050	(72 MHz)
C8(RH)	4050	(72 MHz)
C4(LH)	4108	(36 MHz)
C9(RH)	4108	(36 MHz)
C5(LH)	4148	(36 MHz)
C10(RH)	4148	(36 MHz)

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(no video reported)

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### **Eutelsat Atlantic Bird 3 - Ku-Band**

5 degrees West longitude

NORAD: 27460

Satellite Type: Alcatel Space Spacebus 3000 B3

Launched: July 5, 2002 (Ariane 5G)

Transponder Power: 35 transponders - power output not known

Tr.	Downlink Freq in MHz	
KC7(H)	10975	(36 MHz, Superbeam+ or Steerable)
KC1(V)	10975	(36 MHz, Superbeam+)
KC8(H)	11015	(36 MHz, Superbeam+ or Steerable)
KC2(V)	11015	(36 MHz, Superbeam+)
KC9(H)	11055	(36 MHz, Superbeam+ or Steerable)
KC3(V)	11055	(36 MHz, Superbeam+)
KC10(H)	11095	(36 MHz, Superbeam+ or Steerable)
KC4(V)	11095	(36 MHz, Superbeam+)
KC11(H)	11135	(36 MHz, Superbeam+ or Steerable)
KC5(V)	11135	(36 MHz, Superbeam+)
KC12(H)	11175	(36 MHz, Superbeam+ or Steerable)
KC6(V)	11175	(36 MHz, Superbeam+)
KB7(H)	11475	(36 MHz, Superbeam+ or Widebeam)
KB1(V)	11475	(36 MHz, Superbeam+ or U.S.)
KB8(H)	11515	(36 MHz, Superbeam+ or Widebeam)
KB2(V)	11515	(36 MHz, Superbeam+ or U.S.)
KB9(H)	11555	(36 MHz, Superbeam+ or Widebeam)
KB3(V)	11555	(36 MHz, Superbeam+ or U.S.)
KB10(H)	11595	(36 MHz, Superbeam+ or Widebeam)
KB4(V)	11595	(36 MHz, Superbeam+ or U.S.)
KB11(H)	11635	(36 MHz, Superbeam+ or Widebeam)
KB5(V)	11635	(36 MHz, Superbeam+ or U.S.)
KB12(H)	11675	(36 MHz, Superbeam+ or Widebeam)

KB6(V)	11675	(36 MHz, Superbeam+ or U.S.)
KA1(V)	12525	(36 MHz, Superbeam+)
KA7(H)	12545	(36 MHz, Superbeam+ or Widebeam)
KA2(V)	12565	(36 MHz, Superbeam+)
KA8(H)	12585	(36 MHz, Superbeam+ or Widebeam)
KA3(V)	12605	(36 MHz, Superbeam+)
KA9(H)	12625	(36 MHz, Superbeam+ or Widebeam)
KA4(V)	12645	(36 MHz, Superbeam+)
KA10(H)	12665	(36 MHz, Superbeam+ or Widebeam)
KA5(V)	12685	(36 MHz, Superbeam+)
KA11(H)	12705	(36 MHz, Superbeam+ or Widebeam)
KA6(V)	12725	(36 MHz, Superbeam+)

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Eutelsat Atlantic Bird 2 - Ku-Band**

8 degrees West longitude

NORAD: 26927

Satellite Type: Alcatel Space Spacebus 3000 B2

Launched: September 25, 2001 (Ariane 44P)

Transponder Power: 35 transponders - 107 watts each

Tr.	Downlink Freq in MHz	
B1(H)	10991.670	(72 MHz)
B2(V)	10991.670	(72 MHz)
B3(H)	11075.000	(72 MHz)
B4(V)	11075.000	(72 MHz)
B5(H)	11158.330	(72 MHz)
B6(V)	11157.330	(72 MHz)
C1(H)	11241.670	(72 MHz)
C2(V)	11241.670	(72 MHz)
C3(H)	11325.000	(72 MHz)
C4(V)	11325.000	(72 MHz)
C5(H)	11408.330	(72 MHz)
C6(V)	11408.330	(72 MHz)
D1(H)	11470.530	(36 MHz)
D2(V)	11470.530	(36 MHz)
D3(H)	11512.253	(36 MHz)
D4(V)	11512.253	(36 MHz)
D5(H)	11553.753	(36 MHz)
D6(V)	11553.753	(36 MHz)
D7(H)	11595.253	(36 MHz)
D8(V)	11595.253	(36 MHz)
D9(H)	11636.753	(36 MHz)
D10(V)	11636.753	(36 MHz)
D11(H)	11678.253	(36 MHz)
D12(V)	11678.253	(36 MHz)
F1(V)	12524.500	(36 MHz)

F2(H)	12533.500	(54 MHz)
F3(V)	12566.000	(36 MHz)
F4(H)	12586.750	(36 MHz)
F5(V)	12607.500	(36 MHz)
F6(H)	12628.250	(36 MHz)
F7(V)	12649.000	(36 MHz)
F8(H)	12669.750	(36 MHz)
F9(V)	12690.500	(36 MHz)
F10(H)	12723.000	(54 MHz)
F11(V)	12732.000	(36 MHz)

- Notes: B-group transponders can be uplinked from Europe or the Americas and downlinked in Europe or the Americas  
C-group transponders can be uplinked from Europe and downlinked in Europe or the Americas  
D-group transponders can be uplinked from Europe, Americas, or the steerable beam and can be downlinked in Europe, Americas, or the steerable beam  
F-group transponders can be uplinked from Europe and downlinked in Europe

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Russian Satellite Communications Company Express-3A - C-Band**

11 degrees West longitude

NORAD: 26378

Satellite Type: built by NPO Prikladnoi Mekhaniki

Launched: June 24, 2000 (Proton K - DM-2M)

Transponder Power: 12 transponders (36-40 Mhz wide) - 20, 40, or 75 watts each

Tr. Downlink Freq  
in MHz

5(RH)	3625
6(RH)	3675
7(RH)	3725
8(RH)	3775
9(RH)	3825
10(RH)	3875
11(RH)	3925
14(RH)	3975
15(RH)	4025
16(RH)	4075
17(RH)	4125
18(RH)	4175

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Russian Satellite Communications Company Express-3A - Ku-Band**

11 degrees West longitude

NORAD: 26378

Satellite Type: built by NPO Prikladnoi Mekhaniki

Launched: June 24, 2000 (Proton K - DM-2M)

Transponder Power: 5 transponders (36 MHz wide) - 35 watts each

Tr.	Downlink Freq in MHz
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12(V)	11525
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20(V)	11625
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22(V)	11475
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24(V)	11575
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26(V)	11675
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Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**Eutelsat Atlantic Bird 1 - Ku-Band**

12.5 degrees West longitude

NORAD: 27508

Satellite Type: Alenia Spazio Geo Bus

Launched: August 28, 2002 (Ariane 5G)

Transponder Power: 10 transponders - power output not known

Tr.	Downlink Freq in MHz
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B1(H)	10991.67	(72 MHz)
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B2(V)	10991.67	(72 MHz)
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B3(H)	11075.00	(72 MHz)
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B4(V)	11075.00	(72 MHz)
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B5(H)	11158.33	(72 MHz)
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B6(V)	11158.33	(72 MHz)
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C6(V)	11324.50	(36 MHz)
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C7(H)	11345.25	(36 MHz)
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C8(V)	11366.00	(36 MHz)
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C9(H)	11386.75	(36 MHz)
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C10(V)	11407.50	(36 MHz)
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C11(H)	11428.25	(36 MHz)
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D5(H)	11606.25	(54 MHz)
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D6(V)	11606.25	(54 MHz)
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D7(H)	11668.75	(54 MHz)
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D8(V)	11668.75	(54 MHz)
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F1(H)	12531.25	(54 MHz)
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F2(V)	12531.25	(54 MHz)
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F3(H)	12593.75	(54 MHz)
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F4(V)	12593.75	(54 MHz)
F5(H)	12656.25	(54 MHz)
F6(V)	12656.25	(54 MHz)
F7(H)	12718.75	(54 MHz)
F8(V)	12718.75	(54 MHz)

Notes: B-group transponders can be uplinked from Europe or the Americas and downlinked in Europe or the Americas

C-group transponders can be uplinked from Europe and downlinked in Europe

D-group transponders can be uplinked from Europe and/or the Americas and downlinked in the Americas

F-group transponders can be uplinked from Europe and/or the Americas and downlinked in Europe

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Russian Satellite Communications Company Gorizont-37 - C-Band**

14 degrees West longitude

NORAD: 22041

Satellite Type: NPO Prikladnoi Mekhaniki-constructed satellite

Launched: July 15, 1992 (Proton SL-12)

Transponder Power: 6 transponders (34 to 40 MHz wide) - 10.5 to 65 watts each

Tr.	Downlink Freq. in MHz
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6(RH)	3675
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7(RH)	3725
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8(RH)	3775
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9(RH)	3825
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10(RH)	3875
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11(RH)	3925
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Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

- This satellite operates in an inclined orbit

(no video reported)

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### **Russian Satellite Communications Company Gorizont-37 - Ku-Band**

14 degrees West longitude

NORAD: 22041

Satellite Type: NPO Prikladnoi Mekhaniki-constructed Satellite

Launched: July 14, 1992 (Proton SL-12)

Transponder Power: 1 transponder (34 MHz wide) - 15 watts

Tr. Downlink Freq.  
in MHz

12(RH) 11525

- This satellite operates in an inclined orbit

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Loral Skynet Telstar 12 - Ku-Band**

15 degrees West longitude

NORAD: 25949

Satellite Type: Space Systems/Loral FS-1300E

Launched: October 19, 1999 (Ariane 44LP)

Transponder Power: 38 transponders (54 MHz wide) - 125 watts each

Tr. Downlink Freq  
in MHz

1(V) 12533

2(V) 12595

3(V) 12657

4(V) 12719

5(V) 11481

6(V) 11543

7(V) 11605

8(V) 11667

9(H) 12533

10(H) 12595

11(H) 12657

12(H) 12719

13(H) 11481

14(H) 11543

15(H) 11605

16(H) 11667

17(H) 11013

18(H) 11075

19(H) 11137

20(V) 11013

21(V) 11075

22(V) 11137

23(H) 11733

24(H) 11795

25(H) 11857

26(H) 11919

27(H) 11981

28(H) 12043

29(H) 12105

30(H) 12167

31(V) 11733

32(V)	11795
33(V)	11857
34(V)	11919
35(V)	11981
36(V)	12043
37(V)	12105
38(V)	12167

Note: European downlinked transponders are 1,2,3,4,5,6,7,8,20,21, and 22

Europe and South Africa downlinked transponders are 9,10,11,12,  
13,14,15,16,17,18, and 19

Pan-American downlinked transponders are 23,24,25,26,27,28,29,30,  
31,32,33,34,35,36,37, and 38

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat IX F1 - C-band**

18 degrees West Longitude

NORAD: 26824

Satellite Type: Space Systems/Loral FS-1300

Launched: June 2, 2001 (Ariane 44L)

Transponder Power: 44 transponders - power output not known

Tr. Downlink Freq.  
in MHz

1'-2'	3665.0	(72 MHz)
1-2	3745.0	(72 MHz)
3-4	3825.0	(72 MHz)
5-6	3905.0	(72 MHz)
7-8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
9A	4037.0	(16 MHz)
9B	4073.0	(16 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)
12A	4166.0	(18 MHz)
12B	4189.0	(18 MHz)

- Hemisphere beams use transponders 1'-2', 1-2, 3-4, 5-6, 7-8,  
9, 9A, and 9B and are Left-Hand Circular Polarized

- Zone beams use transponders 1'-2', 1-2, 3-4, 5-6, 7-8, and 9  
and are Right-Hand Circular Polarized

- Global beams use transponders 10, 11, 12, 12A, and 12B and  
can be Left-Hand Circular Polarized or Right-Hand Circular

Polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat IX F1 - Ku-band**

18 degrees West Longitude

NORAD: 26824

Satellite Type: Space Systems/Loral FS-1300

Launched: June 9, 2001 (Ariane 44L)

Transponder Power: 12 transponders - power output not known

Tr.	Downlink Freq. in MHz	
1/2	10992.5	Spot Beam 1, Spot Beam 2 (72 MHz)
3/4	11075.0	Spot Beam 1, Spot Beam 2 (72 MHz)
5/6	11155.0	Spot Beam 1, Spot Beam 2 (72 MHz)
7/8	11495.0	Spot Beam 1, Spot Beam 2 (72 MHz)
9	11555.0	Spot Beam 1, Spot Beam 2 (36 MHz)
10	11595.0	Spot Beam 1, Spot Beam 2 (36 MHz)
11	11635.0	Spot Beam 1, Spot Beam 2 (36 MHz)
12	11675.0	Spot Beam 1, Spot Beam 2 (36 MHz)

- Spot beam 1 is Vertical polarized

- Spot beam 2 is Horizontal polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

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(no video reported)

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### **New Skies Satellite NSS-7 - C-Band**

21.5 degrees West longitude

NORAD: 27414

Satellite Type: Lockheed Martin A2100 AX

Launched: April 16, 2002 (Ariane 44L)

Transponder Power: 36 transponders - output power not known

Transponder Layout was not provided by NSS

C-band downlink: 3625.0 MHz to 4200.0 MHz

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**New Skies Satellite NSS-7 - Ku-Band**

21.5 degrees West longitude

NORAD: 27414

Satellite Type: Lockheed Martin A2100 AX

Launched: April 16, 2002 (Ariane 44L)

Transponder Power: 36 transponders - output power not known

Transponder Layout was not provided by NSS

Ku-Band Downlink: 10.95 to 11.20 GHz

11.45 to 11.70 GHz

11.70 to 12.20 GHz

12.50 to 12.75 GHz

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**Intelsat IX F5 - C-band**

24.5 degrees West Longitude

NORAD: 27438

Satellite Type: Space Systems/Loral FS-1300

Launched: June 5, 2002 (Ariane 44L)

Transponder Power: 44 transponders - power output not known

Tr. Downlink Freq.  
in MHz

1'-2'	3665.0	(72 MHz)
1-2	3745.0	(72 MHz)
3-4	3825.0	(72 MHz)
5-6	3905.0	(72 MHz)
7-8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
9A	4037.0	(16 MHz)
9B	4073.0	(16 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)
12A	4166.0	(18 MHz)
12B	4189.0	(18 MHz)

- Hemisphere beams use transponders 1'-2', 1-2, 3-4, 5-6, 7-8, 9, 9A, and 9B and are Left-Hand Circular Polarized

- Zone beams use transponders 1'-2', 1-2, 3-4, 5-6, 7-8, and 9 and are Right-Hand Circular Polarized
- Global beams use transponders 10, 11, 12, 12A, and 12B and can be Left-Hand Circular Polarized or Right-Hand Circular Polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Intelsat IX F5 - Ku-band**

24.5 degrees West Longitude

NORAD: 27438

Satellite Type: Space Systems/Loral FS-1300

Launched: June 5, 2002 (Ariane 44L)

Transponder Power: 12 transponders - power output not known

Tr.	Downlink Freq. in MHz	
1/2	10992.5	Spot Beam 1, Spot Beam 2 (72 MHz)
3/4	11075.0	Spot Beam 1, Spot Beam 2 (72 MHz)
5/6	11155.0	Spot Beam 1, Spot Beam 2 (72 MHz)
7/8	11495.0	Spot Beam 1, Spot Beam 2 (72 MHz)
9	11555.0	Spot Beam 1, Spot Beam 2 (36 MHz)
10	11595.0	Spot Beam 1, Spot Beam 2 (36 MHz)
11	11635.0	Spot Beam 1, Spot Beam 2 (36 MHz)
12	11675.0	Spot Beam 1, Spot Beam 2 (36 MHz)

- Spot beam 1 is Vertical polarized
- Spot beam 2 is Horizontal polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Intelsat VI F5 - C-Band**

27.5 degrees West longitude

NORAD: 21653

Satellite Type: Boeing Satellite Systems BSS-393

Launched: August 19, 1991 (Ariane 44L)

Transponder Power: 6 transponders - 16 watts each (Global)  
12 transponders - 20-40 watts each (Hemispheric)

20 transponders - 2-5.5 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2'	3665.0	(72 MHz)
1/2	3745.0	(72 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2', 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Intelsat VI F5 - Ku-Band**

27.5 degrees West longitude

NORAD: 21653

Satellite Type: Boeing Satellite Systems BSS-393

Launched: August 19, 1991 (Ariane 44L)

Transponder Power: 10 transponders - 8.5 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
9/12	11616.5	(Ku-spot, 150 MHz)

- West Ku-spot beam is Horizontal linear polarized
- East Ku-spot beam is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat V-A F11 - C-band**

29.5 degrees West longitude

NORAD: 15873

Satellite Type: Ford Aerospace-constructed Satellite

Launched: June 30, 1985 (Atlas 5044G)

Transponder Power: 6 transponders - 8.5 watts each (Global)

10 transponders - 8.5 watts each (Hemispheric)

10 transponders - 4.5 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global and C-Spot beams use transponders 7/8, 9, 10, 11, 12 and can be Right Hand or Left Hand circular polarized
- This satellite operates in an inclined orbit

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat V-A F11 - Ku-band**

29.5 degrees West longitude

NORAD: 15873

Satellite Type: Ford Aerospace-constructed Satellite

Launched: June 30, 1985 (Atlas 5044G)

Transponder Power: 6 transponders - 10 watts each



Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/12	11577.5	(Ku-spot, 241 MHz)

- East Ku-spot beam is Vertical linear polarized
- West Ku-spot beam is Horizontal linear polarized

- This satellite operates in an inclined orbit

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Hispasat 1A - Ku-Band**

30 degrees West longitude

NORAD: 22116

Satellite Type: Matra Marconi Eurostar 2000

Launched: September 10, 1992 (Ariane 44LP)

Transponder Power: 110 watt transponders

Partial Transponder Frequency Chart:

Tr.	Downlink Freq. in MHz
1(V)	12540
2(V)	12591
3(V)	12631
4(V)	12671
5(V)	12711
6(V)	12015
7(V)	11517
8(V)	11597
9(V)	11668
10(H)	12540
11(H)	11591
12(H)	12631
13(H)	12671
14(H)	12711
15(H)	12078
16(H)	12517
17(H)	12597
18(H)	12668
23(L)	12149
27(L)	12226

31(L) 12302  
35(L) 12380  
39(L) 12456

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**Intelsat VIII F1 - C-Band**

31.5 degrees West Longitude

NORAD: 24742

Satellite Type: Lockheed Martin LM7000

Launched: March 1, 1997 (Ariane 44P)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)  
10 transponders - 20 to 30 watts each (Hemisphere)  
10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and Transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**Intelsat VIII F1 - Ku-Band**

31.5 degrees West Longitude

NORAD: 24742

Satellite Type: Lockheed Martin LM7000

Launched: March 1, 1997 (Ariane 44P)  
Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3
- Ku-spot beam 1 (East) is Vertical linear polarized
- Ku-spot beam 2 (West) is Horizontal linear polarized
- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat IX F3 - C-band**

34.5 degrees West Longitude

NORAD: 27403

Satellite Type: Space Systems/Loral FS-1300

Launched: March 30, 2002 (ILS Proton-K / Blok DM-3)

Transponder Power: 44 transponders - power output not known

Tr.	Downlink Freq. in MHz	
1'-2'	3665.0	(72 MHz)
1-2	3745.0	(72 MHz)
3-4	3825.0	(72 MHz)
5-6	3905.0	(72 MHz)
7-8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
9A	4037.0	(16 MHz)
9B	4073.0	(16 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)

12	4177.5	(41 MHz)
12A	4166.0	(18 MHz)
12B	4189.0	(18 MHz)

- Hemisphere beams use transponders 1'-2', 1-2, 3-4, 5-6, 7-8, 9, 9A, and 9B and are Left-Hand Circular Polarized
- Zone beams use transponders 1'-2', 1-2, 3-4, 5-6, 7-8, and 9 and are Right-Hand Circular Polarized
- Global beams use transponders 10, 11, 12, 12A, and 12B and can be Left-Hand Circular Polarized or Right-Hand Circular Polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat IX F3 - Ku-band**

34.5 degrees West Longitude

NORAD: 27403

Satellite Type: Space Systems/Loral FS-1300

Launched: March 30, 2002 (ILS Proton-K / Blok DM-3)

Transponder Power: 12 transponders - power output not known

Tr.	Downlink Freq. in MHz	
1/2	10992.5	Spot Beam 1, Spot Beam 2 (72 MHz)
3/4	11075.0	Spot Beam 1, Spot Beam 2 (72 MHz)
5/6	11155.0	Spot Beam 1, Spot Beam 2 (72 MHz)
7/8	11495.0	Spot Beam 1, Spot Beam 2 (72 MHz)
9	11555.0	Spot Beam 1, Spot Beam 2 (36 MHz)
10	11595.0	Spot Beam 1, Spot Beam 2 (36 MHz)
11	11635.0	Spot Beam 1, Spot Beam 2 (36 MHz)
12	11675.0	Spot Beam 1, Spot Beam 2 (36 MHz)

- Spot beam 1 is Vertical polarized
- Spot beam 2 is Horizontal polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Loral Skynet Telstar 11 - Ku-band**

37.5 degrees West longitude

NORAD: 23413

Satellite Type: Matra Marconi Eurostar 2000

Launched: November 29, 1994 (Atlas IIAS)

Transponder Power: 28 transponders (54 MHz wide) - 15 watts each  
6 transponders (36 MHz wide) - 15 watts each

Tr.	Downlink Freq. in MHz
01(V)	12528
02(V)	12591
03(V)	12654
04(V)	12717
05(V)	11483
06(V)	11546
07(V)	11609
08(V)	11672
09(H)	12528
10(H)	12591
11(H)	12645
12(H)	12685.5
13(H)	12726
14(H)	11483
15(H)	11546
16(H)	11609
17(H)	11672
18(H)	11728
19(H)	11791
20(H)	11854
21(H)	11917
22(H)	11978
23(H)	12041
24(H)	12104
25(H)	12167
26(V)	11728
27(V)	11791
28(V)	11854
29(V)	11885.5
30(V)	11926
31(V)	11978
32(V)	12041
33(V)	12104
34(V)	12167

Note: European broad-beam downlinked transponders are 1-8  
European spot-beam downlinked transponders are 9-17  
North American broad-beam downlinked transponders are 18-25  
North American spot-beam downlinked transponders are 26-34

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**SES Americom Satcom C1 - C-Band**

37.5 degrees West longitude

NORAD: 20945

Satellite Type: GE 3000

Launched: November 20, 1990 (Ariane 42P)

Transponder Power: 24 transponders - 10 watts each

Tr.	Downlink Freq in MHz
1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780
5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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**SES Americom 515 - C-band**

37.7 degrees West longitude

NORAD: 19772

Satellite Type: Ford Aerospace-constructed Satellite

Launched: January 26, 1989 (Ariane 2)

Transponder Power: 6 transponders - 8.5 watts each (Global)  
10 transponders - 8.5 watts each (Hemispheric)  
10 transponders - 4.5 watts each (Zone)

Tr.	Downlink Freq. in MHz
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1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized
- This satellite operates in an inclined orbit

Note: Because of all the flexibility SES Americom offers with beams and transponders, only the general transponder layout above will be used (not SES Americom's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(C-band transmissions from this orbital slot will be transmitted from Satcom C1. SES Americom has received authority from the FCC to operate Satcom C1 from this orbital slot until SES Americom launches and operates another satellite from this orbital slot.)

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### **SES Americom 515 - Ku-band**

37.7 degrees West longitude

NORAD: 19772

Satellite Type: Ford Aerospace-constructed Satellite

Launched: January 26, 1989 (Ariane 2)

Transponder Power: 6 transponders - 10 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(W 12 GHz Spot, 77 MHz)
1/2	12547.5	(E 12 GHz Spot, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(W 12 GHz Spot, 72 MHz)
3/4	12630.0	(E 12 GHz Spot, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(W 12 GHz Spot, 72 MHz)
5/6	12710.0	(E 12 GHz Spot, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/12	11577.5	(Ku-spot, 241 MHz)

- East Ku-spot beams are Vertical linear polarized
- West Ku-spot beams are Horizontal linear polarized
- Transponder 3/4 is a full connectivity transponder. A service using east or west C hemispheric or Ku spot beams can be transmitted in both Ku spot beams and both C hemispheric beams
- Transponder 7/8 has Spot to Hemi connectivity. A service using Ku east or west spot beams can be transmitted in both C hemispheric beams
- This satellite operates in an inclined orbit

Note: Because of all the flexibility SES Americom offers with beams and transponders, only the general transponder layout above will be used (not SES Americom's true transponder numbering).

(There will be no Ku-band video from SES Americom 515 (the FCC has given SES Americom only the authority to operate SES Americom 515 using the C-band payload)

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### **New Skies Satellites VIII-A F6 - C-band**

40.5 degrees West Longitude

NORAD: 25239

Satellite Type: Lockheed Martin LM7000

Launched: February 28, 1998 (Atlas IIAS)

Transponder Power: 28 transponders - 40 watts each (Hemisphere)

Tr.	Downlink Freq. in MHz
5/6'	3502.0 (72 MHz)
3/4'	3582.0 (72 MHz)
1/2'	3663.0 (72 MHz)
1/2	3743.0 (72 MHz)
3	3803.0 (36 MHz)
4	3843.0 (36 MHz)
5	3883.0 (36 MHz)
6	3923.0 (36 MHz)
7	3976.0 (34 MHz)
8	4015.0 (36 MHz)
9	4055.0 (36 MHz)
10	4095.0 (36 MHz)
11	4135.0 (36 MHz)
12	4177.5 (41 MHz)

- All transponders are Hemisphere beams and can be Right Hand or Left Hand Circular Polarized

Note: Because of all the flexibility New Skies Satellites offers with beams and transponders, only the general transponder layout above will be used (not New Skies Satellite's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.



(no video reported)

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### **New Skies Satellites VIII-A F6 - Ku-band**

40.5 degrees West Longitude

NORAD: 25239

Satellite Type: Lockheed Martin LM7000

Launched: February 28, 1998 (Atlas IIAS)

Transponder Power: 3 transponders - power output not currently known

Tr.	Downlink Freq. in MHz	
1/2	11747.5	(77 MHz)
3/4	11830.0	(72 MHz)
5/6	11910.0	(72 MHz)

- All transponders are Horizontal linear polarized

Note: Because of all the flexibility New Skies Satellites offers with beams and transponders, only the general transponder layout above will be used (not New Skies Satellite's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Panamsat PAS-3R - C-band**

43 degrees West Longitude

NORAD: 23764

Satellite Type: Boeing Satellite Systems BSS-601

Launched: January 12, 1996 (Ariane 44L)

Transponder Power: 12 transponders (54 MHz wide) - 34 watts each  
4 transponders (64 MHz wide) - 34 watts each

Tr.	Downlink Freq. in MHz	
1(V)	3730	(54 MHz; Pan American V2 beam)
2(H)	3730	(54 MHz; Pan American V2 beam)
3(V)	3790	(54 MHz; Pan American V1 beam)
4(H)	3790	(54 MHz; Pan American V1 beam)
5(V)	3850	(54 MHz; Pan American V2 beam)
6(H)	3850	(54 MHz; Pan American V2 beam)
7(V)	3915	(64 MHz; Pan American V1 beam or Africa)
8(H)	3915	(64 MHz; Pan American V1 beam)
9(V)	3980	(54 MHz; Pan American V2 beam)
10(H)	3980	(54 MHz; Pan American V2 beam)
11(V)	4040	(54 MHz; Pan American V1 beam or Africa)
12(H)	4040	(54 MHz; Pan American V1 beam)
13(V)	4100	(54 MHz; Pan American V2 beam)

14(H)	4100	(54 MHz; Pan American V2 beam)
15(V)	4165	(64 MHz; Pan American V1 beam or Africa)
16(H)	4165	(64 MHz; Pan American V1 beam)

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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**Panamsat PAS-3R - Ku-band**

43 degrees West Longitude

NORAD: 23764

Satellite Type: Boeing Satellite Systems BSS-601

Launched: January 12, 1996 (Ariane 44L)

Transponder Power: 12 transponders (54 MHz wide) - 63 watts each  
 4 transponders (64 MHz wide) - 63 watts each

Tr.	Downlink Freq. in MHz	
1(H)	11729	(54 MHz, North South America or Europe)
2(V)	11729	(54 MHz, North America or South South America)
4(H)	11789	(54 MHz, North America)
4B(V)	11789	(54 MHz, Brazil)
5(H)	11849	(54 MHz, North South America or Europe)
6(V)	11849	(54 MHz, North America or South South America)
8(H)	11914	(64 MHz, North America)
8B(V)	11914	(64 MHz, Brazil)
9(H)	11979	(54 MHz, North South America or Europe)
10(V)	11979	(54 MHz, North America or South South America)
12(H)	12039	(54 MHz, North America)
12B(V)	12039	(54 MHz, Brazil)
13(H)	12099	(54 MHz, North South America or Europe)
14(V)	12099	(54 MHz, North America or South South America)
16(H)	12164	(64 MHz, North South America or Europe)
16B(V)	12164	(64 MHz, Brazil)
1E(H)	12531	(54 MHz, Europe or North South America)
3E(H)	12591	(54 MHz, Europe)
5E(H)	12651	(64 MHz, Europe or North South America)
7E(H)	12716	(64 MHz, Europe)
9E(V)	12531	(54 MHz, Europe or North South America)
11E(V)	12591	(54 MHz, Europe)
13E(V)	12651	(64 MHz, Europe or North South America)
15E(V)	12716	(64 MHz, Europe)

- Transponders 2, 6, 10, and 14 (South South America or North America beamed) have a horizontal downlink polarity when the South South America beam is selected

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

Some of the other transponders are used for Netsat (Brazilian DTH) and Sky

Multi-Country partners (Sky Latin America DTH except Mexico and Brazil)

(no video reported)

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**Panamsat PAS-6 - Ku-band**

43 degrees West Longitude

NORAD: 24891

Satellite Type: Space Systems/Loral FS-1300

Launched: August 8, 1997 (Ariane 44P)

Transponder Power: 36 transponders - 100-110 watts each

No frequency layout is available - Downlink is 10700 - 10950 MHz  
and 11200 - 11450 MHz

NOTE: A solar array problem has reduced the capacity of PAS-6.

All of the currently active transponders are used for Netsat (Brazilian DTH) and Sky Multi-Country partners (Sky Latin America DTH except Mexico and Brazil)

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**Panamsat PAS-6B - Ku-band**

43 degrees West Longitude

NORAD: 25585

Satellite Type: Boeing Satellite Systems BSS-601 HP

Launched: December 22, 1998 (Ariane 42L)

Transponder Power: 32 transponders - 105-140 watts each

No frequency layout is available - Downlink is 10700 - 10950 MHz  
and 11200 - 11450 MHz

All 32 transponders are used for Netsat (Brazilian DTH) and Sky Multi-Country partners (Sky Latin America DTH except Mexico and Brazil)

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**Panamsat PAS-1R - C-Band**

45 degrees West longitude

NORAD: 26608

Satellite Type: Boeing Satellite Systems BSS-702

Launched: November 15, 2000 (Ariane 5)

Transponder Power: 24 transponders - 55 watts each  
12 transponders - 34 watts each

Tr.	Downlink Freq in MHz	
1-C(H)	3735	(United States / Latin America)
2-C(V)	3735	(United States / Latin America)
3-C(H)	3775	(United States / Latin America)
4-C(V)	3775	(United States / Latin America)
5-C(H)	3815	(United States / Latin America)
6-C(V)	3815	(United States / Latin America)

7-C(H)	3855	(United States / Latin America)
8-C(V)	3855	(United States / Latin America)
9-C(H)	3895	(United States / Latin America)
10-C(V)	3895	(United States / Latin America)
11-C(H)	3935	(United States / Latin America)
12-C(V)	3935	(United States / Latin America)
13-C(H)	3975	(United States / Latin America)
14-C(V)	3975	(United States / Latin America)
15-C(H)	4015	(United States / Latin America)
16-C(V)	4015	(United States / Latin America)
17-C(H)	4055	(United States / Latin America)
18-C(V)	4055	(United States / Latin America)
19-C(H)	4095	(United States / Latin America)
20-C(V)	4095	(United States / Latin America)
21-C(H)	4135	(United States / Latin America)
22-C(V)	4135	(United States / Latin America)
23-C(H)	4175	(United States / Latin America)
24-C(V)	4175	(United States / Latin America)
2G-C(V)	3735	(Global)
4G-C(V)	3775	(Global)
6G-C(V)	3815	(Global)
8G-C(V)	3855	(Global)
10G-C(V)	3895	(Global)
12G-C(V)	3935	(Global)
14G-C(V)	3975	(Global)
16G-C(V)	4015	(Global)
18G-C(V)	4055	(Global)
20G-C(V)	4095	(Global)
22G-C(V)	4135	(Global)
24G-C(V)	4175	(Global)
1E-C(H)	3735	(Europe / Africa)
3E-C(H)	3775	(Europe / Africa)
5E-C(H)	3815	(Europe / Africa)
7E-C(H)	3855	(Europe / Africa)
9E-C(H)	3895	(Europe / Africa)
11E-C(H)	3935	(Europe / Africa)
13E-C(H)	3975	(Europe / Africa)
15E-C(H)	4015	(Europe / Africa)
17E-C(H)	4055	(Europe / Africa)
19E-C(H)	4095	(Europe / Africa)
21E-C(H)	4135	(Europe / Africa)
23E-C(H)	4175	(Europe / Africa)

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Panamsat PAS-1R - Ku-Band**

45 degrees West longitude

NORAD: 26608

Satellite Type: Boeing Satellite Systems BSS-702

Launched: November 15, 2000 (Ariane 5)

Transponder Power: 12 transponders - 140 watts each  
24 transponders - 125 watts each

Tr.	Downlink Freq in MHz	
1-K(H)	10970	(United States / Mexico)
2-K(V)	10970	(Europe / North Africa -or- United States / Mexico)
3-K(H)	11010	(United States / Mexico)
4-K(V)	11010	(Europe / North Africa -or- United States / Mexico)
5-K(H)	11050	(United States / Mexico)
6-K(V)	11050	(Europe / North Africa -or- United States / Mexico)
7-K(H)	11090	(United States / Mexico)
8-K(V)	11090	(Europe / North Africa -or- United States / Mexico)
9-K(H)	11130	(United States / Mexico)
10-K(V)	11130	(Europe / North Africa -or- United States / Mexico)
11-K(H)	11170	(United States / Mexico)
12-K(V)	11170	(Europe / North Africa -or- United States / Mexico)
13-K(H)	11470	(Europe / North Africa -or- United States / Mexico)
14-K(V)	11470	(Europe / North Africa -or- South America V2)
15-K(H)	11510	(Europe / North Africa -or- United States / Mexico)
16-K(V)	11510	(Europe / North Africa -or- South America V2)
17-K(H)	11550	(Europe / North Africa -or- United States / Mexico)
18-K(V)	11550	(Europe / North Africa -or- South America V2)
19-K(H)	11590	(Europe / North Africa -or- United States / Mexico)
20-K(V)	11590	(Europe / North Africa -or- South America V2)
21-K(H)	11630	(Europe / North Africa -or- United States / Mexico)
22-K(V)	11630	(Europe / North Africa -or- South America V2)
23-K(H)	11670	(Europe / North Africa -or- United States / Mexico)
24-K(V)	11670	(Europe / North Africa -or- South America V2)
25-K(H)	11720	(South America)
26-K(V)	11720	(South America V1)
27-K(H)	11760	(South America)
28-K(V)	11760	(South America V1)
29-K(H)	11800	(South America)
30-K(V)	11800	(South America V1)
31-K(H)	11840	(South America)
32-K(V)	11840	(South America V1)
33-K(H)	11880	(South America)
34-K(V)	11880	(South America V1)
35-K(H)	11920	(South America)
36-K(V)	11920	(South America V1)

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **SES Americom TDRS-6 - C-band and Ku-band**

47 degrees West longitude

NORAD: 22314

Satellite Type: TRW-constructed Satellite

Launched: January 13, 1993 (Shuttle - STS-54)

Transponder Power: 12 transponders - 5 watts each

Tr.	Downlink Freq. in MHz
1(H)	3720.0
2(H)	3760.0
3(H)	3800.0
4(H)	3840.0
5(H)	3880.0
6(H)	3920.0
7(H)	3960.0
8(H)	4000.0
9(H)	4040.0
10(H)	4080.0
11(H)	4120.0
12(H)	4160.0

- This satellite operates in an inclined orbit

Note: The Ku-band part is mostly non-U.S. Ku-band frequencies.

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII F5 - C-Band**

50 degrees West Longitude

NORAD: 23528

Satellite Type: Space Systems/Loral FS-1300

Launched: March 21, 1995 (Atlas IIAS)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)

10 transponders - 20 to 30 watts each (Hemisphere)

10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are  
Right Hand circular polarized

- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are  
Left Hand circular polarized

- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are

- Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII F5 - Ku-Band**

50 degrees West Longitude

NORAD: 23528

Satellite Type: Space Systems/Loral FS-1300

Launched: March 21, 1995 (Atlas IIAS)

Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3

- Ku-spot beam 1 (East) is Vertical linear polarized

- Ku-spot beam 2 (West) is Horizontal linear polarized

- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII-A F6 - C-Band**

53 degrees West Longitude

NORAD: 23571

Satellite Type: Space Systems/Loral FS-1300

Launched: May 17, 1995 (Ariane 44LP)

Transponder Power: 6 transponders - 30 watts each (Global and Spot)  
10 transponders - 20 watts each (Hemisphere)  
10 transponders - 10 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII-A F6 - Ku-Band**

53 degrees West Longitude

NORAD: 23571

Satellite Type: Space Systems/Loral FS-1300

Launched: May 17, 1995 (Ariane 44LP)

Transponder Power: 14 transponders - 49-73 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(1/2/3 11 GHz, 77 MHz)
1/2	11747.5	(1/2/3 12 GHz, 77 MHz)
1/2	12547.5	(1/2/3 12 GHz, 77 MHz)
1/3	11010.0	(1X/2X/3 11 GHz, 112 MHz)
1/3	11765.0	(1X/2X/3 12 GHz, 112 MHz)
1/3	12565.0	(1X/2X/3 12 GHz, 112 MHz)
3/4	11075.0	(1/2/3 11 GHz, 72 MHz)



3/4	11830.0	(1/2/3 12 GHz, 72 MHz)
3/4	12630.0	(1/2/3 12 GHz, 72 MHz)
4/6	11135.0	(1X/2X/3 11 GHz, 112 MHz)
4/6	11890.0	(1X/2X/3 12 GHz, 112 MHz)
4/6	12690.0	(1X/2X/3 12 GHz, 112 MHz)
5/6	11155.0	(1/2/3 11 GHz, 72 MHz)
5/6	11910.0	(1/2/3 12 GHz, 72 MHz)
5/6	12708.0	(1/2/3 12 GHz, 72 MHz)
7/8	11495.0	(1/2/3 11 GHz, 72 MHz)
7/9	11514.0	(1/2/3 11 GHz, 112 MHz)
7/9	11514.0	(1X/2X/3 11 GHz, 112 MHz)
10/12	11638.0	(1/2/3 11 GHz, 112 MHz)
10/12	11638.0	(1X/2X/3 11 GHz, 112 MHz)

- East Ku-spot (beam 1) is Vertical linear polarized
- East Ku-spot (beam 1X) is Horizontal linear polarized
- West Ku-spot (beam 2) is Horizontal linear polarized
- West Ku-spot (beam 2X) is Vertical linear polarized
- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### Intelsat VII F9 - C-Band

55.5 degrees West Longitude

NORAD: 23915

Satellite Type: Space Systems/Loral FS-1300

Launched: June 15, 1996 (Ariane 44P)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)

10 transponders - 20 to 30 watts each (Hemisphere)

10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized

- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII F9 - Ku-Band**

55.5 degrees West Longitude

NORAD: 23915

Satellite Type: Space Systems/Loral FS-1300

Launched: June 15, 1996 (Ariane 44P)

Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3

- Ku-spot beam 1 (East) is Vertical linear polarized

- Ku-spot beam 2 (West) is Horizontal linear polarized

- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VIII-A F5 - C-band**

55.5 degrees West Longitude

NORAD: 25371

Satellite Type: Lockheed Martin LM7000

Launched: June 18, 1998 (Atlas 2AS)

Transponder Power: 28 transponders - 40 watts each (Hemisphere)

Tr.	Downlink Freq. in MHz
7'	3442.0 (36 MHz)
6'	3482.0 (36 MHz)
5'	3522.0 (36 MHz)
4'	3562.0 (36 MHz)
3'	3602.0 (36 MHz)
1'	3683.0 (36 MHz)
1-2	3745.0 (72 MHz)
3-4	3825.0 (72 MHz)
5-6	3905.0 (72 MHz)
7-8	3995.0 (72 MHz)
9	4055.0 (36 MHz)
10	4095.0 (36 MHz)
11	4135.0 (36 MHz)
12	4177.5 (41 MHz)

- All transponders are Hemisphere beams and can be Horizontal or Vertical polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VIII-A F5 - Ku-band**

55.5 degrees West Longitude

NORAD: 25371

Satellite Type: Lockheed Martin LM7000

Launched: June 18, 1998 (Atlas 2AS)

Transponder Power: 3 transponders - power output not currently known

Tr.	Downlink Freq. in MHz
1/2	12547.5 (77 MHz)
3/4	12630.0 (72 MHz)
5/6	12710.0 (72 MHz)

- All transponders are Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Panamsat PAS-9 - C-Band**

58 degrees West longitude

NORAD: 26451

Satellite Type: Boeing Satellite Systems BSS-601 HP

Launched: July 28, 2000 (Sea Launch Zenit-3SL)

Transponder Power: 24 transponders - 55 watts each

Tr.	Downlink Freq in MHz
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1(V)	3720
2(H)	3720
3(V)	3760
4(H)	3760
5(V)	3800
6(H)	3800
7(V)	3840
8(H)	3840
9(V)	3880
10(H)	3880
11(V)	3920
12(H)	3920
13(V)	3960
14(H)	3960
15(V)	4000
16(H)	4000
17(V)	4040
18(H)	4040
19(V)	4080
20(H)	4080
21(V)	4120
22(H)	4120
23(V)	4160
24(H)	4160

Note: This is a list of services given by contributors in the Eastern United States. Additional contributions are always welcome.

(no video reported)

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### **Panamsat PAS-9 - Ku-Band**

58 degrees West longitude

NORAD: 26451

Satellite Type: Boeing Satellite Systems BSS-601 HP

Launched: July 28, 2000 (Sea Launch Zenit-3SL)

Transponder Power: 24 transponders - 108 watts each

Tr.	Downlink Freq in MHz	
1(H)	11477	(36 MHz, United States/Europe)
2(V)	11740	(36 MHz, Brazil)
3(H)	11517	(36 MHz, United States/Europe)
4(V)	11780	(36 MHz, Brazil)
5(H)	11557	(36 MHz, United States/Europe)
6(V)	11820	(36 MHz, Brazil)
7(H)	11597	(36 MHz, United States/Europe/Brazil)
8(V)	11860	(36 MHz, Brazil)
9(H)	11637	(36 MHz, United States/Europe/Brazil)
10(V)	11900	(36 MHz, Brazil)
11(H)	11677	(36 MHz, United States/Europe/Brazil)
12(V)	11940	(36 MHz, Brazil)
13(H)	11960	(36 MHz, United States/Europe)
14(V)	11980	(36 MHz, Mexico)
15(H)	12000	(36 MHz, United States/Europe)
16(V)	12020	(36 MHz, Mexico)
17(H)	12040	(36 MHz, United States/Europe)
18(V)	12060	(36 MHz, Mexico)
19(H)	12080	(36 MHz, United States/Europe)
20(V)	12100	(36 MHz, Mexico)
21(H)	12120	(36 MHz, United States/Europe)
22(V)	12140	(36 MHz, Mexico)
23(H)	12160	(36 MHz, United States/Europe)
24(V)	12180	(36 MHz, Mexico)

Note: This is a list of services given by contributors in the Eastern United States.  
Additional contributions are always welcome.

(No video reported)

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### **Echostar DISH Network Echostar-3 - Ku-band**

61.5 degrees West longitude

NORAD: 25004

Satellite Type: Lockheed Martin A2100 AX

Launched: October 5, 1997 (ILS Atlas IIAS)

Transponder Power: 32 transponders - 120 watts each

Tr.	Downlink Freq in MHz
1	12224
2	12239
3	12253
4	12268
5	12282
6	12297
7	12311
8	12326
9	12341

10	12355
11	12370
12	12384
13	12399
14	12414
15	12428
16	12443
17	12457
18	12472
19	12486
20	12501
21	12516
22	12530
23	12545
24	12559
25	12574
26	12588
27	12603
28	12618
29	12632
30	12647
31	12661
32	12676

All services are delivered by digital video compression using a Divicom MPEG 2 compression scheme.

(See DISH Network entry at 119 degrees West longitude for the DISH Network channel lineup)

**Dominion Video Satellite, Inc.** leases 2 transponders aboard Echostar-3 to transmit Sky Angel religious programming.

#### Sky Angel Programming:

9701 Angel One	
9702 Angel Two	9731 Praise TV
9703 Kids and Teens TV	9732 Worship Network
9705 Television U	9750 His Kids Radio
9708 Faith TV	9751 Air One Radio
9709 Super Channel TBN	9752 Pulse Radio
9710 3 Angels Broadcasting Network	9753 Radio U
9711 Safe TV Channel	9754 WAY-FM
9712 Cornerstone TV (WPCB-TV Pittsburgh, PA)	9760 American Family Radio
9713 Daystar TV	9761 Bible Broadcasting Network
9714 Christian Television Network (WLPC-TV Detroit)	9762 Calvary Satellite Radio
9715 Golden Eagle Broadcasting	9763 Family Radio Network
9716 The Liberty Channel	9764 Living Way Radio
9717 FamilyLand Network	9765 Moody Broadcasting Network
9718 INSP - The Inspirational Network	9766 WAY Radio
9719 World Harvest TV Network	9770 Solid Gospel Music Radio
9720 Enlace TBN	9771 Sacred Favorites
9730 Gospel Music Television	9772 Voice from Jerusalem
	9780 Radio Nueva Vida

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**Nahuelsat Nahuel 1A - Ku-band**  
71.8 degrees West longitude

NORAD: 24714

Satellite Type: Dornier/Aerospatiale Spacebus 2000

Launched: January 30, 1997 (Ariane 44L)

Transponder Power: 24 transponders - 40 watts each

Tr. . Downlink Freq.  
in MHz

1(V)	11490.0
2(H)	11499.0
3(V)	11550.0
4(H)	11560.0
5(V)	11610.0
6(H)	11621.0
7(V)	11670.0
8(H)	11682.0
9(V)	11730.0
10(H)	11743.0
11(V)	11791.0
12(H)	11804.0
13(V)	11852.0
14(H)	11865.0
15(V)	11913.0
16(H)	11926.0
17(V)	11974.0
18(H)	11987.0
19(V)	12035.0
20(H)	12048.0
21(V)	12096.0
22(H)	12109.0
23(V)	12157.0
24(H)	12170.0

NOTE: Only transponders 1, 3, 5 and 7 have a North American beam.

(no video has been reported)

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**SES Americom Americom-6 - C-Band**

72 degrees West longitude

NORAD: 26580

Satellite Type: Lockheed Martin A2100 AX

Launched: October 22, 2000 (Proton/DM)

Transponder Power: 24 transponders - 20 watts each

Tr. Downlink Freq  
in MHz

1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780
5(V)	3800
6(H)	3820

7(V)	3840
8(H)	3860
9(V)	3880
10(H)	3900
11(V)	3920
12(H)	3940
13(V)	3960
14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160
24(H)	4180

- 1 Data Transmissions
- 2 Data Transmissions
- 3 (none)
- 4 (none)
- 5 (none)
- 6 (none)
- 7 (none)
- 8 (none)
- 9 (none)
- 10 (none)
- 11 Data Transmissions
- 12 (none)
- 13 (none)
- 14 (none)
- 15 (none)
- 16 (none)
- 17 (none)
- 18 (none)
- 19 (none)
- 20 (none)
- 21 (none)
- 22 (none)
- 23 Occasional video
- 24 La Cadena de Milagro - Spanish-language religious service  
**7.10 2731357 1302731381 777 777 xxxx sa750 atis**

-----

**SES Americom Americom-6 - Ku-Band**

72 degrees West longitude

NORAD: 26580

Satellite Type: Lockheed Martin A2100 AX

Launched: October 22, 2000 (Proton/DM)

Transponder Power: 24 transponders (36 MHz wide) - 110 watts each  
4 transponders (72 MHz wide) - 110 watts each



Tr.	Downlink Freq in MHz
1(V)	11720
2(H)	11740
3(V)	11760
4(H)	11780
5(V)	11800
6(H)	11820
7(V)	11840
8(H)	11860
9(V)	11880
10(H)	11900
11(V)	11920
12(H)	11940
13(V)	11960
14(H)	11980
15(V)	12000
16(H)	12020
17(V)	12040
18(H)	12060
19(V)	12080
20(H)	12100
21(V)	12120
22(H)	12140
23(V)	12160
24(H)	12180
25(V)	11535
26(H)	11535
27(V)	11655
28(H)	11655

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Data Transmissions
- 5 (none)
- 6 Data Transmissions
- 7 Data Transmissions
- 8 Occasional video
- 9 (none)
- 10 Data Transmissions
- 11 Data Transmissions
- 12 Data Transmissions
- 13 NY1 News (digital)  
Data Transmissions
- 14 (none)
- 15 Data Transmissions
- 16 Data Transmissions
- 17 (none)
- 18 (none)
- 19 (none)
- 20 (none)
- 21 ID Slate

- 22 Occasional video
- 23 Data Transmissions
- 24 Data Transmissions
- 25 South-American beamed
- 26 South-American beamed
- 27 South-American beamed
- 28 South-American beamed

-----

### **Panamsat Galaxy 6 - C-Band**

74 degrees West longitude

NORAD: 20873

Satellite Type: Boeing Space Systems BSS-376

Launched: October 12, 1990 (Ariane 44L)

Transponder Power: 24 transponders - 10 watts each

Tr.            Downlink Freq  
                  in MHz

- 1(H)            3720
- 2(V)            3740
- 3(H)            3760
- 4(V)            3780
- 5(H)            3800
- 6(V)            3820
- 7(H)            3840
- 8(V)            3860
- 9(H)            3880
- 10(V)           3900
- 11(H)           3920
- 12(V)           3940
- 13(H)           3960
- 14(V)           3980
- 15(H)           4000
- 16(V)           4020
- 17(H)           4040
- 18(V)           4060
- 19(H)           4080
- 20(V)           4100
- 21(H)           4120
- 22(V)           4140
- 23(H)           4160
- 24(V)           4180

- 1 (none)
- 2 (none)
- 3 (none)
- 4 (none)
- 5 (none)
- 6 (none)
- 7 (none)
- 8 (none)
- 9 (none)
- 10 (none)

- 11 (none)
- 12 (none)
- 13 (none)
- 14 (none)
- 15 (none)
- 16 (none)
- 17 (none)
- 18 (none)
- 19 (none)
- 20 (none)
- 21 (none)
- 22 Data Transmissions
- 23 (none)
- 24 (none)

-----

**Panamsat SBS-6 - Ku-Band**

74 degrees West longitude

NORAD: 20872

Satellite Type: Boeing Space Systems BSS-393

Launched: October 12, 1990 (Ariane 44L)

Transponder Power: 19 transponders (43 MHz wide) - 41 watts each

Tr.            Downlink Freq  
                  in MHz

T01(H)	11725.0
T02(V)	11749.5
T03(H)	11774.0
T04(V)	11798.5
T05(H)	11823.0
T06(V)	11847.5
T07(H)	11872.0
T08(V)	11896.5
T09(H)	11921.0
T10(V)	11945.5
T11(H)	11970.0
T12(V)	11994.5
T13(H)	12019.0
T14(V)	12043.5
T15(H)	12068.0
T16(V)	12092.5
T17(H)	12110.0
T18(V)	12141.5
T19(H)	12166.0

- 1 Data transmissions  
The Newborn Channel (digital)
- 2 CONUS Communications (half transponders)
- 3 CONUS Communications (half transponders)
- 4 Occasional video
- 5 CONUS Communications (half transponders)
- 6 Occasional video
- 7 Occasional video

- 8 Occasional video
- 9 Occasional video
- 10 CONUS Communications (digital)
  - All News Channel
  - CONUS Select
  - CONUS SNG (occasional digital)
- 11 Occasional video
- 12 MSNBC SNG (digital)
- 13 Occasional video
- 14 Occasional video
- 15 Occasional video
- 16 Occasional video
- 17 Occasional video
- 18 Occasional video
- 19 Occasional video

-----

**Hughes Global Systems HGS-5 - Ku-Band**

77 degrees West longitude

NORAD: 15235

Satellite Type: Boeing Space Systems BSS-376

Launched: August 31, 1984 (Shuttle - STS-41D)

Transponder Power: 10 transponders (43 MHz wide) - 20-40 watts each

Tr.	Downlink Freq in MHz
-----	-------------------------

T01(H)	11725
T02(H)	11774
T03(H)	11823
T04(H)	11872
T05(H)	11921
T06(H)	11970
T07(H)	12019
T08(H)	12068
T09(H)	12117
T10(H)	12166

- This satellite operates in an inclined orbit

(No video seen)

-----

**SES Americom Americom-5 - Ku-Band**

79 degrees West longitude

NORAD: 25516

Satellite Type: Daimler-Benz Aerospace/Dornier Spacebus 2000

Launched: October 28, 1998 (Ariane 44L)

Transponder Power: 16 transponders - 55 watts each

Tr.	Downlink Freq. in MHz
-----	--------------------------

1(V)	11730.0
2(H)	11743.0
3(V)	11791.0
4(H)	11804.0
5(V)	11852.0
6(H)	11865.0
7(V)	11913.0
8(H)	11926.0
9(V)	11974.0
10(H)	11987.0
11(V)	12035.0
12(H)	12048.0
13(V)	12096.0
14(H)	12109.0
15(V)	12157.0
16(H)	12170.0

- 1 Data Transmissions  
Utah State University (digital)  
Distance Learning Courses  
KUED-TV Salt Lake City - PBS affiliate  
KULC-TV Salt Lake City - "Utah's Education Channel"
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Oklahoma Educational TV (digital)  
Empire Sports Network (digital)
- 5 CBS SNG (digital)
- 6 Occasional video
- 7 Data Transmissions
- 8 Occasional video
- 9 ABC SNG (analog/digital)
- 10 Occasional video
- 11 CNN SNG (analog/digital)
- 12 Occasional video
- 13 Occasional video
- 14 Occasional video
- 15 Data Transmissions
- 16 New York Network (digital)

-----

**SES Americom Americom-2 - C-Band**

85 degrees West longitude  
 NORAD: 24713  
 Satellite Type: Lockheed Martin A2100  
 Launched: January 30, 1997 (Ariane 44L)  
 Transponder Power: 24 transponders - 12-18 watts each

Tr.	Downlink Freq in MHz
1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780

5(V)	3800
6(H)	3820
7(V)	3840
8(H)	3860
9(V)	3880
10(H)	3900
11(V)	3920
12(H)	3940
13(V)	3960
14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160
24(H)	4180

- 1 (none)
- 2 Occasional video
- 3 Occasional video  
RAI International (digital) (occ)
- 4 Data Transmissions
- 5 NASA Contract Channel
- 6 Occasional video
- 7 Horse Racing (digital) (occ)
- 8 Data Transmissions
- 9 NASA Television  
**7.10 wb74 1202133374 301 474 xxxx ge gsfc md**
- 10 Data Transmissions
- 11 Horse Racing (digital) (occ)  
Occasional Video
- 12 Data Transmissions
- 13 Data Transmissions  
SCPC Audio Services  
1179.40 80.60 NASA Space Shuttle Audio (missions only)  
and ISS mission audio other times
- 14 Data Transmissions
- 15 Pennsylvania Cable Network (digital)
- 16 Data Transmissions
- 17 Data Transmissions
- 18 CLTV - Chicagoland Television (digital)  
Data Transmissions
- 19 Data Transmissions
- 20 Data Transmissions
- 21 Horse Racing (digital) (occ)
- 22 USIA Worldnet / VOA Radio (digital)
- 23 Horse Racing (digital) (occ)
- 24 Horse Racing (digital) (occ)

-----

## SES Americom Americom-2 - Ku-Band

85 degrees West longitude

NORAD: 24713

Satellite Type: Lockheed Martin A2100

Launched: January 30, 1997 (Ariane 44L)

Transponder Power: 24 transponders - 60 watts each

Tr.            Downlink Freq.  
                  in MHz

1(V)	11720
2(H)	11740
3(V)	11760
4(H)	11780
5(V)	11800
6(H)	11820
7(V)	11840
8(H)	11860
9(V)	11880
10(H)	11900
11(V)	11920
12(H)	11940
13(V)	11960
14(H)	11980
15(V)	12000
16(H)	12020
17(V)	12040
18(H)	12060
19(V)	12080
20(H)	12100
21(V)	12120
22(H)	12140
23(V)	12160
24(H)	12180

- 1 Occasional video
- 2 NBC SNG (digital)
- 3 Occasional video
- 4 NBC SNG (digital)
- 5 Occasional video
- 6 Occasional video
- 7 Action Sports Cable Network (ASCN) (digital)
- 8 NBC SNG (digital)
- 9 Occasional video
- 10 Occasional video
- 11 Occasional video
- 12 Occasional video
- 13 Occasional video
- 14 Occasional video
- 15 Occasional video
- 16 Occasional video
- 17 Occasional video
- 18 Occasional video
- 19 Occasional video
- 20 Occasional video

- 21 Occasional video
- 22 Occasional video
- 23 Occasional video
- 24 Occasional video

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**XM Satellite Radio XM-1 ("Roll") - S-Band**

85 degrees West longitude

NORAD: 26761

Satellite Type: Boeing Space Systems BSS-702

Launched: May 8, 2001 (Sea Launch Zenit-3SL)

Transponder Power: 2 Transponders

Each Transponder uses 16 TWTAs - 228 watts each

XM Satellite Radio uses the Digital Audio Radio Service (DARS)  
band of 2332.50 MHz to 2345.00 MHz

Transponder 1: 2335.30 MHz

Transponder 2: 2344.05 MHz

Terrestrial "transponder": 2340.02 MHz

- DECADES
- 4 The 40s Big Bands/Swing/Forties
  - 5 The 50s Fifties
  - 6 The 60s Sixties
  - 7 The 70s Seventies
  - 8 The 80s Eighties
  - 9 The 90s Nineties
- COUNTRY
- 10 America Classic Country
  - 11 Nashville Top Country Hits
  - 12 X Country Progressive Country
  - 13 Hank's Place Traditional Country
  - 14 Bluegrass Junction Bluegrass
  - 15 The Village Folk
- HITS
- 20 Top 20 on 20 Top 20 Hits
  - 21 KISS LA Rock
  - 22 MIX Pop Mix
  - 23 The Heart Love Songs
  - 24 Sunny Beautiful Music
  - 25 MTV Rock / Pop
  - 26 VH1 Rock / Pop
  - 27 Cinemagic Movie Soundtracks
  - 28 On Broadway ShowTunes
  - 29 U-Pop Euro & Global Chart Hits
  - 30 Special X Special Topics
- CHRISTIAN
- 31 The Torch Christian Rock
  - 32 The Fish Christian Pop
- ROCK
- 40 Deep Tracks Deep Album Rock
  - 41 Bone Yard Hard Rock
  - 42 XM Liquid Metal Heavy Rock
  - 43 XMU New Music
  - 44 Fred Classic Alternative
  - 45 XM Caf, Modern / Soft Alternative
  - 46 Top Tracks Classic Rock
  - 47 Ethel Alternative Hits
  - 50 The Loft Acoustic Rock
  - 51 XM Music Lab Progressive Fusion
- 52 Unsigned Unsigned Artists
- URBAN
- 60 Soul Street Classic Soul
  - 61 The Flow Neo Soul
  - 62 BET Uptown Urban
  - 63 Spirit Gospel
  - 64 The Groove Old School R&B
  - 65 The Rhyme Classic Rap
  - 66 RAW Uncut Hip Hop
  - 67 The City Urban Top 40
- JAZZ & BLUES
- 70 Real Jazz Traditional Jazz
  - 71 Watercolors Contemporary Jazz
  - 72 Beyond Jazz Modern Jazz
  - 73 Frank's Place Great Vocals / Standards
  - 74 Bluesville Blues
  - 75 Luna Latin Jazz
  - 76 On The Rocks Cocktail Mix
- DANCE
- 80 The Move Underground Dance
  - 81 BPM Club Hits
  - 82 The System Electronica
  - 83 Chrome Disco
- LATIN
- 90 Aguila Spanish Top 40
  - 91 Caricia Spanish Pop Hits
  - 92 Vibra Rock in Spanish
  - 93 Tejano Tejano
  - 94 Caliente Caribbean
- WORLD
- 100 World Zone World
  - 101 The Joint Reggae
  - 102 Ngoma African
  - 103 Audio Visions New Age
  - 104 Fine Tuning Eclectic
- CLASSICAL
- 110 XM Classics Traditional Classic
  - 112 Vox Opera



113 XM Pops Popular Classical

143 The Sporting News Sports' Talk

144 NASCAR Radio NASCAR Racing

KIDS

115 Radio Disney Children

116 XM Kids Children

NEWS

121 USA Today News

122 Fox News News

123 CNN Headline News News

124 ABC News & Talk News & Talk

125 The Weather Ch 24 hr Weather Information

127 CNBC Business News

128 CNNfn Financial News

129 Bloomberg News & Business

130 CNET Radio Tech News

131 BBC World Service World Affairs

132 C-Span Radio US Gov't & Public Affairs

134 CNN en español News in Spanish

COMEDY

150 XM Comedy Comedy

151 Laugh USA Family Comedy

152 Extreme XM Radio Crazies

TALK & VARIETY

161 Discovery Radio Real Life Stories & News

162 E! Entertainment News

163 Sonic Theater Books and Drama

164 RadioClassics Old Time Radio

165 ASK! Experts & Advice

166 Buzz XM Talk & Opinion

167 BabbleOn Young & Sassy Talk

169 The Power African American Talk

170 Family Talk Christian Talk

171 Open Road Truckers' Channel

SPORTS

140 ESPN Radio Sports Talk / Play-by-Play

141 ESPN News Sports News

142 Fox Sports Radio Sports News Talk

PREMIUM

205 Playboy Radio Adult

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**SES Americom Americom-3 - C-band**

87 degrees West longitude

NORAD: 24936

Satellite Type: Lockheed Martin A2100

Launched: September 4, 1997 (Atlas IIAS)

Transponder Power: 24 transponders - 12-18 watts each

Tr. Downlink Freq  
in MHz

1(H) 3720

2(V) 3740

3(H) 3760

4(V) 3780

5(H) 3800

6(V) 3820

7(H) 3840

8(V) 3860

9(H) 3880

10(V) 3900

11(H) 3920

12(V) 3940

13(H) 3960

14(V) 3980

15(H) 4000

16(V) 4020

17(H) 4040

18(V) 4060

19(H) 4080

20(V) 4100

21(H) 4120

22(V) 4140

23(H) 4160

24(V) 4180

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Occasional video
- 6 Fox Sports North / Fox Sports North - Wisconsin (digital)  
Comcast Sportsnet Mid-Atlantic (digital)
- 7 Data Transmissions
- 8 WNBC-TV New York City - Primetime 24 NBC (VC2+)  
**8.30 732969xxxx 528555553**
- 9 WPIX-TV New York City, WB affiliate (VC2+)  
**6.80** Talk America Radio Network  
**7.10 de e872650 718983xxxx 2534175142 idb comms**
- 10 WKRN-TV Nashville, TN - Primetime 24 ABC (VC2+)  
**8.30 e4907 404325xxxx 708555553**
- 11 (none)
- 12 WSEE-TV Erie, PA - Primetime 24 CBS (VC2+)  
**8.30 853555553**
- 13 Occasional video
- 14 Turner Classic Movies (VC2+)  
**7.10 8631206 1308631184 404 885 xxxx SA750 ATIS**
- 15 KTLA-TV Los Angeles, WB affiliate (VC2+)  
**7.10 de dee2941 818840xxxx wci1239037 /4 media co**
- 16 CNN fn (VC2+)  
**7.10 8631173 1308631173 404 885 xxxx SA750 ATIS**
- 17 Data Transmissions  
Digital audio
  - WDEO-AM 990, Ann Arbor, MI - Ave Maria Radio
  - Ambassador Inspirational Radio 1
  - Ambassador Inspirational Radio 2
  - Calvary Satellite Network 1
  - Calvary Satellite Network 2
  - Sounds of the Spirit (SOS) Radio Network
  - Focus on the Family 1
  - Focus on the Family 2
  - Focus on the Family 3
  - Focus on the Family Radio
  - Information Radio Network
  - Moody Broadcasting 1
  - Moody Broadcasting 2
  - Research Education Foundation Radio
  - Salem Radio Network 2
  - Salem Radio Network 3
  - Salem Radio Network 4
  - Salem Radio Network 5
  - Today's Christian Music
  - The Word in Praise
  - Solid Gospel
  - Skylight Radio 1
  - Skylight Radio 2
  - Songtime
  - Salem News Network
  - USA Radio Network 1
  - USA Radio Network 2

USA Radio Network 3  
USA Radio Network 4  
VCY America 1  
VCY America 2  
Salem Radio Network Program 1  
Family Life Radio "LifeOne"  
Dave Ramsey Radio

- 18 Fox Movie Channel (VC2+)  
**6.80** Premiere Radio Networks Channel 1  
**8.30 DE E970182 310369xxxx /FOX.DIGITAL**
- 19 (none)
- 20 University Network - Dr. Gene Scott  
**7.10 E859957 1104146774 818 243 xxxx**
- 21 CNN feeds (occ)
- 22 Data Transmissions
- 23 Data Transmissions
- 24 America One  
**7.10 ATIS too noisy to decode**

-----

**SES Americom Americom-3 - Ku-Band**

87 degrees West longitude  
NORAD: 24936  
Satellite Type: Lockheed Martin A2100  
Launched: September 4, 1997 (Atlas IIAS)  
Transponder Power: 24 transponders - 60 watts each

Tr.	Downlink Freq in MHz
1(H)	11720
2(V)	11740
3(H)	11760
4(V)	11780
5(H)	11800
6(V)	11820
7(H)	11840
8(V)	11860
9(H)	11880
10(V)	11900
11(H)	11920
12(V)	11940
13(H)	11960
14(V)	11980
15(H)	12000
16(V)	12020
17(H)	12040
18(V)	12060
19(H)	12080
20(V)	12100
21(H)	12120
22(V)	12140
23(H)	12160
24(V)	12180

- 1 Data Transmissions  
STARS of Faith (digital)
- 2 (none)
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Data Transmissions
- 6 Occasional video
- 7 Data Transmissions
- 8 Occasional video
- 9 Occasional video
- 10 National Technology University (digital)
- 11 Data Transmissions
- 12 Occasional video
- 13 CNN Newsource (digital)  
CNN Washington Newsource (digital)
- 14 Data Transmissions
- 15 Occasional video
- 16 Occasional video
- 17 Occasional video
- 18 Occasional video
- 19 Occasional video
- 20 Public Broadcasting Service (digital)
- 21 Public Broadcasting Service (digital)  
Public Broadcasting Service HDTV (digital)
- 22 Indiana Higher Educational Telecommunications Service (digital)
- 23 Annenberg/CPB Channel (digital)  
Public Broadcasting Service Stations/Regionals feeds (digital)
- 24 Public Broadcasting Service (digital)

-----

### **Loral Skynet Telstar 4 - C-Band**

89 degrees West longitude

NORAD: 23670

Satellite Type: GE 7000

Launched: September 24, 1995 (Ariane 42L)

Transponder Power: 24 transponders - 12-23 watts each

Tr.	Downlink Freq in MHz
-----	-------------------------

1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780
5(V)	3800
6(H)	3820
7(V)	3840
8(H)	3860
9(V)	3880
10(H)	3900
11(V)	3920
12(H)	3940
13(V)	3960

14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160
24(H)	4180

- 1 X3 - X-Cubed Network (VC2+)  
**8.30 e920588 303397xxxx 8095555553 vyvx tel den**
- 2 Data Transmissions
- 3 (none)
- 4 Extasy (VC2+)  
**8.30 kb22 909943xxxx 6875555553 steele valley es**
- 5 True Blue (VC2+)  
**8.30 e920588 303397xxxx 8155555553 vyvx tel den**
- 6 Occasional video
- 7 The Erotic Networks Promotional Channel (TEN.COM)  
**8.30 e920588 303397xxxx 8135555553 vyvx tel den**
- 8 Fresh Television (VC2+)  
**7.10 de e880773 504942xxxx wci1231199 /notel inc**
- 9 Occasional video
- 10 Occasional video
- 11 Occasional video
- 12 ABC Network feeds (occ)
- 13 CBS Network backup feeds (digital)
- 14 ABC Network feeds (occ)
- 15 (none)
- 16 Occasional video
- 17 Occasional video
- 18 Public Broadcasting Service Schedule X  
**7.10 ATIS broken**
- 19 Occasional video
- 20 Occasional video
- 21 ABC Network - West [LEITCH]  
**7.10 de e860103 212456xxxx wci1231276 /abc tv ny**
- 22 ABC Network - East [LEITCH]  
**7.10 de e860103 212456xxxx wci1231276 /abc tv ny**
- 23 Occasional video
- 24 Occasional video

-----

### **Loral Skynet Telstar 4 - Ku-Band**

89 degrees West longitude

NORAD: 23670

Satellite Type: GE 7000

Launched: September 24, 1995 (Ariane 42L)

Transponder Power: 16 transponders (54 MHz wide) - 60-120 watts each

Tr.            Downlink Freq

in MHz

T01(V)	11730
T02(H)	11743
T03(V)	11790
T04(H)	11803
T05(V)	11850
T06(H)	11863
T07(V)	11910
T08(H)	11923
T09(V)	11971
T10(H)	11984
T11(V)	12033
T12(H)	12046
T13(V)	12095
T14(H)	12108
T15(V)	12157
T16(H)	12170

- 1 South Carolina Educational Television (digital)  
South Carolina Educational Radio Network (digital)
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Data Transmissions
- 6 Georgia Public Television (digital)
- 7 Data Transmissions
- 8 Data Transmissions
- 9 ABC SNG (digital)
- 10 Occasional video
- 11 Data Transmissions
- 12 ABC SNG (digital)
- 13 Florida educational channels (digital)
- 14 Louisiana Public Broadcasting (digital)  
Data Transmissions
- 15 Muslim TV Ahmadiyya (digital)  
DMX for Business (digital)
- 16 Occasional video

-----

### **Panamsat Galaxy 11 - C-Band**

91 degrees West longitude

NORAD: 26038

Satellite Type: Boeing Space Systems BSS-702

Launched: December 22, 1999 (Ariane 44L)

Transponder Power: 24 transponders - 20 watts each

Tr.        Downlink Freq  
             in MHz

1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780

5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

- 1 WB 100+ Station Group (digital)
- 2 Fox Cable Networks (digital)
- 3 Black Entertainment East and West, BET on Jazz (digital)
- 4 Fox Cable Networks (digital)
- 5 Fox Cable Networks (digital)
- 6 Game Show Network (VC2+)
  - 7.30** Cable Radio Network
  - 7.11 37ssa95 1311430307 310 244 xxxx gsnnet**
- 7 The Golf Channel (VC2+)
  - 8.30 e940479 407248xxxx 112555553**
- 8 Occasional video
- 9 YES Network, Access TV, Bloomberg Television (digital)
- 10 Shop at Home
  - 8.30 e980223 615263xxxx 914555553 shop at home**
  - Shop at Home (digital)
- 11 Eternal Word Television Network (EWTN) Europe, Pacific Rim, Latin America (digital)
- 12 WE: Women's Entertainment (VC2+)
  - 7.10 wl 94 1202133238 516 393 xxxx rnc uplnk**
- 13 New Urban Entertainment (NUE-TV), Ovation, KRMA-TV Denver (digital)
- 14 Independent Film Channel (VC2+)
  - 7.38** RAI Satelradio Italy
  - 7.10 wl 94 1203134095 516 393 xxxx rnc uplnk**
- 15 Major Broadcasting Cable (MBC) Network (digital)
  - The Word Network
- 16 Group W Network Services (digital)
- 17 Occasional video
- 18 FOX News Channel (VC2+)
  - 7.10 3144814 1003144803 201 784 xxxx sa750 atis**
- 19 America's Collectibles Network (digital)
  - KLUZ-TV Albuquerque - Univision (digital)
  - TCT Ministries (digital)
- 20 Occasional video
- 21 Crawford Communications (digital)
- 22 Fox Cable Networks (digital)

- 23 Fox Cable Networks (digital)
- 24 International Channel (digital)
  - International Channel
  - TV-5 - French
  - CCTV-4 China
  - TV Asia
  - The Filipino Channel
  - MBC - Korean
  - Zee TV
  - RAI - Italian
  - ART - Arabic
  - Power TV Zhong Tian Channel
  - RTN (Russian TV Network)
  - TV Japan
  - Saigon Broadcasting Network

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**Panamsat Galaxy 11 - Ku-Band**

91 degrees West longitude

NORAD: 26038

Satellite Type: Boeing Space Systems BSS-702

Launched: December 12, 1999 (Ariane 44L)

Transponder Power: 24 transponders (36 MHz wide) - 75 watts each  
 16 transponders (27 MHz wide) - 140 watts each

Tr.	Downlink Freq in MHz	
1(H)	11720	(North America)
2(V)	11740	(North America)
3(H)	11760	(North America)
4(V)	11780	(North America)
5(H)	11800	(North America)
6(V)	11820	(North America)
7(H)	11840	(North America)
8(V)	11860	(North America)
9(H)	11880	(North America)
10(V)	11900	(North America)
11(H)	11920	(North America)
12(V)	11940	(North America)
13(H)	11960	(North America)
14(V)	11980	(North America)
15(H)	12000	(North America)
16(V)	12020	(North America)
17(H)	12040	(North America)
18(V)	12060	(North America)
19(H)	12080	(North America)
20(V)	12100	(North America)
21(H)	12120	(North America)
22(V)	12140	(North America)
23(H)	12160	(North America)
24(V)	12180	(North America)
1-EX(V)	10964	(North America and Brazil)
2-EX(H)	10976	(North America and Brazil)



3-EX(V)	10994	(North America and Brazil)
4-EX(H)	11006	(North America and Brazil)
5-EX(V)	11024	(North America and Brazil)
6-EX(H)	11036	(North America and Brazil)
7-EX(V)	11054	(North America and Brazil)
8-EX(H)	11066	(North America and Brazil)
9-EX(V)	11084	(North America and Brazil)
10-EX(H)	11096	(North America and Brazil)
11-EX(V)	11114	(North America and Brazil)
12-EX(H)	11156	(North America and Brazil)
13-EX(V)	11144	(North America and Brazil)
14-EX(H)	11156	(North America and Brazil)
15-EX(V)	11174	(North America and Brazil)
16-EX(H)	11186	(North America and Brazil)

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Data Transmissions
- 6 Occasional video
- 7 Data Transmissions
- 8 Data Transmissions
- 9 Data Transmissions
- 10 Data Transmissions
- 11 Data Transmissions
- 12 Occasional video
- 13 Occasional video
- 14 Occasional video
- 15 Occasional video
- 16 Occasional video
- 17 Data Transmissions
- 18 Primedia (digital)

- Automotive Satellite TV Network
- Law Enforcement TV
- Fire and Emergency TV Network
- Health and Science Network
- Long Term Care Network,
- RFD-TV

- 19 Data Transmissions
- 20 Data Transmissions
- 21 DirectPC 2way
- 22 Data Transmissions
- 23 DirectPC 2way
- 24 Data Transmissions
- 1-EX (none)
- 2-EX (none)
- 3-EX (none)
- 4-EX (none)
- 5-EX (none)
- 6-EX (none)
- 7-EX (none)
- 8-EX (none)
- 9-EX (none)
- 10-EX (none)

11-EX (none)  
12-EX (none)  
13-EX (none)  
14-EX (none)  
15-EX (none)  
16-EX (none)

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**Telesat Canada Nimiq-1**

91 degrees West longitude

NORAD: 25740

Satellite Type: Lockheed Martin A2100 AX

Launched: May 20, 1999 (ILS Proton-K / Blok DM3)

Transponder Power: 32 transponders - power output not known

Tr.            Downlink Freq  
                  in MHz

1(RH)	12224
2(LH)	12239
3(RH)	12253
4(LH)	12268
5(RH)	12282
6(LH)	12297
7(RH)	12311
8(LH)	12326
9(RH)	12341
10(LH)	12355
11(RH)	12370
12(LH)	12384
13(RH)	12399
14(LH)	12414
15(RH)	12428
16(LH)	12443
17(RH)	12457
18(LH)	12472
19(RH)	12486
20(LH)	12501
21(RH)	12516
22(LH)	12530
23(RH)	12545
24(LH)	12559
25(RH)	12574
26(LH)	12588
27(RH)	12603
28(LH)	12618
29(RH)	12632
30(LH)	12647
31(RH)	12661
32(LH)	12676

All 32 transponders are leased by the Bell Expressvu DBS system.

101	Société Radio Canada (CBUFT) - Vancouver	219	The NewPL - London
102	Télévision Quatre Saisons (CFAP-TV) - Québec	220	MCTV - Sudbury
103	Télévision Quatre Saisons (CFJP) - Montréal	221	ITV -Global Edmonton - (CITV)
104	Télévision Quatre Saisons - Saguenay Lac-St-Jean	222	The A Channel - Edmonton
105	CFTM - Montréal [Pacific Time]	223	CTV - Edmonton
106	TVA (CHOT) - Hull	224	CBC - Calgary
107	TVA (CFCM) - Quebec City	227	CICT - Calgary 7 (Global)
108	TVA (CFTM) - Montréal	228	Global Saskatchewan
109	Musique Plus - Montréal	229	CKCK - Regina
110	Musimax - Montréal	230	CTV - Calgary
111	Teletoon French East- Edmonton	231	CBC - Winnipeg
112	Teletoon French West - Edmonton	232	Global - Winnipeg
113	VRAK TV - Montréal	233	CTV - Winnipeg
114	Canal Découverte - Montréal	240	CBC -Vancouver (CBUT)
115	Canal Savoir - Montréal	241	Global BC
116	Télé-Québec - Montréal	242	CKVU 13
117	Télévision française Ontario - Toronto	243	CTV BC
118	Le Télévision internationale - Montréal	244	CHEK Vancouver Island
119	Canal Vie - Montréal	274	ITV - Info - French
120	(Radio-française Outre-mer) - Saint-Pierre Miquelon	275	Interactive TV Launch Pad
121	Le canal nouvelles - Montréal	276	LudiTV - Interactive Games - Info Channel
122	Réseau de l'Information - Montréal	277	ITrivia - Interactive Games - Info Channel
123	Réseau des sports - Montréal	285	High Definition Movies
125	L'Assemblée Nationale du Québec - Québec	286	Network Programming & Demo's in HDTV
126	F Cable Public Affairs (French)	287	HDTV Program Information
129	La télévision des arts - Montréal	291	HDTV PPV Movies (English)
130	Météo Média - Montréal	295	Vu PreVu!
131	Canal-Z	296	HDTV PPV Movies (French)
132	Canal Séries +	299	SDTV Programming
133	Canal Historia	300	NBC WHDH - Boston
134	Canal Évasion	301	CBS WCVB - Boston
135	Super Écran - Montréal	302	CBS WBZ - Boston
136	Super Écran - Montréal	303	FOX WFXT - Boston
137	Super Écran - Montréal	320	WGN Chicago Superstation
138	Super Écran - Montréal	321	WSBK Boston Superstation (UPN)
146	Météo Interactive	322	WPIX New York Superstation (WB11)
150	Bell ExpressVu French Pay-per-Vu Previews	323	WTBS Atlanta Superstation (TBS)
151	Bell ExpressVu French Pay-per-View	330	NBC KING - Seattle
152	Bell ExpressVu French Pay-per-View	331	ABC KOMO - Seattle
153	Bell ExpressVu French Pay-per-View	332	CBS KIRO - Seattle
154	Bell ExpressVu French Pay-per-View	333	FOX KCPQ - Seattle
155	Bell ExpressVu French Pay-per-View	334	KTLA L.A. Superstation
156	Bell ExpressVu French Pay-per-View	390	TRN-1 Jockey Club
157	Bell ExpressVu French Pay-per-View	391	TRN-2 Jockey Club
158	Bell ExpressVu French Pay-per-View	392	Canadian Feature Horse Racing - PPV
159	Bell ExpressVu French Pay-per-View	393	American Feature Horse Racing - PPV
160	Bell ExpressVu French Pay-per-View	394	Fox Sports World Canada
161	Bell ExpressVu French Pay-per-View	395	ESPN Classic Canada
162	Bell ExpressVu French Pay-per-View	396	Xtreme Sports
163	Bell ExpressVu French Pay-per-View	397	Women's Sports Network
164	Bell ExpressVu French Pay-per-View	398	Raptors Channel
175	Interactive TV Launch Pad - French	399	NHL-N
195	XPRS Channel	400	The Sports Network - Toronto
197	CJOH Local News - Ottawa	402	TSN Regional Feeds
198	XPRS Channel	403	ExpressVu NHL Centre Ice - INFO Channel
199	XPRS News Channel	405	Rogers Sportsnet - Central (Toronto)
200	CBC - Atlantic (CJIT)	406	Rogers Sportsnet - East
201	CTV - St. John's (CJON)	407	Rogers Sportsnet - Pacific
202	Atlantic Television - Halifax - CTV - (CJCH)	408	Rogers Sportsnet - West
203	Atlantic Satellite Network - Halifax	411	NHL Channel 1 - Pay-per -View (Centre Ice)
204	CBC - Halifax (CJIT)	412	NHL Channel 2 - Pay-per -View (Centre Ice)
205	Global Halifax	413	NHL Channel 3 - Pay-per -View (Centre Ice)
207	The New RO - Pembroke	414	NHL Channel 4 - Pay-per -View (Centre Ice)
208	CTV - Montr,al	415	NHL Channel 5 - Pay-per -View (Centre Ice)
210	CBC Toronto - (CBLT)	416	NHL Channel 6 - Pay-per -View (Centre Ice)
211	Descriptive Video Channel	417	NHL Channel 7 - Pay-per -View (Centre Ice)
212	CTV - CFTO - Toronto	418	NHL Channel 8 - Pay-per -View (Centre Ice)
213	Global - Toronto (CIII)	419	NHL Channel 9 - Pay-per -View (Centre Ice)
214	City TV - Toronto	420	NHL Channel 10 - Pay-per -View (Centre Ice)
215	ONTV - Hamilton (Global)	422	NHL Breakaway - Vancouver
216	The New VR - Barrie	430	The Score Television Network - Toronto
218	CFMT - Toronto	431	Speed Channel - Stanford, California
		432	The Golf Channel - Orlando, Florida
		433	Outdoor Life Network (OLN) - Toronto

434	The Discovery Channel - Toronto	514	i channel (Issue channel)
435	History Television - Toronto	515	Tech TV
436	The Learning Channel - Washington, DC	520	The National Geographic Channel
437	One: Body, Mind & Spirit Channel	521	Discovery Civilization
438	Vision - Toronto	522	CTV Travel
439	Crossroads TV System (CTS)- Burlington, On	523	Country Canada
440	Canadian Learning Television	524	Lonestar
441	Aboriginal People's TV Net - Winnipeg	525	Telelatino Network - Toronto
442	PBS WGBH - Boston	531	Interactive Weather Channel - Info
443	PBS KCTS - Seattle	575	Independent Film Channel
444	TVOntario - Ontario	576	Movieola - The Short Film Channel
445	The Knowledge Network - Vancouver	577	Scream TV
446	The Saskatchewan Network - Saskatchewan	578	Drive-In Classics
447	ACCESS - Edmonton	579	Showcase Action
448	Prime - Toronto (East)	580	Showcase Diva
449	Prime - Toronto (West)	581	Documentary Channel
450	Arts & Entertainment - New York	600	Movie Central
451	Bravo! - Toronto	601	Movie Central - Adrenaline Drive
452	Showcase - Toronto (East)	602	Movie Central - Shadow Lane
453	Showcase - Toronto (West)	603	Movie Central - Heartland Road
454	The Space Network - Toronto	604	Movie Central - Encore Avenue
455	The Comedy Network - Toronto (East)	605	Movie Central - Comic Strip
456	The Comedy Network - (West)	607	MoviePix - Toronto
457	The National Network	608	MoviePixToo - Toronto
458	Life Network - Toronto	610	The Movie Network 1 - Toronto
459	Home & Garden Television - Toronto	611	The Movie Network 2 - Toronto
460	Discovery Health Canada	612	The Movie Network 3 - Toronto
461	Food Network Canada - Toronto	613	The Movie Network 4 - Toronto
462	Women's Television Network - Winnipeg	614	The Movie Network 5 - Toronto
463	BookTelevision The Channel	651	Bell ExpressVu Pay-per-View 1 REVU- Toronto
464	The Miracle Network	652	Bell ExpressVu Pay-per-View 2 REVU- Toronto
465	XPRS Channel	700	Bell ExpressVu Pay-per-View Previews
466	FashionTelevisionChannel	701	Bell ExpressVu Pay-per-View 1 - Toronto
468	Men TV	702	Bell ExpressVu Pay-per-View 2 - Toronto
469	Program Information Channel	703	Bell ExpressVu Pay-per-View 3 - Toronto
470	Much Music - Toronto	704	Bell ExpressVu Pay-per-View 4 - Toronto
471	Much More Music - Toronto	705	Bell ExpressVu Pay-per-View 5 - Toronto
472	Country Music Television - Calgary	706	Bell ExpressVu Pay-per-View 6 - Toronto
473	Black Entertainment Television	707	Bell ExpressVu Pay-per-View 7 - Toronto
474	Beats per Minute	708	Bell ExpressVu Pay-per-View 8 - Toronto
475	Edge TV	709	Bell ExpressVu Pay-per-View 9 - Toronto
476	MuchVibe	710	Bell ExpressVu Pay-per-View 10 - Toronto
479	GameShow Network - Burbank, California	711	Bell ExpressVu Pay-per-View 11 - Toronto
480	Youth Television - Toronto (East)	712	Bell ExpressVu Pay-per-View 12 - Toronto
481	Youth Television - Toronto (West)	713	Bell ExpressVu Pay-per-View 13 - Toronto
482	The Family Channel - Edmonton	714	Bell ExpressVu Pay-per-View 14 - Toronto
483	The Family Channel - Edmonton (West)	715	Bell ExpressVu Pay-per-View 15 - Toronto
484	Treehouse - Toronto	716	Bell ExpressVu Pay-per-View 16 - Toronto
486	Teletoon - Edmonton (East)	717	Bell ExpressVu Pay-per-View - Toronto 17
487	Teletoon - Edmonton (West)	718	Bell ExpressVu Pay-per-View - Toronto 18
488	Animal Planet	719	Bell ExpressVu Pay-per-View - Toronto 19
489	MTV Canada	720	Bell ExpressVu Pay-per-View - Toronto 20
490	Discovery Kids	721	Bell ExpressVu Pay-per-View - Toronto 21
491	Children's Pay-per-View 1	722	Bell ExpressVu Pay-per-View - Toronto 22
492	Children's Pay-per-View 2	730	LOCK LOCK OUT CHANNELS - Adult Content
494	TV Land Canada	731	ALERT LOCK OUT CHANNELS - Adult Content - FR
495	Mystery	735	PrideVision
496	DejaView	742	Bell ExpressVu Venus Information
497	The Biography Channel	745	SexTV The Channel
498	BBC CANADA	746	Bell ExpressVu Pay-per-View - Toronto
499	Court TV Canada	747	Bell ExpressVu French Pay-per-View - Toronto
500	Cable News Network - Atlanta, Georgia	749	Venus Preview
501	BBC World News - England	750	Bell ExpressVu Adult Pay-per-View 0
502	Headline National News - Atlanta	751	Bell ExpressVu Adult Pay-per-View 1
503	Cable Pulse 24 - Toronto	752	Bell ExpressVu Adult Pay-per-View 2
504	Cable National Broadcasting Center (CNBC)	753	Bell ExpressVu Adult Pay-per-View 3
505	CTV Newsnet - Toronto	754	Bell ExpressVu Adult Pay-per-View 4
506	Report On Business Television - Hamilton	755	Bell ExpressVu Adult PPV (French) 5
507	Star Network - Toronto	756	Bell ExpressVu Adult PPV (French) 6
508	Talk TV - CTV	757	Bell ExpressVu Adult PPV (French) 7
510	Cable Public Affairs - Toronto	780	Playboy - Beverly Hills
511	CBC Newsworld - Toronto	850	Fairchild - Movies (Mandarin)
512	The Weather Network - Toronto	851	Fairchild - Toronto
513	The Shopping Channel	852	Fairchild - West

854 South Asian Network - Newmarket  
 855 Deutsche Welle - Germany  
 901 Galaxie Gold Rock  
 902 Galaxie Rock Alternative  
 903 Galaxie Adult Alternative  
 904 Galaxie Pop Adult  
 905 Galaxie Ambient  
 906 Galaxie Dance  
 907 Galaxie Hit List  
 908 Galaxie Hot Country  
 909 Galaxie Country Classics  
 910 Galaxie Franco Country  
 911 Galaxie Franco Rock  
 912 Galaxie Souvenirs (bilingue)  
 913 Galaxie Franco Pop  
 914 Galaxie Nostalgie  
 915 Galaxie The 70's  
 916 Galaxie Jazz Masters/G,ants du Jazz  
 917 Galaxie Jazz Now/Jazz actuel  
 918 Galaxie Blues  
 919 Galaxie Folk Roots  
 920 Galaxie World/Monde  
 921 Galaxie Rock & Roll  
 922 Galaxie Instrumental  
 923 Galaxie Nature  
 924 Galaxie Pop Classics/Classiques

925 Galaxie Baroque  
 926 Galaxie Classic Masters/Grands classiques  
 927 Chamber Music/Musique de chambre  
 928 Galaxie the 80's  
 929 Galaxie Kids' Stuff  
 930 Galaxie Mousses musique  
 960 CBC Radio One  
 961 Radio-Canada (Radio AM - French)  
 962 CBC Radio Two  
 963 Radio-Canada (ChaEne culterelle FM)  
 964 FAN 590 All Sports Radio  
 965 Deutsche Welle Radio 1  
 966 Deutsche Welle Radio 2  
 967 Voice Print Data Programming  
 968 Q107 Toronto  
 969 CKAC AM Montreal  
 970 CJRT Jazz FM 91  
 971 Classical 96.3 FM Toronto  
 972 WAHSA - FM  
 973 CJAD 800 AM Montreal  
 974 WRN - FM  
 975 Country FM 105 Calgary  
 976 Power FM 97.5 Winnipeg  
 977 New Rock Edge 102.1  
 978 OZ-FM The Rock of The Rock (St. John's)  
 985 CJPX FM 99.5 Montreal

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### Loral Skynet Telstar 6 - C-Band

93 degrees West longitude

NORAD: 25626

Satellite Type: Space Systems/Loral FS-1300

Launched: February 15, 1999 (ILS Proton-K / Blok DM-3)

Transponder Power: 24 transponders - 20 watts nominal each

Tr. Downlink Freq  
 in MHz

1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780
5(V)	3800
6(H)	3820
7(V)	3840
8(H)	3860
9(V)	3880
10(H)	3900
11(V)	3920
12(H)	3940
13(V)	3960
14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160

24(H) 4180

- 1 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)
- 2 Data Transmissions
- 3 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)
- 4 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)
- 5 Occasional video
- 6 (none)
- 7 Occasional video
- 8 Occasional video
- 9 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)
- 10 Fox Network feeds and Fox News Edge (digital)
- 11 Occasional video
- 12 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)
- 13 Fox Network feeds (digital) (occ)  
20th Century Fox syndication (occ)  
**8.30 e3451 1107248218 310 369 xxxx fox tv**
- 14 Occasional video
- 15 Occasional video
- 16 Occasional video
- 17 Occasional video
- 18 Occasional video  
CBS Network feeds (occ) (digital)
- 19 Occasional video  
CBS Network feeds (occ) (digital)
- 20 CBS / UPN Network feeds (digital)
- 21 Occasional video  
CBS Network feeds (occ) (digital)
- 22 CBS Network feeds (occ) (digital)  
Occasional video
- 23 CBS / UPN Network feeds (digital)
- 24 Occasional video

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### **Loral Skynet Telstar 6 - Ku-Band**

93 degrees West longitude

NORAD: 25626

Satellite Type: Space Systems/Loral FS-1300

Launched: February 15, 1999 (ILS Proton-K / Blok DM-3)

Transponder Power: 4 transponders (54 MHz wide) - 100 watts each  
24 transponders (27 MHz wide) - 100 watts each

Tr. Downlink Freq.  
in MHz

- |      |         |
|------|---------|
| 1(V) | 11728.5 |
| 2(H) | 11735.0 |
| 3(V) | 11789.5 |
| 4(H) | 11796.0 |

5(V)	11836.0
6(H)	11842.5
7(V)	11867.0
8(H)	11873.5
9(V)	11898.0
10(H)	11904.5
11(V)	11929.0
12(H)	11935.5
13(V)	11960.0
14(H)	11966.5
15(V)	11991.0
16(H)	11997.5
17(V)	12022.0
18(H)	12028.5
19(V)	12053.0
20(H)	12059.5
21(V)	12084.0
22(H)	12090.5
23(V)	12115.0
24(H)	12121.5
25(V)	12146.0
26(H)	12152.5
27(V)	12177.0
28(H)	12183.5

- 1 CBS Newsnet (digital)  
CBS SNG (digital)
- 2 Reuters (digital)  
Data Transmissions
- 3 CBS SNG (digital)
- 4 Occasional video
- 5 Data Transmissions
- 6 Data Transmissions
- 7 Data Transmissions
- 8 WSNet (digital)
- 9 WSNet (digital)
- 10 WSNet (digital)
- 11 CBS SNG (digital)
- 12 Occasional video
- 13 Occasional video
- 14 Occasional video
- 15 WSNet (digital)
- 16 Occasional video
- 17 Occasional video
- 18 WSNet (digital)
- 19 Occasional video
- 20 Occasional video
- 21 Data Transmissions
- 22 Occasional video
- 23 Data Transmissions
- 24 Occasional video
- 25 Occasional video
- 26 Data Transmissions
- 27 WSNet (digital)
- 28 Occasional video

ABC Family	Health Network
American Movie Classics	History Channel
Animal Planet	History Channel International
Arts & Entertainment Network	Home & Garden Television (HGTV)
BBC America	Home Shopping Network
BET on Jazz	Hot Network
Biography	Independent Film Channel
Black Entertainment Television	Inspirational Life (iLife)
Bloomberg Television	International Channel
Boomerang	Lifetime
Bravo	Lifetime Movie Network
Cartoon Network	MBC
Cinemax	More Max
CNBC	MSNBC
CNN	MTV
CNN fn/International	MTV2
CNN Sports Illustrated	MTVX
Comedy Central	Muchmusic
Country Music Television	Nickelodeon
Court TV	Nick Games & Sports
C-SPAN	Noggin
C-SPAN 2	Outdoor Channel
Discovery Channel	Ovation
Discovery Civilization	Oxygen
Discovery Health	Playboy TV
Discovery Home & Leisure	Sci-Fi Channel
Discovery Kids	Shop NBC
Discovery Science	Showtime
Discovery Wings	Showtime Too
Disney Channel	Showtime Showcase
DMX Music	Showtime Extreme
Do It Yourself Network	Speedvision
E! Entertainment Television	Spice
Encore	Spice 2
Encore Action	Starz
Encore Love Stories	Starz Theater
Encore Mystery	Black Starz
Encore True Stories	style
Encore Westerns	Sundance Channel
ESPN	TBS Superstation
ESPN 2	Tech TV
ESPN Classic	The Learning Channel
ESPNEWS	The Movie Channel
Food Network	The Movie Channel Too
Fox News	The Nashville Network
Fox Sports Southwest	The Weather Channel
Fox Sports World	TNT
Fox Sports World Español	Toon Disney
fX	Travel Channel
Galavision	Trinity Broadcasting Network (TBN)
Game Show Network	Turner Classic Movies (TCM)
Golf Channel	TV Land
Goodlife TV	USA Network
Great American Country	VH1
HBO	VH1 Classic Rock
HBO Family	VH1 Country
HBO 2	VH1 Soul
HBO Signature	Superstation WGN
Hallmark Channel	WE: Women's Entertainment
CNN Headline News	

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**Panamsat Galaxy 3C - C-Band**

95 degrees West longitude

NORAD: 27445

Satellite Type: Boeing Satellite Systems BSS-702

Launched: June 15, 2002 (Sea Launch Zenit-3SL)



Transponder Power: 24 transponders - 34 watts each

Tr. Downlink Freq  
in MHz

1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780
5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

1 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)

2 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)

3 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)

4 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)

5 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)

6 Occasional video

7 Occasional video

8 Horse Racing (digital) (occ)

9 Occasional video  
NFL Sunday Ticket PPV (VC2+) (occ)

10 Occasional video

11 Horse Racing (digital) (occ)

12 Horse Racing (digital) (occ)

13 Horse Racing (digital) (occ)

14 Horse Racing (digital) (occ)

15 Occasional video

16 HBO 2 - East (VC2+)  
**8.30 e910207 1102130526 516 361 xxxx hbo kpal2**

17 MoreMax - East (VC2+)  
**7.10 read 1302731379 444 444 xxxx sa750 atis**

- 18 Occasional video
- 19 HBO Signature - East (VC2+)
  - 7.10 631299 1302731324 444 444 xxxx sa750 atis**
- 20 HBO 2 - West (VC2+)
  - 7.10 e4063 1102130515 516 361 xxxx hbo occ c**
- 21 Occasional video
  - NFL Sunday Ticket PPV (digital) (occ)
- 22 Horse Racing (digital) (occ)
  - NFL Sunday Ticket PPV (VC2+) (occ)
- 23 Occasional video
- 24 Gem Shopping Network (digital)
  - Horse Racing (digital) (occ)
  - Data Transmissions

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**Panamsat Galaxy 3C - Ku-Band**

95 degrees West longitude

NORAD: 27445

Satellite Type: Boeing Satellite Systems BSS-702

Launched: June 15, 2002 (Sea Launch Zenit-3SL)

Transponder Power: 24 transponders - North America coverage - 120-127 watts each

29 transponders - South America coverage - 120-127 watts each

Tr.            Downlink Freq  
                  in MHz

T01(H)	11720
T02(V)	11750
T03(H)	11750
T04(H)	11780
T05(V)	11810
T06(H)	11810
T07(H)	11840
T08(V)	11870
T09(H)	11870
T10(H)	11900
T11(V)	11930
T12(H)	11930
T13(H)	11960
T14(V)	11990
T15(H)	11990
T16(H)	12020
T17(V)	12050
T18(H)	12050
T19(H)	12080
T20(V)	12110
T21(H)	12110
T22(H)	12140
T23(V)	12170
T24(H)	12170

- 1 Data Transmissions
- 2 Data transmissions
- 3 FM2 services

Data transmissions .06, 2.93, 3.01, 3.07 and 3.15 MHz

In-Store audio network ads (various companies) .62, .71, .81, .88, 1.05, 1.15, 1.26, 2.06, 3.25, 3.44, 3.62, 3.69, 3.76, 3.88, 3.97 4.20, 4.55 and 4.64 MHz

Muzak Services .15, .27, .39, .51, .98, 1.36, 1.48, 1.60, 1.72, 1.84, 1.96, 2.19, 2.31, 2.44, 2.56, 2.68, 2.80, 3.34, 3.53, 4.08, 4.32, and 4.45 MHz

4 CCTV-4 and CCTV-9 (digital)

5 Data transmissions

6 Data Transmissions

7 Data Transmissions

8 Data Transmissions

9 Data Transmissions

10 Data Transmissions

11 Data Transmissions

12 Occasional video

13 Data Transmissions

14 Data Transmissions

15 Occasional video

16 FM2 services

Data transmissions .06, .47, .53, .68, 1.95, 2.18, 2.45, 2.52, 2.82, 2.92, 3.20, 3.40, 3.97, 4.14, and 4.24 MHz

In-Store audio networks .15, .27, .39, .99, 1.11, 1.59, 1.71, and 1.83 MHz

17 Occasional video

Racetrack Television Network (RTN) (digital)

18 Occasional video

19 Data Transmissions

20 Data Transmissions

21 Occasional video

22 Data Transmissions

23 Data Transmissions

24 CCTV-4 China

**8.50 DE E950067 707253xxxx /PANAMSATNAPA.CA**

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### **Panamsat Galaxy 8I - Ku-Band**

95 degrees West longitude

NORAD: 25086

Satellite Type: Boeing Satellite Systems BSS-601 HP

Launched: December 8, 1997 (Atlas IIAS)

Transponder Power: 32 transponders (24 MHz wide) - 115 watts each

Panamsat has not provided the transponder frequency layout.

Downlink frequencies are 11450 to 11950 MHz.

Galaxy Latin America DBS uses the Galaxy 8I capacity.

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### **Loral Skynet Telstar 5 - C-Band**

97 degrees West longitude

NORAD: 24812

Satellite Type: Space Systems/Loral FS-1300

Launched: May 24, 1997 (ILS Proton-K / Blok DM-4)

Transponder Power: 24 transponders - 20 watts nominal each

Tr. Downlink Freq  
in MHz

1(V) 3720  
2(H) 3740  
3(V) 3760  
4(H) 3780  
5(V) 3800  
6(H) 3820  
7(V) 3840  
8(H) 3860  
9(V) 3880  
10(H) 3900  
11(V) 3920  
12(H) 3940  
13(V) 3960  
14(H) 3980  
15(V) 4000  
16(H) 4020  
17(V) 4040  
18(H) 4060  
19(V) 4080  
20(H) 4100  
21(V) 4120  
22(H) 4140  
23(V) 4160  
24(H) 4180

1 Occasional video  
2 Data Transmissions  
3 Occasional video  
4 Nebraska Educational TV (digital)  
5 Occasional video  
6 Occasional video  
7 Occasional video  
8 Occasional video  
9 Occasional video  
10 FOX Network feeds (digital) (occ)  
20th Century Fox syndication (occ)  
**7.10 e3451 1107248218 310 369 xxxx fox tv**  
11 Brigham Young University (BYU) Television (digital)  
BYU Radio (digital)  
Data Transmissions  
12 Occasional video  
13 FOX Network feeds (digital) (occ)  
20th Century Fox syndication (occ)  
**7.10 e3451 1107248218 310 369 xxxx fox tv**  
14 Occasional video  
15 Occasional video  
16 Occasional video  
17 SCOLA (digital)  
18 Armed Forces Radio and Television Service (AFRTS) SatNet (digital)  
19 Occasional video  
20 Occasional video

- 21 ABC Network West Hot Backup [Leitch]  
**8.30 114855553**
- 22 ABC Network East Hot Backup [Leitch]  
 (no ATIS)
- 23 Occasional video
- 24 Occasional video  
 North Carolina Open Public Events Network (occ)

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**Loral Skynet Telstar 5 - Ku-Band**

97 degrees West longitude  
 NORAD: 24812  
 Satellite Type: Space Systems/Loral FS-1300  
 Launched: May 24, 1997 (ILS Proton-K / Blok DM-4)  
 Transponder Power: 4 transponders (54 MHz wide) - 100 watts each  
 24 transponders (27 MHz wide) - 100 watts each

Tr.            Downlink Freq  
                  in MHz

- 1(V)            11728.5
- 2(H)            11735.0
- 3(V)            11789.5
- 4(H)            11796.0
- 5(V)            11836.0
- 6(H)            11842.5
- 7(V)            11867.0
- 8(H)            11873.5
- 9(V)            11898.0
- 10(H)           11904.5
- 11(V)           11929.0
- 12(H)           11935.5
- 13(V)           11960.0
- 14(H)           11966.5
- 15(V)           11991.0
- 16(H)           11997.5
- 17(V)           12022.0
- 18(H)           12028.5
- 19(V)           12053.0
- 20(H)           12059.5
- 21(V)           12084.0
- 22(H)           12090.5
- 23(V)           12115.0
- 24(H)           12121.5
- 25(V)           12146.0
- 26(H)           12152.5
- 27(V)           12177.0
- 28(H)           12183.5

- 1 Data Transmissions  
 Bob Jones University Homesat (digital)
- 2 Data Transmissions
- 3 Occasional video  
 FOX SNG (digital) (occ)

- 4 Data Transmissions
- 5 Globecast World Television (digital)
  - Islamic Republic of Iran IRIB2
  - Al-Alam News Channel
  - GCGI (Chinese)
  - Tamil TV
  - Haitian Satellite TV
  - Asia After Dark
  - Rang-a-Rang Channel
  - Super Value Channel
  - Iran TV Network
  - Arabic Radio
  - World Service Radio
  - Quaran Radio
- 6 Data Transmissions
- 7 Occasional video
- 8 Globecast World Television (digital)
  - Arab Network of America (ANA) / MBC (Middle East Broadcaster Centre)
  - Arab Network of America (ANA) Radio
  - Radio Dimensione Suono (RDS)
  - SPT (SIC International) - Portuguese
  - Al Jamahiryia Sat Channel
  - Iraq TV
  - RTV-21 - Albanian
  - Radio 21 - Albanian
  - Futbol DP (Futbol de Primera)
- 9 "Sky Vista" (digital)
  - Nile TV International
  - Palenstine Satellite Channel
  - Emiratates Dubai Television
  - Dubai Sports Channel
  - Saudi Channel One
  - DISH Network Intl Promo
  - Beste Van Nederland (Dubai Business Channel)
  - Arabic radio
- 10 Data Transmissions
- 11 Globecast World Television (digital)
  - Euronews (languages: English, French, German, Italian, Spanish, Portuguese, Russian)
  - Fashion TV
  - Syria Satellite Channel
  - Syria Radio
  - Al Manar TV
  - Radio Al Nour
  - MTV (Lebanon)
  - German TV
  - Deutsche Welle Radio
  - TV Polonia
  - Polskie Radio 1
  - Polskie Radio 3
  - TV Romania International
- 12 Occasional video
- 13 Data Transmissions
- 14 Data Transmissions
- 15 Data Transmissions

- 16 Data Transmissions
- 17 Data Transmissions
- 18 Data Transmissions
- 19 Occasional video
- 20 Data Transmissions
- 21 Taipei International Satellite Television (digital)
  - CTV - Taiwan
  - TTV - Taiwan
  - CTS - Taiwan
  - Taipei International Channel
  - Super Value Channel - Taiwan
  - Radio 1
  - Radio 5
  - Hunan TV
  - BCC-News
  - BCC-Pop
  - BCC-Taiwan
  - TAN - The Asian Network
  - Korean Radio
  - AFN Iran Radio - KIRN-AM 670, Los Angeles
  - MAC TV - Macroview TV - Taiwan Overseas Chinese Affairs Commission
  - Radio 7
  - UCN TV
- 22 ABS-CBN International (digital)
  - The Filipino Channel
  - ABS-CBN News Channel
  - Pinoy Blockbuster Channel (Cinema One)
  - DZMM Radio Patrol
  - DWRR Radio Romance
  - NITV (National Iranian TV)
  - PPV
  - Zhong - CTN Channel North America - Chinese
  - DA-I - Tzu Chi Da'I
  - Appadana International
  - Azadi TV
- 23 C Sky Net (digital)
  - ETTV International
  - TSI radio
  - USA-INFO radio
  - BLTV - Buddhism Light TV
  - SET International - Sanlih Entertainment TV - Taiwan
  - Mac TV
  - Unique Satellite TV
  - JET-TV - Japanese Entertainment TV
  - Da-Ai TV - Tzu Chi Da'i
  - NATV - North American TV
- 24 Globecast World Satellite TV (digital)
  - Assyria Sat
  - Business TV 3
  - HRT - Hrvatska Televizija - Croatia
  - HIC TV (Croatian Info Center Satellite TV - Hrvatski Informativni Centar)
  - HIC Radio (Croatian Info Center Satellite TV - Hrvatski Informativni Centar)
  - DFH-1 - ATV and TBRT networks - Turkey
  - DFH-2 - Star Network - Turkey
  - DFH-3 - NTV, Kanal D, Teleon networks - Turkey

KISB 1 - Korea International Satellite Broadcast channel 1  
KISB 2 - Korea International Satellite Broadcast channel 2  
KISB 3 - Korea International Satellite Broadcast channel 3  
DFH-FM 1 - Turkish radio channel 1  
DFH-FM 2 - Turkish radio channel 2  
IP Service  
Radio Korea

25 Data Transmissions

26 Globecast World Satellite TV (digital)

Abu Dhabi TV (EMI)  
Emirate FM 1  
Emirate FM 2  
Iran TV Network  
PARS TV (PTN)  
Tapesht TV  
Ajara  
Radio Sedaye Iran (KRSI Los Angeles area)  
Radio Seoul  
Thai TV 5  
SBC-TV  
JJI TV  
Persian TV Channel One  
Armenian Public Channel  
Radio Afgan  
Bahai Radio  
WVGN Radio

27 Pittsburgh International Telecommunications (PIT) (digital)

KurdSat  
Kurd TV  
KSMI radio - Radio Sedaye Melli Iran  
Maharishi Open University  
AFN Farsi Radio - American Farsi Network  
RRSAT slate  
Samanyolu TV World  
World Radio Network 1 - English  
World Radio Network 2 - Multilingual  
World Radio Network 3 - French  
Kuwait Radio Network  
Kuwait Space Channel  
Back-to-Health TV  
Israeli TV  
Pro TV International  
Pittsburgh International Telecommunications slate  
TRT - Turkish Radio-TV Corp.

28 Spacecom Systems FM Squared / FM Cubed Services

Data Transmissions .046, .08, .15, .23, .30, .35, .38 .50, .65, .89, .93, .96, 1.05, 1.12,  
1.22, 1.35 MHz

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**Sirius Satellite Radio Sirius-1 - S-Band**

Equator Crossing Longitudes Vary

NORAD: 26390

Satellite Type: Space Systems/Loral FS-1300

Launched: June 30, 2000 (ILS Proton-K / Blok DM-3)



## Sirius Satellite Radio Sirius-2 - S-Band

Equator Crossing Longitudes Vary

NORAD: 26483

Satellite Type: Space Systems/Loral FS-1300

Launched: September 5, 2000 (ILS Proton-K / Blok DM-3)

## Sirius Satellite Radio Sirius-3 - S-Band

Equator Crossing Longitudes Vary

NORAD: 26626

Satellite Type: Space Systems/Loral FS-1300

Launched: November 30, 2000 (ILS Proton-K / Blok DM-3)

Sirius Satellite Radio uses the Digital Audio Radio Service (DARS) band of 2320.00 MHz to 2332.50 MHz.

Transponder 1 on each sat: 2322.1 MHz

Transponder 2 on each sat: 2330.4 MHz

Terrestrial "transponder": 2326.3 MHz

Sirius Satellite Radio Satellites are in elliptical, highly inclined orbits. As of September 2002, the typical orbital parameters are 29,300 miles (apogee) by 15,175 miles (perigee) by 63.2958 degrees inclination.

### Sirius Pop

- 1: US-1 (Top 40 Hits)
- 2: The Pulse (Adult Contemporary)
- 3: The Trend (Alt Pop Mix)
- 4: StarLite (Love Songs)
- 5: Sirius Gold (The Best of the 50's/60's)
- 7: I-70 (The Best of the 70's)
- 8: I-80 (The Best of the 80's)
- 9: I-90 (The Best of the 90's)

- 45: Soul Revue (R&B Oldies)
- 47: Sirius Rap Hits (Rap Hits)
- 48: 48 Hip Hop (Today's Rap)
- 49: BackSpin (Classic Rap)

### Sirius Dance

- 50: Sirius Dance Hits (Dance Hits)
- 51: Planet Dance (Mainstream Dance)
- 53: The Vortex (Electronica)
- 56: The Strobe (Disco)

### Sirius Rock

- 15: The Bridge (Soft Rock)
- 17: E-1-7 (Eclectic Rock)
- 20: Sirius Rock Hits (Rock Hits)
- 21: Octane (Modern Rock)
- 22: Big Rock (Mainstream Rock)
- 23: Classic Rock (Classic Rock I)
- 24: The Vault (Classic Rock II)
- 25: First Wave (Classic Alternative)
- 26: Alt Nation (Alternative I)
- 27: Left Of Center (Alternative II)
- 29: Hard Attack (Hard Rock)

### Sirius Jazz and Standards

- 60: Pure Jazz (Classic Jazz)
- 61: Jazz En Clave (Latin Jazz)
- 62: Planet Jazz (Contemporary Jazz)
- 63: Jazz Cafe (Smooth Jazz)
- 65: Standard Time (Standards)
- 66: Swing Street (Swing)
- 67: Broadway's Best (Broadway's Best)

### Sirius Latin

- 70: Tropical (Latin Hits)
- 71: Romantica (Latin Pop Mix)
- 72: Alt ~N (Rock en Español)
- 74: Mexicana (Mexicana)
- 77: Tejano (Tejano)

### Sirius Country

- 30: Sirius Country Hits (Country Hits)
- 31: New Country (Today's Country)
- 32: Big Country (Country Mix)
- 35: Classic Country (Classic Country)
- 36: Alt Country (Alt Country)
- 37: Bluegrass (Bluegrass)

### Sirius Classical

- 80: Symphony Hall (Symphonic)
- 82: Vista (Chamber Works)
- 85: Classical Voices (Classical Voices)

### Sirius R&B/Urban

- 40: Sirius R&B Hits (R&B Hits)
- 42: Hot Jamz (Today's R&B)
- 43: Slow Jamz (Soul Ballads)
- 44: The Express (Classic Soul)

### Sirius Variety

- 90: Sirius Blues (Blues)
- 91: Sirius Reggae (Reggae)
- 93: Praise (Gospel)

94: Spirit (Christian Hits)  
95: Horizons (World Music)  
96: Soundscapes (New Age)  
99: Sirius Kids (Kids)  
100: The Galaxy (Specialty Showcase)

Sirius News

101: CNBC Radio  
102: FOX News Channel Radio  
104: CNN Headline News Radio  
105: Bloomberg Radio  
107: NPR Now  
108: NPR Talk  
109: PRI's Public Radio Channel  
111: World Radio Network  
112: BBC World Service News  
114: C-SPAN Radio  
115: The Weather Channel Radio  
116: Sirius Talk  
117: Real Sirius  
119: ABC News & Talk

Sirius Sports

120: ESPN Radio  
121: ESPNEWS Radio  
123: Sports Byline USA Radio  
124: Speed Channel Radio

125: OLN Adventure Radio

Sirius Hispanic Talk

140: BBC Mundo  
142: La Red Hispana  
144: Radio Deportivo  
146: Radio Mujer  
147: Radio Amigo

Sirius Entertainment

150: Radio Disney  
151: Discovery Channel Radio  
152: E! Entertainment Radio  
154: A&E Satellite Radio  
156: RadioClassics  
158: The Word Network  
159: Sirius Entertainment  
160: Sirius Comedy  
161: Sirius Arts  
164: Empower  
165: Wisdom Radio  
167: The Hookup  
168: Buzz  
172: Intimate  
175: YAK!  
180: Sirius Trucking Network

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**Panamsat Galaxy 4R - C-Band**

99 degrees West longitude

NORAD: 26298

Satellite Type: Boeing Space Systems BSS-601 HP

Launched: April 19, 2000 (Ariane 42L)

Transponder Power: 24 transponders - 40 watts each

Tr.        Downlink Freq  
          in MHz

1(H)        3720  
2(V)        3740  
3(H)        3760  
4(V)        3780  
5(H)        3800  
6(V)        3820  
7(H)        3840  
8(V)        3860  
9(H)        3880  
10(V)       3900  
11(H)       3920  
12(V)       3940  
13(H)       3960  
14(V)       3980  
15(H)       4000  
16(V)       4020  
17(H)       4040  
18(V)       4060  
19(H)       4080

20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

1 SCPC Audio Services

1443.80 56.20 Chinese audio service  
 1431.00 69.00 Occasional Audio

Digital Audio

Public Radio Satellite System (NPR/APR)  
 West Virginia Metro News  
 Branson Music Network  
 Radio Ohio  
 Ohio News Network  
 Agri Broadcasting Network  
 Cleveland Cavaliers Radio Network  
 Columbus Blue Jackets Radio Network  
 Ohio State sports  
 Pittsburgh Penguins Radio Network  
 Univ. of Ohio sports  
 Cleveland Indians Radio Network  
 Cincinnati Reds Radio Network  
 Michigan High School Sports Network  
 Oklahoma News Network  
 Minnesota News Network  
 Minnesota Twins Radio Network  
 Northern Sports Network  
 Lex and Terry Radio Show

2 Panamsat Galaxy 3D (digital)

3 The Reformation Channel (digital)

SCPC Audio Services

1403.10 56.90 Michigan News Network  
 1402.90 57.10 Agrinet/USA Radio Network  
 1402.00 58.00 Andy Thomas Radio Network  
 1401.50 58.50 Occasional Audio  
 1399.00 61.00 Sports Byline USA/Sports Byline Weekend  
 1398.20 61.80 Performance Racing Network  
 1397.10 62.90 Wisconsin Radio Network  
 1396.00 64.00 Kansas Audio Reader Network  
 1395.80 64.20 WTMJ-AM, Milwaukee, WI - news/talk/Packers football/Bucks  
 basketball/Univ. of Wisconsin sports  
 1395.00 65.00 Occasional Audio  
 1394.70 65.30 WJR-AM, Detroit, MI - talk radio  
 1390.95 69.05 Occasional Audio  
 1383.10 76.90 KIRO-AM Seattle, WA - news/talk/Seahawks football  
 1382.80 77.20 Michigan News Network  
 1382.60 77.40 Soldiers Radio Network  
 1382.30 77.70 Motor Racing Network (occ)  
 1382.00 78.00 Occasional Audio  
 1381.60 78.40 Radio Northwest Network  
 1381.20 78.80 KJR-AM Seattle, WA - ESPN Radio, Supersonics basketball, Univ.  
 of Washington sports

Digital Audio

Public Radio Satellite System (NPR/APR)

Radio Bilingue  
Beethoven Satellite Network  
WFMT Jazz Network  
Illinois Radio Network  
Michigan Radio Network  
KOA-AM Denver, CO - news/talk  
Univ. of Colorado sports  
Colorado Rockies Radio Network  
Colorado Avalanche Radio Network  
Denver Nuggets Radio Network  
WGN-AM Chicago - talk  
Chicago Cubs Radio Network  
Northwestern Univ. sports  
Chicago White Sox Radio Network  
Chicago Bulls Radio Network  
Chicago Blackhawks Radio Network  
Wisconsin Radio Network  
Radio America  
Brownfield Network - Wisconsin  
WSB-AM, Atlanta, GA - news/talk  
Atlanta Braves Radio Network  
Univ. of Georgia sports  
Georgia Tech sports  
Atlanta Hawks Radio Network  
Texas State Network  
Houston Astros Radio Network  
Texas Rangers Radio Network  
Houston Texans Radio Network  
Univ. of Texas sports  
Texas A&M sports  
Georgia News Network  
Minnesota Public Radio  
Oregon State sports  
Portland Trailblazers Radio Network

- 4 CVC (digital)
  - WB Network
  - WB Domestic TV Distribution
  - WB International TV Distribution
- 5 WLPG-TV 26 Detroit, MI - Christian Television Network (digital)  
KCHF-TV 11 Santa Fe, NM / KDAZ-AM 730 Albuquerque, NM - religious (digital)
- 6 Atlantic Satellite / CVC (digital)
  - WB Network
  - WB Domestic TV Distribution
- 7 Data Transmissions
- 8 Data Transmissions
- 9 Red Canal (digital)
  - XEW-TV 2
  - XHGC-TV 5
  - XEQ-TV 9
- 10 Occasional video
- 11 Televisa feeds (digital)
- 12 Occasional video
- 13 (none)
- 14 Waterfront Communications (digital)
  - Bloomberg TV

WBBR-AM 1130, New York City - Bloomberg Radio

Occasional video services

15 World Harvest TV

**6.48, 7.30** WHPZ-FM 96.9 Bremen, IN - contemporary Christian "Pulse FM"

**7.46** WHRI Americas - World Harvest Radio

**7.55** WHRI Europe - World Harvest Radio

**7.64** KWHR Asia - World Harvest Radio

**7.73** KWHR South Pacific - World Harvest Radio

**7.82** WHRA Africa/Middle East - World Harvest Radio

**7.10 DE E990331 219299xxxx WCI1239087 /LESEA BN**

16 Shepherd's Chapel Network (Dr. Pastor Murray)

**7.30** KNEA-AM 970 Jonesboro, AR - ESPN Radio

**8.25 DE E9332 501787xxxx WCI1231004 /NCNJOHN316**

17 Buena Vista Syndication

Carsey-Werner Syndication

Buena Vista International Syndication

**7.10 E950069 1306439706 818 973 xxxx DISNEY CH**

18 Occasional video

19 Occasional video

20 Occasional video

21 Occasional video

22 Occasional video

23 Occasional video

24 Occasional video

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### **Panamsat Galaxy 4R - Ku-Band**

99 degrees West longitude

NORAD: 26298

Satellite Type: Boeing Space Systems BSS-601 HP

Launched: April 19, 2000 (Ariane 42L)

Transponder Power: 24 transponders (36 MHz wide) - 108 watts each

Tr.            Downlink Freq  
                  in MHz

1(H)            11720

2(V)            11740

3(H)            11760

4(V)            11780

5(H)            11800

6(V)            11820

7(H)            11840

8(V)            11860

9(H)            11880

10(V)           11900

11(H)           11920

12(V)           11940

13(H)           11960

14(V)           11980

15(H)           12000

16(V)           12020

17(H)           12040

18(V)           12060

19(H) 12080  
20(V) 12100  
21(H) 12120  
22(V) 12140  
23(H) 12160  
24(V) 12180

- 1 Occasional video
- 2 Data Transmissions
- 3 Occasional video
- 4 AT&T Headend in the Sky (HITS) 5 (digital)
- 5 AT&T Headend in the Sky (HITS) 6 (digital)
- 6 AT&T Headend in the Sky (HITS) 11 (digital)
- 7 AT&T Headend in the Sky (HITS) 4 (digital)
- 8 Data Transmissions
- 9 AT&T Headend in the Sky (HITS) 3 (digital)
- 10 AT&T Headend in the Sky (HITS) 2 (digital)
- 11 AT&T Headend in the Sky (HITS) 1 (digital)
- 12 AT&T Headend in the Sky (HITS) 8 (digital)
- 13 Data Transmissions
- 14 Occasional video
- 15 Data Transmissions
- 16 Occasional video
- 17 AT&T Headend in the Sky (HITS) 9 (digital)
- 18 AT&T Headend in the Sky (HITS) 10 (digital)
- 19 Data Transmissions
- 20 Data Transmissions
- 21 Occasional video
- 22 AT&T Headend in the Sky (HITS) 7 (digital)
- 23 AT&T Headend in the Sky (HITS) 13 (digital)
- 24 Spacecom Systems Spacelink / FM Cubed Services

HITS 1  
G-4R-K11

Discovery Kids  
The Science Channel  
Discovery Health  
Golf  
ESPNNews  
Independent Film Network  
Game Show  
Playboy  
Fox Sports World  
BBC America  
Turner Classic Movies  
Noggin

HITS 2  
G-4R-K10

inDemand PPV 1  
inDemand PPV 2  
inDemand PPV 3  
inDemand PPV 4  
inDemand PPV 5  
inDemand PPV 6  
The Hot Network  
Sci-Fi  
Outdoor Life  
WE: Women's Entertainment TV  
DMX Music 1-5

TV Land

HITS 3  
G-4R-K9

HBO2 E  
HBO Signature E  
Showtime Too E  
The Movie Channel E  
Starz Theater E  
Encore Westerns E  
Encore Love E  
Encore Mystery E  
History E  
Bravo  
HGTV  
ESPN Classic  
DMX Music 6-10

HITS 4  
Satcom C-4T2

HBO2 W  
HBO Signature W  
Showtime Too W  
The Movie Channel W  
Starz Theater W  
Encore Westerns W  
Encore Love W

Encore Mystery W  
History W  
Bravo  
HGTV  
ESPN Classic  
DMX Music 6-10

HITS 5  
G-4R-K4

Toon Disney  
Biography  
History Channel International  
Lifetime Movie Network  
Trio  
MuchMusic  
MTV2  
Nick Games & Sports  
Style

HITS 6  
G-4R-K5

HITS Sports PPV1  
HITS Sports PPV2  
HITS Sports PPV3  
HITS Sports PPV4  
HITS Sports PPV5  
ESPN Now  
Goodlife TV  
Hot Choice PPV  
UrbanXtra PPV

HITS 7  
G-4R-K22

fXM: Fox Movie Channel  
WebMD TV  
NickToons  
techtv  
Bloomberg TV  
Inspirational Life  
Wisdom TV  
TBN  
Outdoor Channel  
Spice

HITS 8  
G-4R-K12

Black Starz E  
Ovation  
G4  
Spice 2  
International Channel  
BET on Jazz  
DMX Music 31-38  
Sundance Channel  
Newsworld International  
VH1 Soul  
MTV Jam

HITS 9  
G-4R-K17

Encore True Stories E  
Encore Action E  
HBO E  
Showtime E

Cinemax E  
More Max E  
HBO Family E  
Showtime Showcase E  
Encore E  
Starz E  
TMC XTRA E  
Showtime Extreme E

HITS 10  
G-4R-K18

Encore True Stories W  
Encore Action W  
HBO W  
Shwotime W  
Cinemax W  
More Max W  
HBO Family W  
Showtime Showcase W  
Encore W  
Starz W  
TMC XTRA W  
Showtime Extreme W

HITS 11  
G-4R-K6

ESPN2  
ESPN2 (Alternate)  
National Geographic  
Speed Channel  
Discovery Home & Leisure  
Discovery Civilization  
Discovery Wings  
VH1 Country  
VH1 Classic Rock  
DMX Music 11-20  
DMX Music 21-30

HITS 12 (Canales ▯)  
Satcom C-4T16

Canales ▯, including:  
Telemundo Internacional  
Discovery en Español  
Cine Latino  
Fox Sports World Español  
CNN en Español  
DMX Music 39-45  
Toon Disney en Español  
MTVS  
VH Uno  
HTVN  
HBO Latino

HITS 13  
G-4R-K23

Great American Country  
MBC Network  
The Word Network  
New Urban Entertainment  
ShopNBC  
Fox Sports Digital Atlantic  
Fox Sports Digital Central  
Fox Sports Digital Pacific

HITS 15

G-4R-K7

HBO Comedy E  
HBO Zone E  
Action Max E  
Thriller Max E  
Showtime Next E

Showtime Family E  
Showtime Women E  
FLIX E  
WAM! E  
Starz! Cinema E  
Starz! Family E

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**SES Americom Americom-4 - C-Band**

101 degrees West longitude

NORAD: 25954

Satellite Type: Lockheed Martin A2100 AX

Launched: November 13, 1999 (Ariane 44LP)

Transponder Power: 24 transponders - 20 watts each

Tr.    Downlink Freq  
          in MHz

1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780
5(V)	3800
6(H)	3820
7(V)	3840
8(H)	3860
9(V)	3880
10(H)	3900
11(V)	3920
12(H)	3940
13(V)	3960
14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160
24(H)	4180

- 1 Data Transmissions  
Cornerstone TV (digital)
- 2 (none)
- 3 Data Transmissions  
Daystar TV (digital)  
WCPE-FM, Raleigh - Classical music (digital audio)
- 4 (none)
- 5 Occasional video
- 6 (none)
- 7 Data Transmissions
- 8 (none)



- 9 Golden Eagle Broadcasting
  - 5.80 KMUS-AM 1380 Muskogee, OK - religious
  - 8.30 E2454 918492xxxx 924555553
- 10 (none)
- 11 (none)
- 12 (none)
- 13 Data Transmissions
  - University of California Educational TV (digital)
- 14 Fox Sports Net (digital)
  - Fox Sports Net West 2
  - Fox Sports Net Detroit
  - Fox Sports Net Pittsburgh
  - Fox Sports Net Rocky Mountain
  - Fox Sports Net North
  - Fox Sports Net Wisconsin
  - Comcast Sportsnet - Mid-Atlantic
- 15 Data Transmissions
- 16 Fox Sports Net (digital)
  - Fox Sports Net Midwest
  - Fox Sports Net Northwest
  - Fox Sports Net Arizona
  - Fox Sports Net South
  - Sunshine Network
  - Fox Sports Net West
  - Fox Sports Net Southwest
- 17 (none)
- 18 (none)
- 19 (none)
- 20 Data Transmissions
- 21 Data Transmissions
  - Safe TV (digital)
  - God's Learning Channel (digital)
  - Familyland (digital)
- 22 (none)
- 23 Data Transmissions
  - La Familia Television Network (digital)
- 24 (none)

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**SES Americom Americom-4 - Ku-Band**

101 degrees West longitude  
 NORAD: 25954  
 Satellite Type: Lockheed Martin A2100 AX  
 Launched: November 13, 1999 (Ariane 44LP)  
 Transponder Power: 24 transponders (36 MHz wide) - 110 watts each  
                           4 transponders (72 MHz wide) - 110 watts each

Tr.	Downlink Freq in MHz
1(V)	11720
2(H)	11740
3(V)	11760
4(H)	11780

5(V)	11800
6(H)	11820
7(V)	11840
8(H)	11860
9(V)	11880
10(H)	11900
11(V)	11920
12(H)	11940
13(V)	11960
14(H)	11980
15(V)	12000
16(H)	12020
17(V)	12040
18(H)	12060
19(V)	12080
20(H)	12100
21(V)	12120
22(H)	12140
23(V)	12160
24(H)	12180
25(V)	11535
26(H)	11535
27(V)	11655
28(H)	11655

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Data Transmissions
- 4 (none)
- 5 Data Transmissions
- 6 3 Angels Broadcasting TV and Radio (digital)  
Data Transmissions
- 7 Data Transmissions
- 8 Jade Entertainment (digital)  
TVB Jade Channel  
Jade World Movie  
TVB Xing He  
TVBS-News  
TVB8  
CCTV4  
MacTV  
IPPV
- 9 Data Transmissions
- 10 Data Transmissions
- 11 Data Transmissions
- 12 Data Transmissions
- 13 Data Transmissions
- 14 Data Transmissions
- 15 Data Transmissions
- 16 Data Transmissions
- 17 Data Transmissions
- 18 Data Transmissions
- 19 Data Transmissions
- 20 Data Transmissions
- 21 German Channel D television (digital)

German Channel D  
Schlager Radio  
Heimat Radio  
Vietnamese Public Radio

- 22 Data Transmissions
- 23 Data Transmissions
- 24 Data Transmissions
- 25 South American beamed
- 26 South American beamed
- 27 South American beamed
- 28 South American beamed

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**DirecTV Directv-1R - Ku-band**

100.80 degrees West longitude  
NORAD: 25937  
Satellite Type: Boeing Satellite Systems BSS-601 HP  
Launched: October 10, 1999 (Sea Launch Zenit-3SL)  
16 transponders - 200 watts each

**DirecTV DirecTV-2 - Ku-band**

100.8 degrees West longitude  
NORAD: 23192  
Satellite Type: Boeing Space Systems BSS-601  
Launched: August 3, 1994 (Atlas IIA)  
16 transponders - 120 watts each

**DirecTV DirecTV-3 - Ku-band**

100.6 degrees West longitude  
NORAD: 23598  
Satellite Type: Boeing Space Systems BSS-601  
Launched: June 10, 1995 (Ariane 42P)  
16 transponders - 120 watts each

**DirecTV DirecTV-4S - Ku-band**

101.2 degrees West longitude  
NORAD: 27426  
Satellite Type: Boeing Satellite Systems BSS-601 HP  
Launched: November 26, 2001 (Ariane 44LP)  
38 transponders for spot beams - 30-88 watts each  
10 transponders for national beam - 120-240 watts each

Tr.            Downlink Freq  
                 in MHz

- 1            12224
- 2            12239
- 3            12253
- 4            12268
- 5            12282
- 6            12297
- 7            12311
- 8            12326
- 9            12341

10	12355
11	12370
12	12384
13	12399
14	12414
15	12428
16	12443
17	12457
18	12472
19	12486
20	12501
21	12516
22	12530
23	12545
24	12559
25	12574
26	12588
27	12603
28	12618
29	12632
30	12647
31	12661
32	12676

All services are delivered by digital video compression using a Thomson Consumer Electronics/Compression Labs Inc. MPEG 2 compression scheme with News Datacom supplying the conditional access security system.

Spot Beams on DirecTV: Transponders 4, 12, 18, 20, 26, 28

100	Blockbuster	PPV	Movies	Previews	133	Blockbuster	PPV	Movies
101	Blockbuster	PPV	Movies		134	Blockbuster	PPV	Movies
102	Blockbuster	PPV	Movies		135	Blockbuster	PPV	Movies
103	Blockbuster	PPV	Movies		136	Blockbuster	PPV	Movies
104	Blockbuster	PPV	Movies		137	Blockbuster	PPV	Movies
105	Blockbuster	PPV	Movies	Schedule	138	Blockbuster	PPV	Movies
106	Blockbuster	PPV	Movies		139	Blockbuster	PPV	Movies
107	Blockbuster	PPV	Movies		140	Blockbuster	PPV	Movies
108	Blockbuster	PPV	Movies		141	Blockbuster	PPV	Movies
109	Blockbuster	PPV	Movies		142	Blockbuster	PPV	Movies
110	Blockbuster	PPV	Movies		143	Blockbuster	PPV	Movies
111	Blockbuster	PPV	Movies		144	Blockbuster	PPV	Movies
112	Blockbuster	PPV	Movies		145	Blockbuster	PPV	Movies
113	Blockbuster	PPV	Movies		146	Blockbuster	PPV	Movies
114	Blockbuster	PPV	Movies		147	Blockbuster	PPV	Movies
115	Blockbuster	PPV	Movies		148	Blockbuster	PPV	Movies
116	Blockbuster	PPV	Movies		149	Blockbuster	PPV	Movies
117	Blockbuster	PPV	Movies		150	Blockbuster	PPV	Movies
118	Blockbuster	PPV	Movies		151	Blockbuster	PPV	Movies
119	Blockbuster	PPV	Movies		152	Blockbuster	PPV	Movies
120	Blockbuster	PPV	Movies		153	Blockbuster	PPV	Movies
121	Blockbuster	PPV	Movies		154	Blockbuster	PPV	Movies
122	Blockbuster	PPV	Movies		155	Blockbuster	PPV	Movies
123	Blockbuster	PPV	Movies		156	Blockbuster	PPV	Movies
124	Blockbuster	PPV	Movies		157	Blockbuster	PPV	Movies
125	Blockbuster	PPV	Movies		158	Blockbuster	PPV	Movies
126	Blockbuster	PPV	Movies		159	Blockbuster	PPV	Movies
127	Blockbuster	PPV	Movies		160	Blockbuster	PPV	Movies
128	Blockbuster	PPV	Movies		161	Blockbuster	PPV	Movies
129	Blockbuster	PPV	Movies		162	Blockbuster	PPV	Movies
130	Blockbuster	PPV	Movies		163	Blockbuster	PPV	Movies
131	Blockbuster	PPV	Movies		164	Blockbuster	PPV	Movies
132	Blockbuster	PPV	Movies		165	Blockbuster	PPV	Movies

166	Blockbuster PPV Movies	247	TBS Superstation
167	Blockbuster PPV Movies	248	fX
168	Blockbuster PPV Movies	249	Comedy Central
169	Blockbuster PPV Movies	251	Oxygen
170	Blockbuster PPV Movies	252	Lifetime
171	Blockbuster PPV Movies	253	Lifetime Movie Network
172	Blockbuster PPV Movies	254	American Movie Classics
173	Blockbuster PPV Movies	255	PAX TV
174	Blockbuster PPV Movies	256	Turner Classic Movies
175	Blockbuster PPV Movies	258	Fox Movie Channel
176	Blockbuster PPV Movies	260	WE: Women's Entertainment
177	Blockbuster PPV Movies	262	Soapnet
178	Blockbuster PPV Movies	264	BBC America
179	Blockbuster PPV Movies	265	A&E
180	Blockbuster PPV Movies	266	The Biography Channel
181	Blockbuster PPV Movies	269	The History Channel
182	Blockbuster PPV Movies	271	The History Channel International
183	Blockbuster PPV Movies	273	Bravo
184	Blockbuster PPV Movies	276	National Geographic Channel
185	Blockbuster PPV Movies	277	Travel Channel
186	Blockbuster PPV Movies	278	Discovery Channel
187	Blockbuster PPV Movies	279	Discovery Health Channel
188	Blockbuster PPV Movies	280	The Learning Channel
189	Blockbuster PPV Movies	282	Animal Planet
190	Blockbuster PPV Movies	284	The Science Channel
191	Blockbuster PPV Movies	285	Discovery Civilization
192	Blockbuster PPV Movies	286	Discovery Home & Leisure
193	Blockbuster PPV Movies	287	Discovery Wings
194	Blockbuster PPV Movies	290	Disney Channel East
195	Blockbuster PPV Movies	291	Disney Channel West
196	Blockbuster PPV Movies	292	Toon Disney
197	Blockbuster PPV Movies	294	Discovery Kids Channel
198	Blockbuster PPV Movies	295	PBS Kids Channel
199	HDNet	296	Cartoon Network
200	Blockbuster PPV Movies Previews	297	Boomerang
---	Moviewatch	298	Noggin/The N
---	Outdoor Channel	299	Nickelodeon/Nick at Nite (East)
---	Sony Business TV	300	Nickelodeon/Nick at Nite (West)
---	Blockbuster Video Business TV	301	TV Land
---	RadioShack Business TV	307	WGN Superstation
---	Verizon Business TV	309	Game Show Network
---	Circuit City Business TV	311	ABC Family
201	DIRECTV Customer News	312	Hallmark Channel
202	CNN	315	TRIO
203	CourtTV	317	QVC
204	CNN Headline News	325	The National Network
206	ESPN	327	Country Music Television
207	ESPNEWS	329	Black Entertainment Television
208	ESPN Classic	331	MTV
209	ESPN2	333	MTV2
210	ESPN Alternate	335	VH1
211	ESPN2 Alternate	337	VH1 Classic
212	DIRECTV Movies and Sports This Week	339	MuchMusic
213	NFL Sunday Ticket Promo	340	Direct Shopping Network (occ)
214	NHL Center Ice Promo	350	C-SPAN (House of Rep.)
215	GamePlan / Full Court Promo	351	C-SPAN 2 (Senate)
216	NBA Season Pass Promo	353	Bloomberg Television
217	WNBA Season Pass Promo	354	TechTV
218	Mega March Madness Promo	355	CNBC
219	MLB Extra Innings Promo	356	MSNBC
220	DIRECTV Sports Schedule	357	CNBC World
222	DIRECTV Customer Messages	358	CNNfn/CNN International
227	DirectWay Promo	360	Fox News Channel
229	Home and Garden Television	362	The Weather Channel
230	Do It Yourself Network	364	All News Channel
231	Food Network	366	Newsworld International
234	Shop at Home Network	367	ACN TV (occ)
236	E! Entertainment TV	368	The Health Network
240	Home Shopping Network	369	Daystar
242	USA Network	370	ShopNBC
243	DIRECTV Customer Alert	371	The Church Channel
244	Sci-Fi Channel	372	Trinity Broadcasting Network
245	Turner Network Television (TNT)	373	Word Network
246	DIRECTV Local Channel Info	374	Brigham Young University TV

375 WorldLink TV	537 Showtime East
376 NASA Television	538 Showtime Too
377 PBS YOU	539 Showtime Showcase
379 RFD-TV	540 Showtime West
380 WCBS-TV CBS New York City	542 Showtime Extreme
381 KCBS-TV CBS Los Angeles	543 Showtime HDTV
382 WNBC-TV NBC New York City	544 The Movie Channel East
383 KNBC-TV NBC Los Angeles	545 The Movie Channel West
384 PBS National feed	547 FLIX
386 WABC-TV ABC New York City	549 Sundance Channel
387 KABC-TV ABC Los Angeles	550 Independent Film Channel
388 WNYW-TV FOX New York City	551 Blockbuster PPV Movies Previews
389 KTTV-TV FOX Los Angeles	581 NRTC Radio
390 DIRECTV Local Channel Info	594 A Taste of Spice (Adult)
400 DIRECTV Para Todos This Month	595 Playboy TV (Adult)
401 DIRECTV Para Todos Information	596 Vivid TV (Adult)
402 Univision - East	597 The Hot Network (Adult)
403 Univision - West	598 The Hot Zone (Adult)
404 Galavisión	603 DIRECTV Sports Schedule
405 Telemundo - East	605 The Golf Channel
406 Telemundo - West	607 Speed Channel
407 Televisión España Internacional	608 Outdoor Life Network
408 TV Chile	611 Ivy League Sports (occ)
409 Utilisima Satelital	613 Fox Sports World
410 MUN2	620 Fox Sports Net New England
411 Telefe International	621 Madison Square Garden (MSG)
413 Discovery Channel Español	622 YES Network
416 MTV Latino	623 New England Sports Network
417 Puma TV	624 Fox Sports Net New York
418 Telemundo Internacional	625 Fox Sports Net Alternate
419 CNN en Español	626 Empire Sports Network
420 Canal SUR	628 Fox Sports Net Pittsburgh
421 The Weather Channel Latin America	629 Comcast SportsNet (Mid-Atlantic)
422 EWTN Latin America	630 Fox Sports Net South
423 Cine Latino	631 Turner South
425 Fox Sports World Español	632 Sunshine Network
432 Local Channel Listing	633 Fox Sports Net Alternate
438 Claravisión	634 Fox Sports Net Florida
439 The Inspirational Life Network	635 Fox Sports Net Alternate
455 CCTV 9	636 Fox Sports Net Detroit
456 Phoenix Chinese North America	637 Fox Sports Net Ohio
488 NBCi Interactive	638 Fox Sports Net Cincinnati
490 ESPN Today Interactive	639 Fox Sports Net Chicago
492 "Instant Weather" by The Weather Channel Interactive	640 Fox Sports Net Alternate
496 Barnes & Noble Interactive	641 Fox Sports Net North
499 DIRECTV INTERACTIVE Center	642 Fox Sports Net Alternate
500 DIRECTV Movies and Sports This Week	643 Fox Sports Net Southwest
501 HBO East	644 Fox Sports Net Alternate
502 HBO2 East	645 Fox Sports Rocky Mountain
503 HBO Signature	646 Fox Sports Net Alternate
504 HBO West	647 Fox Sports Net Midwest
505 HBO2 West	648 Fox Sports Net Alternate
507 HBO Family East	649 Fox Sports Net Arizona
508 HBO Family West	651 Fox Sports Net Northwest
509 HBO HDTV	652 Fox Sports Net West
511 HBO Latino	653 Fox Sports Net West 2
512 Cinemax East	654 Fox Sports Net Bay Area
513 MoreMAX	655 Fox Sports Net Alternate
514 Cinemax West	703 The NFL Channel
516 Blockbuster PPV Movies Previews	704-705 NFL Europe
517 DIRECTV Customer Alert	704-717 NFL Sunday Ticket PPV
520 STARZ! East	718 English Premier League Soccer PPV
521 STARZ! West	719 English Premier League Soccer PPV
522 STARZ! Theater East	720 NBA TV
523 BLACK STARZ!	721-725 WNBA Season Pass PPV
526 Encore East	721-733 NBA League Pass PPV
527 Encore West	736-739 Mega March Madness PPV
528 Encore Love Stories	740-752 NHL Center Ice PPV
529 Encore Westerns	753 DIRECTV Sports Schedule
530 Encore Mystery	754-768 MLB Extra Innings PPV
531 Encore True Stories	770-779 ESPN Gameplan PPV
532 Encore Action	780-793 Full Court PPV
533 Encore WAM!	794-799 MLS Shootout PPV
	801 DIRECTV PPV Music

802 Music Choice: N.E.R.D. Listening Party	WB WNUV 54
806 Music Choice: Sound of Season	
808 Music Choice: Reggae	Birmingham, AL
809 Music Choice: Classic R&B	Fox WBRC 6
810 Music Choice: Smooth R&B	PBS WBIQ 10
811 Music Choice: R&B and Hip Hop	NBC WVTM 13
812 Music Choice: Rap	WB WTTO 21
813 Music Choice: Dance	ABC WCFT 33
814 Music Choice: New Wave	CBS WIAT 42
815 Music Choice: Power Rock	PAX WPXH 44
816 Music Choice: Metal	UPN WABM 68
817 Music Choice: Alternative Rock	
818 Music Choice: Rock	Boston, MA
819 Music Choice: Classic Rock	PBS WGBH 2
820 Music Choice: Progressive	CBS WBZ 4
821 Music Choice: Soft Rock	ABC WCVB 5
822 Music Choice: Hit List	NBC WHDH 7
823 Music Choice: '80s	ABC WMUR 9
824 Music Choice: '70s	Fox WFXT 25
825 Music Choice: Solid Gold Oldies	Univision WUNI 27
826 Music Choice: Bluegrass	UPN WSBK 38
827 Music Choice: Americana	PBS WGBX 44
828 Music Choice: Today's Country	WB WLVI 56
829 Music Choice: Classic Country	Telefutura WUTF 66
830 Music Choice: Big Band & Swing	PAX WBPX 68
831 Music Choice: Singers & Standards	
832 Music Choice: Showtunes	Buffalo, NY
833 Music Choice: Easy Listening	NBC WGRZ 2
834 Music Choice: Classical Masterpieces	CBS WIVB 4
836 Music Choice: Light Classical	ABC WKBW 7
838 Music Choice: Soundscapes	FOX WUTV 29
839 Music Choice: Smooth Jazz	WB WNYO 49
840 Music Choice: Jazz	PAX WPXJ 51
841 Music Choice: Blues	
842 Music Choice: Gospel	Charlotte, NC
843 Music Choice: Contemporary Christian	CBS WBTB 3
845 Music Choice: Rock en Español	ABC WSOC 9
846 Music Choice: Musica Latina	Fox WCCB 18
847 Music Choice: Latin Love Songs	PBS WNSC 30
848 Music Choice: Canciones de Amor Internacional	NBC WCNC 36
849 Music Choice: Salsa y Merengue	PBS WTVI 42
850 Music Choice: Mexicana	UPN WJZY 46
851 Music Choice: Tejano	WB WWWB 55
999 DIRECTV Local Channel Information	PBS UNC 58
	Independent WAXN 64
Atlanta, GA	
ABC WSB 2	Chicago, IL
FOX WAGA 5	CBS WBEM 2
PBS WGTV 8	NBC WMAQ 5
NBC WXIA 11	ABC WLS 7
PAX WPXA 14	WB WGN 9
PBS WPBA 30	PBS WTTW 11
Univision WUVG 34	PBS WYCC 20
WB WATL 36	Independent WCIU 26
CBS WGCL 46	Fox WFLD 32
Independent WATC 57	PAX WCPX 38
UPN WUPA 69	Telemundo WSNS 44
	UPN WPWR 50
Austin, TX	Telefutura WXFT 60
UPN KBEJ 2	Independent WJYS 62
Fox KTBC 7	Univision WGBO 66
PBS KLRU 18	
ABC KVUE 24	Cincinnati, OH
NBC KXAN 36	NBC WLWT 5
CBS KEYE 42	ABC WCPO 9
WB KNVA 54	CBS WKRC 12
	Fox WXIX 19
Baltimore, MD	UPN WBQC 25
ABC WMAR 2	PBS WCET 48
NBC WBAL 11	PBS WCVN 54
CBS WJZ 13	WB WSTR 64
PBS MPT 22	
UPN WUTB 24	Cleveland, OH
Fox WBFF 45	NBC WKYC 3

ABC WEWS 5  
Fox WJW 8  
CBS WOIO 19  
PAX WVPX 23  
PBS WVIZ 25  
UPN WUAB 43  
PBS WEAO 49  
WB WBNX 55  
Univision WQHS 61

Columbus, OH  
NBC WCMH 4  
ABC WSYX 6  
CBS WBNS 10  
Fox WTTE 28  
PBS WOSU 34  
Independent WSFJ 51  
UPN WWHO 53

Dallas/Ft. Worth, TX  
PBS KDTN 2  
Fox KDFW 4  
NBC KXAS 5  
ABC WFAA 8  
CBS KTVT 11  
PBS KERA 13  
UPN KTXA 21  
Univision KUVN 23  
Independent KDFI 27  
WB KDAF 33  
Telemundo KXTX 39  
Telefutura KSTR 49  
Independent KFWD 52  
PAX KPXD 68

Denver, CO  
WB KWGN 2  
CBS KCNC 4  
PBS KRMA 6  
ABC KMGH 7  
NBC KUSA 9  
PBS KBDI 12  
Independent KTVJ 14  
UPN KTVD 20  
Independent KDEN 25  
Fox KDVR 31  
Univision KCEC 50  
Independent KWHD 53  
PAX KPXC 59

Detroit, MI  
Fox WJBK 2  
NBC WDIV 4  
ABC WXYZ 7  
WB WDWB 20  
PAX WPXD 31  
Independent WADL 38  
UPN WKBD 50  
PBS WTVS 56  
CBS WWJ 62

Grand Rapids, MI  
CBS WWMT 3  
NBC WOOD 8  
ABC WZZM 13  
FOX WXMI 17  
ABC WOTV 41  
PAX WZPX 43

Greensboro, NC  
CBS WFMY 2  
Fox WGHP 8  
NBC WXII 12  
PAX WGPX 16

WB WTWB 20  
PBS UNC 26  
ABC WXLV 45  
UPN WUPN 48  
Independent WLXI 61

Greenville, SC  
NBC WYFF 4  
CBS WSPA 7  
ABC WLOS 13  
Independent WGGG 16  
Fox WHNS 21  
PBS WNTV 29  
PBS UNC 33  
WB WBSC 40  
UPN WASV 62

Hartford, CT  
CBS WFSB 3  
ABC WTNH 8  
Univision WUVN 18  
WB WTXX 20  
PBS WEDH 24  
NBC WVIT 30  
Fox WTIC 61

Houston, TX  
NBC KPRC 2  
PBS KUHT 8  
CBS KHOU 11  
ABC KTRK 13  
UPN KTXH 20  
Fox KRIV 26  
WB KHWB 39  
Univision KXLN 45  
Telemundo KTMD 48  
PAX KPXB 49  
Independent KTBU 55  
Independent KZJL 61  
Telefutura KFTH 67

Indianapolis, IN  
WB WTTV 4  
ABC WRTV 6  
CBS WISH 8  
NBC WTHR 13  
PBS WFYI 20  
UPN WNDY 23  
Independent WHMB 40  
Fox WXIN 59  
PAX WIPX 63  
PBS WTBU 69

Kansas City, MO  
Fox WDAF 4  
CBS KCTV 5  
ABC KMBC 9  
PBS KCPT 19  
UPN KCWE 29  
NBC KSHB 41  
PAX KPXE 50  
WB KSMO 62

Las Vegas, NV  
NBC KVBC 3  
Fox KVVU 5  
CBS KLAS 8  
PBS KLVX 10  
ABC KTNV 13  
Univision KINC 15  
WB KVWB 21  
UPN KTUD 25  
Independent KFBT 33  
Telemundo KBLR 39



Los Angeles, CA  
CBS KCBS 2  
NBC KNBC 4  
WB KTLA 5  
ABC KABC 7  
Independent KCAL 9  
Fox KTTV 11  
UPN KCOP 13  
Independent KSCI 18  
Telemundo KWHY 22  
PBS KVCR 24  
PBS KCET 28  
PAX KPXM 30  
Independent KVMD 31  
Univision KMEX 34  
Independent KXLA 44  
Telefutura KFTR 46  
PBS KOCE 50  
Telemundo KVEA 52  
Independent KAZA 54  
Independent KDOC 56  
Independent KJLA 57  
PBS KLCS 58  
Independent KRCA 62  
Independent KADY 63  
Independent KHIZ 64

Knoxville, TN

ABC WATE 6  
CBS WVLT 8  
NBC WBIR 10  
PBS WKOP 15  
WB WBXX 20  
FOX WTNZ 43

Memphis, TN

CBS WREG 3  
NBC WMC 5  
PBS WKNO 10  
Fox WHBQ 13  
ABC WPTY 24  
UPN WLMT 30

Miami/Ft. Lauderdale, FL

PBS WPBT 2  
CBS WFOR 4  
NBC WTVJ 6  
Fox WSVN 7  
ABC WPLG 10  
PBS WLRN 17  
Independent WEYS 22  
Univision WLTV 23  
UPN WBFS 33  
PAX WPXM 35  
WB WBZL 39  
Telemundo WSCV 51  
Telefutura WAMI 69

Milwaukee, WI

NBC WTMJ 4  
Fox WITI 6  
PBS WMVS 10  
ABC WISN 12  
WB WVTV 18  
UPN WCGV 24  
Independent WVCY 30  
PBS WMVT 36  
PAX WPXE 55  
CBS WDJT 58

Minneapolis/St. Paul, MN

PBS KTCA 2  
CBS WCCO 4

ABC KSTP 5  
Fox KMSP 9  
NBC KARE 11  
PBS KTCI 17  
WB KMWB 23  
UPN WFTC 29  
PAX KPXM 41  
Independent KSTC 45

Nashville, TN

ABC WKRN 2  
NBC WSMV 4  
CBS WTVF 5  
PBS WNPT 8  
Fox WZTV 17  
UPN WUXP 30  
Independent WHTN 39  
WB WNAB 58

New York, NY

CBS WCBS 2  
NBC WNBC 4  
Fox WNYW 5  
ABC WABC 7  
UPN WWOR 9  
WB WPIX 11  
PBS WNET 13  
PBS WLIW 21  
PBS WNYE 25  
PAX WPXN 31  
Univision WXTV 41  
Telemundo WNJU 47  
PBS WNJN 50  
Independent WLNY 55  
Independent WRNN 62  
Independent WMBC 63  
Telefutura WFUT 68

Norfolk, VA

CBS WTKR 3  
NBC WAVY 10  
ABC WVEC 13  
PBS WHRO 15  
UPN WGNT 27  
WB WTVZ 33  
FOX WVBT 43  
PAX WPXV 49

Oklahoma City, OK

NBC KFOR 4  
ABC KOCO 5  
CBS KWTV 9  
PBS KETA 13  
FOX KOKH 25  
WB KOCB 34  
UPN KAUT 43  
Independent KSBI 52  
PAX KOPX 62

Orlando/Daytona, FL

NBC WESH 2  
CBS WKMG 6  
ABC WFTV 9  
WB WKCF 18  
PBS WMFE 24  
Independent WRDQ 27  
Fox WOFL 35  
Independent WLCB 45  
Independent WACX 55  
UPN WRBW 65

Philadelphia, PA

CBS KYW 3  
ABC WPVI 6

NBC WCAU 10  
PBS WHYI 12  
WB WPHL 17  
PBS WNJS 23  
Fox WTXF 29  
PBS WYBE 35  
PBS WLVT 39  
Independent WGTW 48  
Independent WWAC 53  
UPN WPSG 57  
PAX WPPX 61  
Telemundo WWSI 62  
Univision WUVP 65  
Independent WFMZ 69

Phoenix, AZ  
Independent KTVK 3  
CBS KPHO 5  
PBS KAET 8  
Fox KSAZ 10  
Independent KPHZ 11  
NBC KPNX 12  
ABC KNXV 15  
Univision KTVW 33  
UPN KUTP 45  
PAX KPPX 51  
WB KASW 61

Pittsburgh, PA  
CBS KDKA 2  
ABC WTAE 4  
NBC WPXI 11  
PBS WQED 13  
UPN WNPA 19  
WB WCWB 22  
Independent WPCB 40  
Fox WPGH 53

Portland, OR  
ABC KATU 2  
CBS KOIN 6  
NBC KGW 8  
PBS KOPB 10  
Fox KPTV 12  
PAX KPXG 22  
WB KWBP 32  
UPN KPDX 49

Providence, RI  
ABC WLNE 6  
NBC WJAR 10  
CBS WPRI 12  
UPN WLWC 28  
PBS WEDN 53  
Fox WNAC 64

Raleigh/Durham, NC  
PBS WUNC 4  
CBS WRAL 5  
ABC WTVD 11  
NBC WNCN 17  
WB WLFL 22  
UPN WRDC 28  
Independent WKFT 40  
PAX WRPX 47  
Fox WRAZ 50

Sacramento/Stockton, CA  
NBC KCRA 3  
PBS KVIE 6  
ABC KXTV 10  
CBS KOVR 13  
Univision KUVS 19  
PAX KSPX 29

UPN KMAX 31  
Fox KTXL 40  
WB KQCA 58

Salt Lake City, UT  
CBS KUTV 2  
ABC KTVX 4  
NBC KSL 5  
PBS KUED 7  
PBS KULC 9  
PBS KBYU 11  
Fox KSTU 13  
Independent KJZZ 14  
PAX KUPX 16  
Independent KTMW 20  
UPN KPNZ 24  
WB KUWB 30

San Antonio, TX  
UPN KBEJ 2  
NBC KMOL 4  
CBS KENS 5  
PBS KLRN 9  
ABC KSAT 12  
PAX KPXL 26  
Fox KABB 29  
WB KRRT 35  
Univision KWEX 41  
Telemundo KVDA 60

San Diego, CA  
Fox XETV 6  
CBS KFMB 8  
ABC KGTV 10  
PBS KPBS 15  
NBC KNSD 39  
WB KSWB 69

San Francisco/Oakland/San Jose, CA  
Fox KTVU 2  
Independent KRON 4  
CBS KPIX 5  
ABC KGO 7  
PBS KQED 9  
NBC KNTV 11  
Univision KDTV 14  
WB KBWB 20  
Independent KTSF 26  
PBS KMTP 32  
Independent KICU 36  
Independent KTNC 42  
UPN KBHK 44  
Telemundo KSTS 48  
PBS KTEH 54  
PBS KCSM 60  
PAX KKPX 65  
Telefutura KFSF 66

Seattle/Tacoma, WA  
ABC KOMO 4  
NBC KING 5  
CBS KIRO 7  
PBS KCTS 9  
UPN KSTW 11  
Fox KCPQ 13  
Independent KONG 16  
WB KTWB 22  
Independent KBCB 24  
PBS KBTC 28  
PAX KWPX 33  
Independent KWOG 51

St. Louis, MO  
Fox KTVI 2

CBS KMOV 4  
 NBC KSDK 5  
 PBS KETC 9  
 WB KPLR 11  
 Independent KNLC 24  
 ABC KDNL 30  
 Independent WHSL 46  
  
 Tampa/St. Petersburg, FL  
 PBS WEDU 3  
 NBC WFLA 8  
 CBS WTSP 10  
 Fox WTVT 13  
 PBS WUSF 16  
 Independent WCLF 22  
 ABC WFTS 28  
 Independent WMOR 32  
 WB WTTA 38  
 UPN WTOG 44  
 Telefutera WFTT 50  
 Univision WVEA 62  
  
 Washington, D.C.

NBC WRC 4  
 Fox WTTG 5  
 ABC WJLA 7  
 CBS WUSA 9  
 Telefutera WFDC 14  
 UPN WDCA 20  
 PBS WETA 26  
 PBS WHUT 32  
 WB WBDC 50  
 PBS WTVT 53  
 Independent WNVC 56  
 PBS MPT 62  
 Independent WJAL 68  
  
 West Palm Beach, FL  
 NBC WPTV 5  
 CBS WPEC 12  
 ABC WPBF 25  
 Fox WFLX 29  
 UPN WTVX 34  
 PBS WXEL 42  
 Independent WFGC 61  
 PAX WPXP 67

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### SES Americom Americom-1 - C-Band

103 degrees West longitude

NORAD: 24315

Satellite Type: Lockheed Martin A2100

Launched: September 8, 1996 (Atlas IIA)

Transponder Power: 24 transponders - 12 to 18 watts each

Tr. Downlink Freq  
in MHz

1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780
5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

- 1 Occasional video
  - HUD-TV (Housing and Urban Development) (occ)
  - National Jewish Television (occ)
- 2 SES-Americom DigitalC (digital)
  - Deutsche Welle TV
  - Deutsche Welle Radio 1
  - Deutsche Welle Radio 2
  - Deutsche Welle Radio 7
- 3 Public Broadcasting Service Alaska/Caribbean feeds (digital)
- 4 Fox Sports Net (digital)
  - Fox Sports Net Ohio
  - Fox Sports Net Chicago
  - Fox Sports Net Chicago Plus
  - Fox Sports Net New England
  - Fox Sports Net Florida
  - Fox Sports Net Alternate
- 5 TV (digital)
  - Globecast occasional video services
  - German TV
  - Latin Broadcasting Corp. (audio)
  - PaxNet (audio)
  - WZMQ-FM Key Largo, FL / WMFM-FM Key West, FL - La Gran Cadena (audio)
- 6 Occasional video
- 7 Pax TV (digital)
  - Pax TV East
  - Pax TV Mountain
  - Pax TV Pacific
  - The Worship Network
  - Praise TV
  - Faith Television
- 8 In-Demand PPV (digital)
- 9 Occasional video
- 10 Occasional video
- 11 Univision feeds (digital)
- 12 Wisdom Television (digital)
- 13 In-Demand PPV (digital)
- 14 In-Demand PPV (digital)
- 15 Total Living Network (digital)
  - WCLF-TV 22 Tampa Bay, FL (digital)
  - Xtreme Shopping Network (digital)
- 16 Occasional video
- 17 Telemundo (digital)
  - Telemundo East and West
  - Telemundo International
  - MUN2 East and West
- 18 Fox Sports Net (digital)
  - Fox Sports Net New York
  - Fox Sports Net Bay Area
  - Madison Square Garden Network
  - Fox Sports Net Base
  - Fox Sports Net Alternates
- 19 Data Transmissions
- 20 MTV2

**8.30 e2037 800624xxxx 1127555553 ge americom**

- 21 Telefutura (digital)
- 22 (none)
- 23 TV Games Network (VC2+)
- 8.30 de e940445 303486xxxx 347309 /wtcititanroad**
- 24 Data Transmissions

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**SES Americom Americom-1 - Ku-Band**

103 degrees West longitude  
 NORAD: 24315  
 Satellite Type: Lockheed Martin A2100  
 Launched: September 8, 1996 (Atlas IIA)  
 Transponder Power: 24 transponders - 60 watts each

Tr.	Downlink Freq in MHz
1(H)	11720
2(V)	11740
3(H)	11760
4(V)	11780
5(H)	11800
6(V)	11820
7(H)	11840
8(V)	11860
9(H)	11880
10(V)	11900
11(H)	11920
12(V)	11940
13(H)	11960
14(V)	11980
15(H)	12000
16(V)	12020
17(H)	12040
18(V)	12060
19(H)	12080
20(V)	12100
21(H)	12120
22(V)	12140
23(H)	12160
24(V)	12180

- 1 Data Transmissions
- 2 Data transmissions
- 3 NBC Network feeds (digital)
- 4 Data transmissions
- 5 Data Transmissions
- 6 Data Transmissions
- Kentucky Educational Television (digital)
- 7 NBC Network feeds (digital)
- 8 Data Transmissions
- 9 NBC Network feeds (digital)
- 10 Data Transmissions
- 11 (none)

- 12 Data Transmissions
- 13 Data Transmissions
- 14 Data Transmissions
- 15 NBC Network feeds (digital)
- 16 Data Transmissions
- 17 NBC SNG (digital)
- 18 America's Collectibles Network (digital)  
Data Transmissions
- 19 NBC SNG (digital)
- 20 Occasional video
- 21 NBC SNG (digital)
- 22 Occasional video
- 23 NBC SNG (digital)
- 24 FedEx Business Television (digital)

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**SES Americom GSTAR-4 - Ku-Band**

105 degrees West longitude

NORAD: 20946

Satellite Type: GE 3000

Launched: November 20, 1990 (Ariane 42P)

Transponder Power: 14 transponders (54 MHz wide) - 20 watts each  
2 transponders (54 MHz wide) - 27 watts each

Tr.            Downlink Freq  
                  in MHz

T01(H)	11730
T02(H)	11791
T03(H)	11852
T04(H)	11913
T05(H)	11974
T06(H)	12035
T07(H)	12096
T08(H)	12157
T09(V)	11744
T10(V)	11805
T11(V)	11866
T12(V)	11927
T13(V)	11988
T14(V)	12049
T15(V)	12110
T16(V)	12171

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Occasional video
- 4 Data Transmissions
- 5 Occasional video
- 6 Occasional video
- 7 Occasional video
- 8 Data Transmissions
- 9 Data Transmissions
- 10 Data Transmissions

- 11 Data Transmissions
- 12 Data Transmissions
- 13 Occasional video
- 14 Data Transmissions
- 15 Occasional video
- 16 Data Transmissions

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**Telesat Canada Anik F1 - C-Band**

107.3 degrees West longitude

NORAD: 26624

Satellite Type: Boeing Satellite Systems BSS-702

Launched: November 21, 2000 (Ariane 44L)

Transponder Power: 36 transponders - 40 watts each

Tr.            Downlink Freq  
                  in MHz

1A(H)	3720
S1A(H)	3720
1B(V)	3740
2A(H)	3760
S2A(H)	3760
2B(V)	3780
3A(H)	3800
S3A(H)	3800
3B(V)	3820
4A(H)	3840
S4A(H)	3840
4B(V)	3860
5A(H)	3880
S5A(H)	3880
5B(V)	3900
6A(H)	3920
S6A(H)	3920
6B(V)	3940
7A(H)	3960
S7A(H)	3960
7B(V)	3980
8A(H)	4000
S8A(H)	4000
8B(V)	4020
9A(H)	4040
S9A(H)	4040
9B(V)	4060
10A(H)	4080
S10A(H)	4080
10B(V)	4100
11A(H)	4120
S11A(H)	4120
11B(V)	4140
12A(H)	4160
S12A(H)	4160
12B(V)	4180

- 1A Occasional video
- S1A South American beamed
- 1B Data Transmissions
- 2A Canadian Broadcasting Corporation (CBC) (digital)
- S2A South American beamed
- 2B Musimax / Musique Plus / Radio Mutual / Magneothèque / RDS / Canal Nouvelle /  
The Green Network (digital)
- 3A Data Transmissions
- S3A South American beamed
- 3B Occasional video
- 4A (none)
- S4A South American beamed
- 4B Occasional video
- 5A Occasional video
- S5A South American beamed
- 5B Cancom (digital)
- 6A Radio Canada (digital)
- S6A South American beamed - (none)
- 6B Cancom (digital)
- 7A Canadian Broadcasting Corporation feeds (digital)  
Canadian Broadcasting Corporation Radio (digital audio)
- S7A South American beamed
- 7B Cancom (digital)
- 8A Occasional video
- S8A South American beamed
- 8B Occasional video
- 9A Canadian Broadcasting Corporation feeds (digital)
- S9A South American beamed
- 9B Meteo Media / TV5 USA / TV5 France / Blue Bonnet / RDI / Radio Quebec / Canal Vie / Telemedia  
Radio (digital)
- 10A Occasional video
- S10A South American beamed
- 10B CTV Red / CTV Green / CTV Blue / Newsworld International / The Weather Network (digital),
- 11A Occasional video
- S11A South American beamed
- 11B Occasional video
- 12A Canadian Broadcasting Corporation feeds (digital)
- S12A South American beamed
- 12B McKibben Communications occasional video services (digital)

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### **Telesat Canada Anik F1 - Ku-Band**

107.3 degrees West longitude

NORAD: 26624

Satellite Type: Boeing Satellite Systems BSS-702

Launched: November 21, 2000 (Ariane 44L)

Transponder Power: 48 transponders - 115 watts each

Tr.	Downlink Freq in MHz
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T1(V)	11714
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T2(V)	11744
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T3(V)	11775
T4(V)	11807
T5(V)	11836
T6(V)	11867
T7(V)	11897
T8(V)	11928
T9(V)	11960
T10(V)	11990
T11(V)	12020
T12(V)	12051
T13(V)	12081
T14(V)	12113
T15(V)	12140
T16(V)	12172
T17(H)	11725
T17S(H)	11725
T18(H)	11756
T18S(H)	11756
T19(H)	11786
T19S(H)	11786
T20(H)	11817
T20S(H)	11817
T21(H)	11850
T21S(H)	11850
T22(H)	11880
T22S(H)	11880
T23(H)	11910
T23S(H)	11910
T24(H)	11940
T24S(H)	11940
T25(H)	11971
T25S(H)	11971
T26(H)	12002
T26S(H)	12002
T27(H)	12033
T27S(H)	12033
T28(H)	12063
T28S(H)	12063
T29(H)	12094
T29S(H)	12094
T30(H)	12124
T30S(H)	12124
T31(H)	12155
T31S(H)	12155
T32(H)	12180
T32S(H)	12180

- T1 Star Choice DBS (digital)
- T2 Star Choice DBS (digital)
- T3 Star Choice DBS (digital)
- T4 Star Choice DBS (digital)
- T5 Star Choice DBS (digital)
- T6 Star Choice DBS (digital)
- T7 Star Choice DBS (digital)
- T8 Star Choice DBS (digital)

T9 Star Choice DBS (digital)  
T10 Star Choice DBS (digital)  
T11 Star Choice DBS (digital)  
T12 Star Choice DBS (digital)  
T13 Star Choice DBS (digital)  
T14 Star Choice DBS (digital)  
T15 Star Choice DBS (digital)  
T16 Star Choice DBS (digital)  
T17 Star Choice DBS (digital)  
T17S South American beamed  
T18 Star Choice DBS (digital)  
T18S South American beamed  
T19 Star Choice DBS (digital)  
T19S South American beamed  
T20 Star Choice DBS (digital)  
T20S South American beamed  
T21 Star Choice DBS (digital)  
T21S South American beamed  
T22 Star Choice DBS (digital)  
T22S South American beamed  
T23 CBC / SRC feeds  
T23S South American beamed  
T24 CBC / SRC feeds  
T24S South American beamed  
T25 Star Choice DBS (digital)  
T25S South American beamed  
T26 Star Choice DBS (digital)  
T26S South American beamed  
T27 Star Choice DBS (digital)  
T27S South American beamed  
T28 Star Choice DBS (digital)  
T28S South American beamed  
T29 Star Choice DBS (digital)  
T29S South American beamed  
T30 Star Choice DBS (digital)  
T30S South American beamed  
T31 Star Choice DBS (digital)  
T31S South American beamed  
T32 Star Choice DBS (digital)  
T32S South American beamed

200 Viewer's Choice Preview  
201 Viewer's Choice 1  
202 Viewer's Choice 2  
203 Viewer's Choice 3  
204 Viewer's Choice 4  
205 Viewer's Choice 5  
206 Viewer's Choice 6  
207 Viewer's Choice 7  
208 Viewer's Choice 8  
209 Viewer's Choice 9  
210 Viewer's Choice 10  
211 Viewer's Choice 11  
212 Viewer's Choice 12  
213 Viewer's Choice 13  
214 Viewer's Choice 14  
215 Viewer's Choice 15  
216 Viewer's Choice 16  
217 Viewer's Choice 17

218 Viewer's Choice 18  
219 Viewer's Choice 19  
220 Viewer's Choice 20  
221 Viewer's Choice 21  
222 Viewer's Choice 22  
223 Viewer's Choice 23  
224 Viewer's Choice 24  
225 Viewer's Choice 25  
226 Viewer's Choice 26  
227 Viewer's Choice 27  
228 Viewer's Choice 28  
229 Viewer's Choice 29  
230 Viewer's Choice 30  
231 Viewer's Choice 31  
232 Viewer's Choice 32  
233 Viewer's Choice 33  
234 Viewer's Choice 34  
235 Viewer's Choice 35

236	Viewer's Choice 36	380	ABC Seattle
238	PPV Hockey	381	CBS Seattle
260	Canal Indigo Preview	382	FOX Seattle
261	Canal Indigo 1 National	383	PBS Seattle
262	Canal Indigo 2 National	385	NBC Buffalo
263	Canal Indigo 3 National	386	ABC Buffalo
264	Canal Indigo 4 National	387	CBS Buffalo
265	Canal Indigo 5 East	388	PBS Buffalo
266	Canal Indigo 6 East	390	CBC Newsworld
267	Canal Indigo 7 East	391	CTV NewsNet
268	Canal Indigo 8 East	392	The Shopping Channel
269	Canal Indigo 9 East	393	BC Legislature
270	Canal Indigo 10 East	394	Vision
271	Canal Indigo 11 East	396	CPAC
272	Canal Indigo 12 East	397	Ontario Legislature (OLA)
273	Canal Indigo 13 East	398	The Weather Network
274	Canal Indigo 14 East	400	The Sports Network
290	HDTV East	401	TSN Alternate & TD Bank
291	HDTV West	403	Headline Sports
292	HDTV 2 East	406	Speed Channel
293	HDTV 2 West	409	The Golf Channel
299	Star Choice Info Channel	416	Rogers Sportsnet East
300	CBC Halifax	417	Rogers Sportsnet Ontario
301	CBC Montr,al	418	Rogers Sportsnet West
302	CBC Toronto	419	Rogers Sportsnet Pacific
305	CBC Regina	457	Outdoor Life Network (OLN)
306	CBC Calgary	460	WTSN (Women's Sports Network)
307	CBC Edmonton	461	FOX Sports World Canada
308	CBC West	462	Xtreme Sports
310	NTV Newfoundland	463	Raptors NBA TV
311	CTV Ottawa	464	ESPN Classic Sports
312	CTV Montr,al	465	NHL Network
313	CTV Toronto	466	Leafs TV
315	CTV Regina	500	CNN
316	CTV Winnipeg	501	BBC World News
317	CTV Calgary	502	Headline News
318	CTV Edmonton	504	CNBC
321	BC CTV	505	Discovery Channel
330	Global Saint John	506	History Television
331	Global Toronto	507	Canadian Learning Television (CLT)
335	Global Winnipeg	508	ROB TV
336	Global British Columbia	511	MSNBC
338	Global Calgary	512	Country Canada
339	Global Edmonton	513	The Documentary Channel
340	ASN Halifax	514	Tech TV
341	ATV Halifax	515	Biography Channel
342	New RO Ottawa	520	A&E
343	CFMT Toronto	521	Showcase East
344	CityTV Toronto	522	Showcase West
345	CH Hamilton	523	Bravo!
346	New VR Barrie	524	Prime East
347	A Channel Edmonton	525	Prime West
348	CHEX Peterborough	527	Star!
349	New PL London	528	Space
350	APTN	529	TBS
351	Access Alberta	532	Dejaview
352	Saskatchewan Communications Network	533	Lonestar
353	TV Ontario	534	BBC Canada
354	KNOW TV	535	TV Land
355	CTS	540	The Family Channel East
357	The Miracle Channel	541	The Family Channel West
358	CH Vancouver Island	542	YTV East
359	CKVU	543	YTV West
360	NBC Detroit	544	Teletoon East
361	ABC Detroit	545	Teletoon West
362	CBS Detroit	546	Treehouse TV
363	FOX Rochester	547	The Comedy Network West
364	PBS Detroit	548	The Comedy Network East
370	NBC Spokane	549	Game Show Network
371	ABC Spokane	550	Discovery Kids
372	CBS Spokane	551	National Geographic Channel
373	FOX Spokane	552	BBC Kids
374	PBS Spokane	553	Animal Planet
379	NBC Seattle	554	Discovery Civilization Channel

560	The Learning Channel	763	TFO
561	Food Network	764	ARTV
562	Life Network	770	Vrak.tv
563	Discovery Health Channel	771	Teletoon Francais
564	Home and Garden Television (HGTV)	773	Canal D
566	Talk TV!	775	Musique Plus
567	W Network (East)	779	Canal Indigo Preview
568	W Network (West)	780	Super $\square$ cran 1
570	mentv	781	Super $\square$ cran 2
571	Fashion Television	782	Super $\square$ cran 3
572	CTV Travel	784	Super $\square$ cran 4
573	PrideVision TV East	800	Telelatino (TLN)
574	PrideVision TV West	801	Fairchild Television (Cantonese)
575	One: Body, Mind and Spirit Channel	805	Asian TV Network (ATN)
580	MuchMusic	807	Odyssey (OTN)
581	MuchMoreMusic	816	Radio Punjab International
582	Black Entertainment Network (BET)	819	Sur Sagar Radio
583	CMT	820	RFI 1 (Radio France Internationale)
584	TNN	825	NBRS (Voiceprint)
590	MTV	826	CIUT FM
591	MTV2	827	CHIN AM
593	iChannel	828	CKUA FM
594	Book Television	829	KDRK FM
595	Mystery	830	KAEP FM
600	Viewer's Choice Preview	831	KISC FM
601	The Movie Network 1 (M1)	832	KMBI FM
602	The Movie Network 2 (M2)	833	KPBX FM
603	The Movie Network 3 (M3)	834	KXLY FM
604	The Movie Network 4 (M4)	835	KZZU FM
605	The Movie Network 5 (M5)	836	CBU CBC Radio One Prince Rupert
610	Scream East	837	CFMI FM Vancouver
611	Showcase Action East	838	CFOX FM Vancouver
612	MoviePix 1	839	CJNW FM Vancouver
613	MoviePix Too	840	CKNW AM Vancouver
614	Independent Film Channel	841	CBU FM CBC Radio Two Vancouver
615	Showcase Diva	842	CKZZ FM Vancouver
621	Movie Central	843	CKKS FM Vancouver
622	MC Adrenaline Drive	844	CIOC FM Victoria
623	MC Heartland Road	845	CFRO FM Vancouver
624	MC Shadow Lane	846	CHQM FM Vancouver
630	Scream West	847	CBUF FM Vancouver
631	Showcase Action West	848	CJJR FM Vancouver
632	Movie Central Encore Avenue	849	CHQT AM Edmonton
633	Movie Central Comic Strip	850	CKNG FM Edmonton
650	WTBS	851	CFNR FM Terrace-Prince Rupert
651	WGN Chicago	852	CFWE FM Lac La Biche
652	WPIX New York	853	CIRK FM Edmonton
653	KTLA Los Angeles	854	CISN FM Edmonton
654	WSBK Boston	855	CHED AM Edmonton
680	Playboy TV	856	CKRW AM Whitehorse
700	SRC Montreal	857	CKRY FM Calgary
701	SRC Moncton+	858	CHQR AM Calgary
710	TVA Quebec+	859	CKIK FM Calgary
711	TVA Montreal	860	CJKR FM Winnipeg
713	TVA Hull+	861	CJOB AM Winnipeg
714	TVA West	862	CING FM Toronto
716	TVA Rimouski+	863	CHFI FM Toronto
717	TVA Chicoutimi+	864	CILQ FM Toronto
720	Canal SAVOIR	865	CFYI TALK640 AM Toronto
721	TQS Montreal	866	CFNY FM Toronto
722	Tele-Quebec	867	CHUM AM Toronto
723	TQS Quebec+	868	CJCL AM Toronto
730	RDI	869	CJRT FM Toronto
740	Meteo Media	870	CBLA FM CBC Radio One Toronto
750	RDS	871	CBL FM CBC Radio Two Toronto
751	RFO	872	CHUM FM Toronto
752	Canal Vie	873	CKOI FM Montreal
753	Canal $\square$ vasion	874	CFQR FM Montreal
754	Canal Z	875	CINW AM Montreal
755	S,ries+	876	CFGL FM Montreal
756	Historia	877	CITE FM Montreal
760	Le Canal Nouvelle	878	CKAC AM Montreal
761	TV5	879	CBHA FM CBC Radio One Halifax
762	MusiMax	880	CBH FM CBC Radio Two Halifax

881	CIOO FM Halifax	919	CMT Hot Country (Max Trax)
882	CKMF Montreal	920	Country Classics (Galaxie)
883	Radio Canada 1 Montreal	921	Franco Country (Galaxie)
884	Radio Canada 2 Montreal	922	Souvenirs (Galaxie)
885	CINF Montreal	923	Nostalgie (Galaxie)
901	Pop Adult (Galaxie)	924	Pop-Rock Franco (Max Trax)
902	Energy Hot Hits (Galaxie)	925	Palmares Quebecois (Max Trax)
903	Dance (Galaxie)	926	Christian Contemporary (Max Trax)
904	Ambient (Galaxie)	927	Relax Instrumental (Max Trax)
905	Hot Adult Contemporary (Max Trax)	928	Pop Classics/Classiques Populaires (Galaxie)
906	Urban Hits (Max Trax)	929	Chamber Music/Musiquedechambre (Galaxie)
907	Franco Rock-Relax (Max Trax)	930	Baroque (Galaxie)
908	Rock and Roll (Max Trax)	931	Classical Masterworks (Max Trax)
909	70s Hits (Max Trax)	932	World (Galaxie)
910	The 80s (Galaxie)	933	Smooth Jazz (Max Trax)
911	Gold Rock (Galaxie)	934	Jazz Now/Jazz Actuel (Galaxie)
912	Rock (Max Trax)	935	Jazz Masters/G,ants du jazz (Galaxie)
913	Musique Bout'choux (Max Trax)	936	Beautiful Instrumentals (Max Trax)
914	The Edge Alternative (Max Trax)	937	Swingin' Standards (Max Trax)
915	Adult Alternative (Galaxie)	938	Nature (Galaxie)
916	Blues (Max Trax)	939	Mousses Musique (Galaxie)
917	Reggae (Max Trax)	940	Treehouse Kids (Max Trax)
918	Folk Roots (Galaxie)		

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### Satelites Mexicanos Morelos 2 - C-Band

109.1 degrees West longitude

NORAD: 16274

Satellite Type: Boeing Satellite Systems BSS-376

Launched: November 27, 1985 (Shuttle - STS-61B)

Transponder Power: 6 transponders (72 Mhz wide) - 10.5 watts each

12 transponders (36 Mhz wide) - 7.5 watts each

Tr.	Downlink Freq in MHz
-----	-------------------------

1W/L(H)	3720
1N(V)	3740
1W/U(H)	3760
2N(V)	3780
2W/L(H)	3800
3N(V)	3820
2W/U(H)	3840
4N(V)	3860
3W/L(H)	3880
5N(V)	3900
3W/U(H)	3920
6N(V)	3940
4W/L(H)	3960
7N(V)	3980
4W/U(H)	4000
8N(V)	4020
5W/L(H)	4040
9N(V)	4060
5W/U(H)	4080
10N(V)	4100
6W/L(H)	4120
11N(V)	4140
6W/U(H)	4160
12N(V)	4180

- This satellite operates in an inclined orbit

(no video seen)

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**Satelites Mexicanos Morelos 2 - Ku-Band**

109.1 degrees West longitude

NORAD: 16274

Satellite Type: Boeing Satellite Systems BSS-376

Launched: November 27, 1985 (Shuttle - STS-61B)

Transponder Power: 4 transponders - 20 watts each

Tr.        Downlink Freq  
              in MHz

T01K(H)     11764

T02K(H)     11888

T03K(H)     12012

T04K(H)     12136

- This satellite operates in an inclined orbit

(no video seen)

-----  
**Echostar DISH Network Echostar-5 - Ku-band**

110.1 degrees West longitude

NORAD: 25913

Satellite Type: Space Systems/Loral FS-1300

Launched: September 23, 1999 (ILS Atlas IIAS)

Transponder Power: 32 transponders - 110 watts each

**Echostar DISH Network Echostar-8 - Ku-band**

110.0 degrees West longitude

NORAD: 27501

Satellite Type: Space Systems/Loral FS-1300

Launched: August 22, 2002 (ILS Proton-K / Blok DM3)

Transponder Power: 32 transponders - 120 watts each

Tr.        Downlink Freq  
              in MHz

1            12224

2            12239

3            12253

4            12268

5            12282

6            12297

7            12311

8            12326

9            12341

10           12355

11	12370
12	12384
13	12399
14	12414
15	12428
16	12443
17	12457
18	12472
19	12486
20	12501
21	12516
22	12530
23	12545
24	12559
25	12574
26	12588
27	12603
28	12618
29	12632
30	12647
31	12661
32	12676

All DISH Network services are delivered by digital video compression using a Divicom MPEG 2 compression scheme.

DISH Network uses some transponders in this DBS orbital location to deliver programming. For a channel listing, see DISH Network at 119 degrees West longitude.

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**DirecTV DirecTV-1 - Ku-band**

109.8 degrees West longitude  
 NORAD: 22930  
 Satellite Type: Boeing Space Systems BSS-601  
 Launched: December 18, 1993 (Ariane 44L)  
 Transponder Power: 16 transponders - 120 watts each

DirecTV uses some transponders in this DBS orbital location to deliver programming. See the main DirecTV listings at 101 degrees West longitude.

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**TeleSat Canada Anik E2 - C-Band**

111.1 degrees West longitude  
 NORAD: 21222  
 Satellite Type: GE 5000  
 Launched: April 4, 1991 (Ariane 44P)  
 Transponder Power: 24 transponders - 11.5 watts each

Tr.	Downlink Freq in MHz
1A(H)	3720

1B(V)	3740
2A(H)	3760
2B(V)	3780
3A(H)	3800
3B(V)	3820
4A(H)	3840
4B(V)	3860
5A(H)	3880
5B(V)	3900
6A(H)	3920
6B(V)	3940
7A(H)	3960
7B(V)	3980
8A(H)	4000
8B(V)	4020
9A(H)	4040
9B(V)	4060
10A(H)	4080
10B(V)	4100
11A(H)	4120
11B(V)	4140
12A(H)	4160
12B(V)	4180

- 1 (Inactive)
- 2 Occasional video
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Data Transmissions
- 6 Occasional video
- 7 Data Transmissions
- 8 Data Transmissions
- 9 Data Transmissions
- 10 Data Transmissions
- 11 Occasional video
- 12 Occasional video
- 13 (Inactive)
- 14 Occasional video
- 15 Occasional video
- 16 Occasional video
- 17 (Inactive)
- 18 (Inactive)
- 19 Data Transmissions
- 20 Data Transmissions
- 21 Data Transmissions
  - SCPC Audio Services
    - 1036.70 63.30 Wal-Mart In-store Network (Canada)
    - 1037.00 63.00 Wal-Mart In-store Network (Canada)
    - 1037.50 62.50 Wal-Mart In-store Network (Canada)
- 22 Data Transmissions
- 23 (Inactive)
- 24 (Inactive)

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## Telesat Canada Anik E2 - Ku-Band

111.1 degrees West longitude

NORAD: 21222

Satellite Type: GE 5000

Launched: April 4, 1991 (Ariane 44P)

Transponder Power: 32 transponders - 50 watts each

Tr.	Downlink Freq in MHz	
T01(V)	11717	(National beam)
T02(V)	11743	(National beam)
T03(V)	11778	(National beam)
T04(V)	11804	(National beam)
T05(V)	11839	(National beam)
T06(V)	11865	(National beam)
T07(V)	11900	(National beam)
T08(V)	11926	(National beam)
T09(V)	11961	(Western beam)
T10(V)	11987	(Western beam)
T11(V)	12022	(Western beam)
T12(V)	12048	(Western beam)
T13(V)	12083	(Western beam)
T14(V)	12109	(Western beam)
T15(V)	12144	(Western beam)
T16(V)	12170	(Western beam)
T17(H)	11730	(National beam)
T18(H)	11756	(National beam)
T19(H)	11791	(National beam)
T20(H)	11817	(National beam)
T21(H)	11852	(Eastern beam)
T22(H)	11878	(Eastern beam)
T23(H)	11913	(Eastern beam)
T24(H)	11939	(Eastern beam)
T25(H)	11974	(Eastern beam)
T26(H)	12000	(Eastern beam)
T27(H)	12035	(Eastern beam)
T28(H)	12061	(Eastern beam)
T29(H)	12096	(Eastern beam)
T30(H)	12122	(Eastern beam)
T31(H)	12157	(Eastern beam)
T32(H)	12183	(Eastern beam)

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Data Transmissions
- 6 Occasional video
- 7 Occasional video
- 8 Novanet (digital)
- 9 Saskatchewan Communications Network (SCN) (digital)
- 10 Star Choice DBS (digital)
- 11 Star Choice DBS (digital)
- 12 Star Choice DBS (digital)

- 13 Star Choice DBS (digital)
- 14 Star Choice DBS (digital)
- 15 Ground Loop Altitude Control System (digital)
- 16 Star Choice DBS (digital)
- 17 Data Transmissions
- 18 Data Transmissions
- 19 Data Transmissions
- 20 Data Transmissions
- 21 Star Choice DBS (digital)
- 22 Star Choice DBS (digital)
- 23 Data Transmissions
- 24 Data Transmissions
- 25 Star Choice DBS (digital)
- 26 Star Choice DBS (digital)
- 27 Star Choice DBS (digital)
- 28 Star Choice DBS (digital)
- 29 Star Choice DBS (digital)
- 30 Ground Loop Altitude Control System (digital)
- 31 Star Choice DBS (digital)
- 32 Star Choice DBS (digital)

Please see the Star Choice DBS listings on Anik F1 Ku-band at 107.3 degrees West longitude.

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### **Satelites Mexicanos Solidaridad 2 - C-Band**

113 degrees West longitude

NORAD: 23313

Satellite Type: Boeing Space Systems BSS-601

Launched: October 7, 1994 (Ariane 44L)

Transponder Power: 6 transponders (72 Mhz wide) - 16 to 18 watts each  
 12 transponders (36 Mhz wide) - 16 to 18 watts each

Tr.    Downlink Freq  
           in MHz

- 1N(V)    3720
- 1W/L(H) 3740
- 2N(V)    3760
- 1W/U(H) 3780
- 3N(V)    3800
- 2W/L(H) 3820
- 4N(V)    3840
- 2W/U(H) 3860
- 5N(V)    3880
- 3W/L(H) 3900
- 6N(V)    3920
- 3W/U(H) 3940
- 7N(H)    3960
- 4W/L(H) 3980
- 8N(V)    4000
- 4W/U(H) 4020
- 9N(V)    4040
- 5W/L(H) 4060

10N(V) 4080  
5W/U(H) 4100  
11N(V) 4120  
6W/L(U) 4140  
12N(V) 4160  
6W/U(H) 4180

1N Data Transmissions  
1W/L Data Transmissions  
2N Data Transmissions  
    XEWH-TV 6 Hermosillo (digital)  
    Radio Sonora (digital)  
1W/U Data Transmissions  
    TeleMichoacan (digital)  
3N Edusat (digital)  
2W/L Data Transmissions  
4N Data Transmissions  
    TV Mas (digital)  
    Radio Mas Veracruz (digital)  
    Television Tabasquena (digital)  
2W/U Data Transmissions  
    RGT (digital)  
    Television Mexiquense (digital)  
    Radio Mexiquense (digital)  
5N (none)  
3W/L Data Transmissions  
    Canal 9 Oaxaca (digital)  
    "La Radio que une a Oaxaca" (digital)  
6N Data Transmissions  
    Canal 7 - Quintana Roo (digital)  
3W/U Data Transmissions  
    TV Azteca (digital)  
        Canal 7 XHIMT-TV  
        Canal 13 XHDF-TV  
7N (none)  
4W/L Data Transmissions  
8N Data Transmissions  
4W/U Data Transmissions  
8N MVS Television Empresarial (digital)  
5W/L Data Transmissions  
10N Data Transmissions  
5W/U Data Transmissions  
11N (none)  
6W/L (none)  
12N Data Transmissions  
6W/U Data Transmissions  
    Hidalgo TV (digital)  
    Radio Hidalgo (digital)  
    TV Nuevo Leon (digital)  
    Occasional video services (digital)

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**Satelites Mexicanos Solidaridad 2 - Ku-band**  
113 degrees West longitude

NORAD: 23313

Satellite Type: Boeing Space Systems BSS-601

Launched: October 7, 1994 (Ariane 44L)

Transponder Power: 16 Ku-band transponders - 42.5 watts each

Tr.            Downlink Freq  
                  in MHz

T01(H)	11730
T02(H)	11791
T03(H)	11852
T04(H)	11913
T05(H)	11974
T06(H)	12035
T07(H)	12096
T08(H)	12157
T09(V)	11743
T10(V)	11804
T11(V)	11865
T12(V)	11926
T13(V)	11987
T14(V)	12048
T15(V)	12109
T16(V)	12170

1 (none)  
2 (none)  
3 (none)  
4 (none)  
5 Data Transmissions  
6 (none)  
7 (none)  
8 (none)  
9 (none)  
10 Data Transmissions  
11 Data Transmissions  
12 Data Transmissions  
13 Data Transmissions  
14 Data Transmissions  
15 Data Transmissions  
16 Data Transmissions

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**XM Satellite Radio XM-2 ("Rock") - S-Band**

115 degrees West longitude

NORAD: 26724

Satellite Type: Boeing Space Systems BSS-702

Launched: March 18, 2001 (Sea Launch Zenit-3SL)

Transponder Power: 2 Transponders

Each Transponder uses 16 TWTAs - 228 watts each

XM Satellite Radio uses the Digital Audio Radio Service (DARS)  
band of 2332.50 MHz to 2345.00 MHz

Transponder 1: 2333.46 MHz  
Transponder 2: 2342.20 MHz  
Terrestrial "transponder": 2337.48 MHz

For the XM Satellite Radio channel listing, see the entry for XM-1 "Roll" at 85 degrees West longitude.

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**Satelites Mexicanos SATMEX-5 - C-band**

116.8 degrees West longitude  
NORAD: 25558  
Satellite Type: Boeing Space Systems BSS-601 HP  
Launched: December 6, 1998 (Ariane 42L)  
Transponder Power: 24 transponders - 36 watts each

Tr.    Downlink Freq  
      in MHz

1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780
5(V)	3800
6(H)	3820
7(V)	3840
8(H)	3860
9(V)	3880
10(H)	3900
11(V)	3920
12(H)	3940
13(V)	3960
14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160
24(H)	4180

1	Data Transmissions
2	Data Transmissions
3	Data Transmissions
4	Data Transmissions
5	(none)
6	Data Transmissions
7	Data Transmissions
8	Data Transmissions
9	Data Transmissions
10	Data Transmissions
11	Data Transmissions

- 12 Occasional video
- 13 Data Transmissions
- 14 Data Transmissions
- 15 Data Transmissions
- 16 Television Por Cable (PCTV) (digital)
- 17 Data Transmissions
  - XHAW-TV 12 Monterrey (digital)
- 18 Mexico Government services
  - Canal del Congreso
  - XEIPN-TV Canal Once
  - Gobierno de la Republica
  - Occasional video services
- 19 Data Transmissions
- 20 Data Transmissions
  - Horse Racing (digital) (occ)
  - Guatlevision (digital)
- 21 MVS Television Empresarial (digital)
- 22 Data Transmissions
- 23 Data Transmissions
- 24 Edusat (digital)

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**Satellites Mexicanos SATMEX-5 - Ku-Band**

116.8 degrees West longitude

NORAD: 25558

Satellite Type: Boeing Space Systems BSS-601 HP

Launched: December 6, 1998 (Ariane 42L)

Transponder Power: 24 transponders - 132.5 watts each

Tr.	Downlink Freq in MHz
1(H)	11720
2(V)	11740
3(H)	11760
4(V)	11780
5(H)	11800
6(V)	11820
7(H)	11840
8(V)	11860
9(H)	11880
10(V)	11900
11(H)	11920
12(V)	11940
13(H)	11960
14(V)	11980
15(H)	12000
16(V)	12020
17(H)	12040
18(V)	12060
19(H)	12080
20(V)	12100
21(H)	12120
22(V)	12140

23(H) 12160  
24(V) 12180

1 Data Transmissions  
2 (none)  
3 Data Transmissions  
4 Data Transmissions  
5 Data Transmissions  
6 (none)  
7 Data Transmissions  
8 Data Transmissions  
9 Data Transmissions  
10 Data Transmissions  
11 Data Transmissions  
12 Data Transmissions  
13 Data Transmissions  
14 Data Transmissions  
15 Data Transmissions  
16 Data Transmissions  
17 Data Transmissions  
18 Data Transmissions  
19 Data Transmissions  
Chinese TV Network / Tzu Chi / CCTV-4 (digital)  
20 Data Transmissions  
21 Data Transmissions  
22 Data Transmissions  
23 Data Transmissions  
24 Data Transmissions  
Sistema Tecnologico de Monterrey - Campus Estado de Mexico (digital)  
Universidad Virtual Empresarial (digital)

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### **Telesat Canada Anik E1 - C-Band**

118.7 degrees West longitude

NORAD: 21726

Satellite Type: GE 5000

Launched: September 26, 1991 (Ariane 44P)

Transponder Power: 24 transponders - 11.5 watts each

Tr. Downlink Freq  
in MHz

1A(H) 3720  
1B(V) 3740  
2A(H) 3760  
2B(V) 3780  
3A(H) 3800  
3B(V) 3820  
4A(H) 3840  
4B(V) 3860  
5A(H) 3880  
5B(V) 3900  
6A(H) 3920  
6B(V) 3940

7A(H)	3960
7B(V)	3980
8A(H)	4000
8B(V)	4020
9A(H)	4040
9B(V)	4060
10A(H)	4080
10B(V)	4100
11A(H)	4120
11B(V)	4140
12A(H)	4160
12B(V)	4180

1 (Inactive)  
 2 (Inactive)  
 3 (Inactive)  
 4 (Inactive)  
 5 (Inactive)  
 6 (Inactive)  
 7 (Inactive)  
 8 (Inactive)  
 9 (Inactive)  
 10 (Inactive)  
 11 (Inactive)  
 12 (Inactive)  
 13 (Inactive)  
 14 Occasional video  
 15 (Inactive)  
 16 (Inactive)  
 17 Virginia Educational Satellite Network (VESN) (occ)  
 18 (Inactive)  
 19 Virginia Educational Satellite Network (VESN) (occ)  
 20 (Inactive)  
 21 (Inactive)  
 22 (Inactive)  
 23 Virginia Educational Satellite Network (VESN) (occ)  
 24 (Inactive)

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### Telesat Canada Anik E1 - Ku-Band

118.7 degrees West longitude

NORAD: 21726

Satellite Type: GE 5000

Launched: September 26, 1991 (Ariane 44P)

Transponder Power: 32 transponders - 50 watts each

Tr.	Downlink Freq in MHz
-----	-------------------------

T01(V)	11717
T02(V)	11743
T03(V)	11778
T04(V)	11804
T05(V)	11839



T06(V)	11865
T07(V)	11900
T08(V)	11926
T09(V)	11961
T10(V)	11987
T11(V)	12022
T12(V)	12048
T13(V)	12083
T14(V)	12109
T15(V)	12144
T16(V)	12170
T17(H)	11730
T18(H)	11756
T19(H)	11791
T20(H)	11817
T21(H)	11852
T22(H)	11878
T23(H)	11913
T24(H)	11939
T25(H)	11974
T26(H)	12000
T27(H)	12035
T28(H)	12061
T29(H)	12096
T30(H)	12122
T31(H)	12157
T32(H)	12183

1 KTEL-TV 25 Carlsbad, NM - Telemundo (digital)  
WYDN-TV 48 Worcester, MA - Daystar (digital)

2 (none)

3 (Inactive)

4 (Inactive)

5 Data Transmissions

6 (none)

7 (none)

8 (none)

9 (Inactive)

10 (Inactive)

11 (Inactive)

12 (Inactive)

13 (Inactive)

14 (Inactive)

15 (Inactive)

16 (Inactive)

17 (Inactive)

18 (Inactive)

19 Occasional video

20 Occasional video

21 (Inactive)

22 (Inactive)

23 (Inactive)

24 (Inactive)

25 Equity Broadcasting Corp. (digital)

26 Equity Broadcasting Corp. (digital)

27 (Inactive)  
28 (Inactive)  
29 (none)  
30 Data Transmissions  
31 (Inactive)  
32 (Inactive)

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**Echostar DISH Network Echostar-4 - Ku-band**

119.3 degrees West longitude  
NORAD: 25331  
Satellite Type: Lockheed Martin A2100 AX  
Launched: May 7, 1998 (ILS Proton K- Blok DM3)  
Transponder Power: 32 transponders - 120 watts each

**Echostar DISH Network Echostar-6 - Ku-band**

119.00 degrees West longitude  
NORAD: 27378  
Satellite Type: Lockheed Martin  
Launched: July 14, 2000 (ILS Atlas IIAS)  
Transponder Power: 32 transponders - 125 watts each

**Echostar DISH Network Echostar-7 - Ku-band**

118.7 degrees West longitude  
NORAD: 27378  
Satellite Type: Lockheed Martin A2100 AX  
Launched: February 21, 2002 (ILS Atlas IIIB)  
Transponder Power: 32 transponders - 120 watts each

Tr.        Downlink Freq  
              in MHz

1	12224
2	12239
3	12253
4	12268
5	12282
6	12297
7	12311
8	12326
9	12341
10	12355
11	12370
12	12384
13	12399
14	12414
15	12428
16	12443
17	12457
18	12472
19	12486
20	12501
21	12516
22	12530

23	12545
24	12559
25	12574
26	12588
27	12603
28	12618
29	12632
30	12647
31	12661
32	12676

All DISH Network services are delivered by digital video compression using a Divicom MPEG 2 compression scheme.

## DISH Network uses 21 transponders in this DBS orbital location to deliver Programming

101 Dish Network Info	173 The Disney Channel (West)
103 Dish Network PPV Promos	174 Toon Disney
105 USA Network	175 Boomerang
106 TV Land	176 Cartoon Network
107 Comedy Central	177 Nick GAS (Games and Sports)
108 Lifetime	178 The Learning Channel
109 Lifetime Movie Network	179 Discovery Kids
110 Food Network	180 ABC Family
111 Do It Yourself Network	181 Pax TV
112 Home & Garden TV	182 Discovery Channel
114 Entertainment TV	184 Animal Planet
115 Style	185 Hallmark Channel
116 Game Show Network	186 National Geographic Channel
118 Arts & Entertainment	188 Soap Net
119 A&E Biography	189 Discovery Health
120 The History Channel	191 Tech TV
121 History International	192 Discovery Civilization
122 Sci-Fi Channel	193 The Science Channel
124 Black Entertainment TV	194 Discovery Home & Leisure
128 Women's Entertainment	195 Discovery Wings Channel
129 Bravo	200 Cable News Network
130 American Movie Classics	202 Headline News Network
131 Independent Film Channel	203 Bloomberg TV
132 Turner Classic Movies	204 Court TV
133 Fox Movies	205 Fox News Channel
135 BBC America	206 CNNfn & CNN International
137 fX	208 CNBC
138 Turner Network TV	209 MSNBC
139 DISH Network PPV Promos	210 C-SPAN (House of Rep.)
140 ESPN	212 C-SPAN 2 (Senate)
142 ESPNNews	213 NASA Television
143 ESPN Classic	214 The Weather Channel
144 ESPN 2	217 Gems Shopping Channel
145 ESPN Alternate	220 The Travel Channel
146 ESPN 2 Alternate	222 Home Shopping Network
149 Fox Sports World	223 The Men's Channel
150 The Speed Channel	224 Shop at Home
151 Outdoor Life	225 The Beauty and Fashion Channel
153 The Outdoor Channel	226 QVC Channel
158 Much Music USA	227 America's Collectibles Network
160 Music Television	228 Shop NBC
161 Music Television 2	229 iShop
162 Video Hits-One	230 TBS Superstation
163 VH-1 Classic	232 KTLA-TV WB Los Angeles
166 Country Music TV	234 WPIX-TV WB New York
167 Great American Country	235 KWGN-TV WB Denver
168 The National Network	236 WSBK-TV UPN Boston
169 Noggin The N	237 WNET-TV PBS New York
170 Nickelodeon/Nick at Nite (East)	238 WWOR-TV UPN Secaucus
171 Nickelodeon/Nick at Nite (West)	239 WGN Superstation
172 The Disney Channel (East)	241 WNBC-TV NBC New York

242	KNBC-TV NBC Los Angeles	434	New England Sports Network
243	WCBS-TV CBS New York	435	Fox Sports New England
244	KCBS-TV CBS Los Angeles	436	Fox Sports North
245	WABC-TV ABC New York	437	Turner South
246	KABC-TV ABC Los Angeles	446	Sports Alternate 1
247	WNYW-TV Fox New York	447	Sports Alternate 2
248	KTTV-TV Fox Los Angeles	448	Sports Alternate 3
249	PBS National feed	449	Sports Alternate 4
260	Trinity Broadcasting Network	450	Dish Network PPV Promos
261	Eternal Word TV Net	455	PPV Events
262	Sky Angel One	456	PPV Sports
264	Wisdom Television	457	PPV Sports
270	Univision	458	PPV Sports
272	Galavision	459	PPV Sports
300	Home Box Office (East)	460	PPV Sports
301	Home Box Office 2 (East)	461	PPV Sports
302	Home Box Office Signature	462	PPV Sports
303	Home Box Office (West)	463	PPV Sports
304	Home Box Office 2 (West)	464	PPV Sports
305	Home Box Office Family	465	PPV Sports
307	Home Box Office Comedy	491	Adult Guard Promo
309	Home Box Office Latino	492	Hot Zone
310	Cinemax (East)	493	The Hot Zone
311	Cinemax (West)	494	ETC -- Erotic Television Clips
312	MoreMax	495	TEN - The Erotic Network
318	Showtime (East)	496	Extasy
319	Showtime (West)	497	Playboy TV
320	Showtime Too	498	Playboy En Español
321	Showtime Showcase	500	Dish Network PPV Promos
322	Showtime Extreme	502	DISH-on-Demand PPV
323	Showtime Beyond	503	DISH-on-Demand PPV
327	The Movie Channel (East)	504	DISH-on-Demand PPV
328	The Movie Channel Xtra (East)	505	DISH-on-Demand PPV
329	The Movie Channel (West)	506	DISH-on-Demand PPV
330	The Movie Channel Xtra (West)	507	DISH-on-Demand PPV
332	Sundance Channel	508	DISH-on-Demand PPV
333	Flix	509	DISH-on-Demand PPV
340	Encore (East)	510	DISH-on-Demand PPV
341	Encore (West)	511	DISH-on-Demand PPV
342	Encore Westerns	512	DISH-on-Demand PPV
343	Encore Action!	513	DISH-on-Demand PPV
344	Encore Mystery	514	DISH-on-Demand PPV
345	Encore True Stories	515	DISH-on-Demand PPV
346	Encore Love Stories	516	DISH-on-Demand PPV
347	Encore WAM!	517	DISH-on-Demand PPV
350	Starz! (East)	518	DISH-on-Demand PPV
351	Starz! (West)	519	DISH-on-Demand PPV
352	Starz! Theater	520	DISH-on-Demand PPV
353	Starz Cinema (East)	521	DISH-on-Demand PPV
354	Starz! Cinema (West)	522	DISH-on-Demand PPV
355	Black Starz!	523	DISH-on-Demand PPV
356	Starz! Family	524	DISH-on-Demand PPV
401	The Golf Channel	525	DISH-on-Demand PPV
405	TV Games Network	533	DISH-on-Demand PPV
411	Fox Sports West 2	536	DISH-on-Demand PPV
412	MSG - Madison Square Garden Network	537	PPV Sports
413	Fox Sports New York	538	PPV Events
414	Fox Sports Rocky Mountain	580	Dish International Promo
415	Fox Sports Arizona	581	Phoenix Chinese North America
416	Fox Sports Southwest	582	CCTV4
417	Fox Sports West	587	Asia TV
418	Fox Sports Midwest	589	Soccer and Cricket PPV
419	Fox Sports Bay Area	592	NTV International
420	Fox Sports South	593	NTV Plus
421	Fox Sports Chicago	596	TV Globo Internacional
422	Sunshine Network	597	Record Internacional
423	Fox Sports Florida	600	RAI International
424	Comcast Sports Network-Mid Atlantic	602	Mega Cosmos
425	Fox Sports Ohio	603	Elliniki Radiophonia Tileorassi (ERT)
426	Fox Sports Northwest	605	Antenna Satellite (Greece)
427	Fox Sports Cincinnati	606	TV5
428	Fox Sports Pittsburgh	607	PolSat 2
430	Fox Sports Detroit	609	TVN 24
432	Empire Sports Network	611	Zee TV

613 TV Asia	948 Dish Music: Destinations
614 Sony Entertainment TV (Hindi)	949 Dish Music: Muzak 2
615 RTP Internacional	950 Dish CD: New Country
616 Prime TV	951 Dish CD: Country Classics
617 Zee Gold	952 Dish CD: Country Currents
619 B4U	953 Dish CD: Jukebox Gold
620 Telemundo	954 Dish CD: 70s Songbook
621 Discovery en Español	955 Dish CD: Adult Favorites
622 MUN2	956 Dish CD: Adult Contemporary
623 TV Espanola (TVE) Internacional	957 Dish CD: Adult Alternative
624 XHDF-TV 13, TV Azteca, Mexico City	958 Dish CD: Hot Hits
625 TV Chile	959 Dish CD: Classic Rock
627 Canal Sur	960 Dish CD: Modern Rock Alternative
628 Fox Sports World Español	961 Dish CD: Power Rock
629 HTV	962 Dish CD: Non-Stop Hip Hop
630 Music Television-Español	963 Dish CD: Urban Beat
631 Cine Latino	964 Dish CD: Latin Styles
632 Gran Canal Latino	965 Dish CD: Fiesta Mexicana
633 CNN Español	966 Dish CD: EuroStyle
634 Dish Music: Viva Mariachi	967 Dish CD: Jazz Traditions
635 Dish CD: Fiesta Mexicana	968 Dish CD: Contemporary Jazz Flavors
636 Dish CD: Latin Styles	969 Dish CD: Accoustic Crossroads
637 Dish Music: Miami Mix	970 Dish CD: Contemporary Instrumentals
638 Dish Music: Tejano	971 Dish CD: Concert Classics
639 Dish Music: Latino Pop	972 Dish CD: Light Classical
640 TV Japan	973 Dish CD: Easy Instrumentals
642 Art America	974 Dish CD: Big Band Era
643 Art Movies	975 Dish CD: Contemporary Christian
644 LBC America	976 Dish CD: Kid Tunes
645 Al Jazeera Satellite Channel	977 Dish CD: New Age
646 Egyptian Satellite Channel 1	978 Dish CD: Blues
647 Nile Drama (Egypt)	979 Dish CD: Reggae
648 Future TV (Lebanon)	980 Dish CD: Latter Day Saints Radio Net.
649 Emirates Dubai TV	981 Dish CD: Hawaiian Music
653 Arirang TV (Korea)	999 DISH Network Retailer Channel
655 Radio Maria (Spanish)	9400 Research Channel
656 The Israeli Network	9401 Hispanic Info & Telecomm. Net.
658 Radio Maria (Italian)	9402 PBS You
660 Radio France International	9403 Brigham Young Univ. TV
664 Radio Maryja (Polish)	9404 University of Washington TV
665 Al Zikr (Qatar)	9405 Calif. Community Colleges Sat. Net.
669 Art Music Radio	9406 StarNet
678 Beste Van Nederland (BVN)	9407 Colours TV
690 iShop	9409 RFD-TV
691 Shop at Home	9410 WorldLink TV
917 Busch Satellite Network	9411 N. Arizona University House
920 Dish Music: Environmental (East)	9412 University of California TV
921 Dish Music: Reflections	9413 Educating Everyone
922 Dish Music: Foreground Music One	9415 Free Speech TV
923 Dish Music: Hitline	9416 Good Samaritan Network
924 Dish Music: Hot FM	9417 Safety Net
925 Dish Music: Expressions	9418 Florida Education Channel
926 Dish Music: Love Songs	9420 Discovery Channel HDTV
927 Dish Music: All that Jazz	9428 HD-Pay Per View
928 Dish Music: Moodscares	9430 Showtime HDTV
929 Dish Music: New Orleans	9440 HBO HDTV
930 Dish Music: Piano and Guitar	9443 Dish HDTV Demo Channel
931 Dish Music: Classical Ambience	9453 WCBS-DT 56 (CBS - New York)
932 Dish Music: Metro	9454 KCBS-DT 60 (CBS - Los Angeles)
933 Dish Music: 50s and 60s Hits	9601 Business TV
934 Dish Music: 70s Hits	9602 Business TV
935 Dish Music: 80s Hits	9611 Business TV
936 Dish Music: Beach Party	9612 Business TV
937 Dish Music: Country Music One	9621 Business TV
938 Dish Music: Urban Adult	9622 Business TV
939 Dish Music: R & B Revue	9623 Business TV
940 Dish Music: Latino Pop	9641 Business TV
941 Dish Music: Viva Mariachi	9650 Business TV
942 Dish Music: Tejano	9651 Business TV
943 Dish Music: Miami Mix	9692 Rock300 Bowling Radio
944 Dish Music: Italia	
945 Dish Music: Troical Breezes	
946 Dish Music: Broadway and Hollywood	
947 Dish Music: Muzak audio channel 20	

LOCAL CHANNELS

Albuquerque/Santa Fe, NM

ABC-KOAT 7  
CBS-KRQE 13  
FOX-KASA 2  
NBC-KOB 4  
PBS-KNME 5  
UPN-KASY 50  
WB-KWBQ 19  
RELIGIOUS-KCHF 11  
RELIGIOUS-KAZQ 32  
UNIVISION-KLUZ 41  
TELEMUNDO-KTEL 25

Atlanta, GA

ABC-WSB 2  
CBS-WGCL 46  
FOX-WAGA 5  
NBC-WXIA 11  
PBS-WGTV 8  
UPN-WUPA 69  
WB-WATL 36  
PBS-WPBA 30  
RELIGIOUS-WATC 57  
UNIVISION-WUVG 34

Austin, TX

ABC-KVUE 24  
CBS-KEYE 42  
FOX-KTBC 7  
NBC-KXAN 36  
PBS-KLRU 18  
WB-KNVA 54

Birmingham, AL

ABC-WJSU 40  
CBS-WIAT 42  
FOX-WBRC 6  
NBC-WVTM 13  
PBS-WBIQ 10  
UPN-WABM 68  
WB-WTTO 21

Boston, MA

ABC-WCVB 5  
CBS-WBZ 4  
FOX-WFXT 25  
NBC-WHDH 7  
PBS-WGBH 2  
UPN-WSBK 38  
WB-WLVI 56  
INDEPENDENT-WNDS 50  
RELIGIOUS-WYDN 48  
PBS-WGBX 44  
TELEFUTURA-WUTF 66  
UNIVISION-WUNI 27

Burlington, VT / Plattsburgh, NY

ABC-WVNY 22  
CBS-WCAX 3  
FOX-WFFF 44  
NBC-WPTZ 5  
NBC-WNNE 31  
PBS-WCFE 57  
PBS-WETK 33

Charlotte, NC

ABC-WSOC 9  
CBS-WBTB 3  
FOX-WCCB 18  
INDEPENDENT-WAXN 64  
NBC-WCNC 36  
PBS-WTVI 42  
PBS-WUNC 4  
PBS-WNSC 30

UPN-WJZY 46  
WB-WWWB 55

Chicago, IL

ABC-WLS 7  
CBS-WBBM 2  
FOX-WFLD 32  
NBC-WMAQ 5  
PBS-WTTW 11  
UPN-WPWR 50  
WB-WGN 9  
RELIGIOUS-WJYS 62  
PBS-WYCC 20  
TELEFUTURA-WXFT 60  
TELEMUNDO-WSNS 44  
UNIVISION-WGBO 66  
PBS-WYIN 56

Cincinnati, OH

ABC-WCPO 9  
CBS-WKRC 12  
FOX-WXIX 19  
NBC-WLWT 5  
PBS-WCET 48  
WB-WSTR 64  
PBS-WCVN 54  
PBS-WPTO 14

Cleveland, OH

ABC-WEWS 5  
CBS-WOIO 19  
FOX-WJW 8  
NBC-WKYC 3  
PBS-WVIZ 25  
UPN-WUAB 43  
WB-WBNX 55  
PBS-WEAO 49  
UNIVISION-WQHS 61  
INDEPENDENT-WMFD 68  
PBS-WEAO 49

Dallas/Fort Worth, TX

ABC-WFAA 8  
CBS-KTVT 11  
FOX-KDFW 4  
INDEPENDENT-KDFI 27  
NBC-KXAS 5  
PBS-KERA 13  
UPN-KTXA 21  
WB-KDAF 33  
RELIGIOUS-KMPX 29  
PBS-KDTN 2  
TELEFUTURA-KSTR 49  
TELEMUNDO-KFWD 52  
TELEMUNDO-KXTX 39  
UNIVISION-KUVN 23  
HOME SHOPPING-KLDT 55

Denver, CO

ABC-KMGH 7  
CBS-KCNC 4  
FOX-KDVR 31  
NBC-KUSA 9  
PBS-KRMA 6  
UPN-KTVD 20  
WB-KWGN 2  
HOME SHOPPING NETWORK-KTVJ 14  
RELIGIOUS-KRMT 41  
HOME SHOPPING-KDEN 25  
RELIGIOUS-KWHD 53  
PBS-KBDI 12  
TELEMUNDO-KMAS 24  
UNIVISION-KCEC 50

Detroit, MI  
ABC-WXYZ 7  
CBS-WWJ 62  
FOX-WJBK 2  
NBC-WDIV 4  
PBS-WTVS 56  
UPN-WKBD 50  
WB-WDWB 20  
RELIGIOUS-WADL 38

Fresno, CA  
ABC-KFSN 30  
NBC-KSEE 24  
PBS-KVPT 18  
UPN-KAIL 53  
TELEMUNDO-KNSO 51  
UNIVISION-KFTV 21

Grand Rapids/Kalamazoo/Battle Creek, MI  
ABC-WOTV 41  
ABC-WZZM 13  
CBS-WWMT 3  
FOX-WXMI 17  
RELIGIOUS-WTLJ 54  
NBC-WOOD 8  
PBS-WGVU 35  
PAX-WZPX 43  
RELIGIOUS-WLLA 64

Greenville/Spartanburg, SC  
ABC-WLOS 13  
CBS-WSPA 7  
FOX-WHNS 21  
NBC-WYFF 4  
PBS-WUNC 4  
UPN-WASV 62  
WB-WBSC 40  
RELIGIOUS-WGGS 16  
PBS-WNTV 29

Honolulu, HI  
ABC-KITV 4  
CBS-KGMB 9  
RELIGIOUS-KWHE 14  
INTERNATIONAL-KIKU 20  
INTERNATIONAL-KBFD 32  
NBC-KHNL 13  
PBS-KHET 11  
WB-KFVE 5

Houston, TX  
ABC-KTRK 13  
CBS-KHOU 11  
FOX-KRIV 26  
NBC-KPRC 2  
PBS-KUHT 8  
UPN-KTXH 20  
WB-KHWB 39  
AZTECA-KAZH 57  
RELIGIOUS-KLTJ 22  
INDEPENDENT-KTBU 55  
INDEPENDENT-KZJL 61  
TELEFUTURA-KFTH 67  
TELEMUNDO-KTMD 48  
UNIVISION-KXLN 45  
UNIVISION-KAKW 62  
INDEPENDENT-KNWS 51

Indianapolis, IN  
ABC-WRTV 6  
CBS-WISH 8  
FOX-WXIN 59  
NBC-WTHR 13  
PBS-WFYI 20

UPN-WNDY 23  
WB-WTTV 4  
RELIGIOUS-WHMB 40  
PBS-WTBU 69

Kansas City, MO  
ABC-KMBC 9  
CBS-KCTV 5  
FOX-WDAF 4  
INDEPENDENT-KMCI 38  
NBC-KSHB 41  
PBS-KCPT 19  
UPN-KCWE 29  
WB-KSMO 62

Los Angeles, CA  
ABC-KABC 7  
CBS-KCBS 2  
FOX-KTTV 11  
INDEPENDENT-KCAL 9  
NBC-KNBC 4  
PBS-KCET 28  
UNIVISION-KMEX 34  
UPN-KCOP 13  
WB-KTLA 5  
AZTECA-KAZA 54  
INDEPENDENT-KADY 63  
INDEPENDENT-KJLA 57  
HOME SHOPPING-KRCA 62  
INDEPENDENT-KWHY 22  
INTERNATIONAL-KSCI 18  
HOME SHOPPING-KHIZ 64  
INDEPENDENT-KDOC 56  
INTERNATIONAL-KXLA 44  
RELIGIOUS-KVMD 31  
PBS-KLCS 58  
PBS-KVCR 24  
PBS-KOCE 50  
TELEFUTURA-KFTR 46  
TELEMUNDO-KVEA 52

Miami/Fort Lauderdale, FL  
ABC-WPLG 10  
CBS-WFOR 4  
FOX-WSVN 7  
NBC-WTVJ 6  
PBS-WPBT 2  
TELEMUNDO-WSCV 51  
UNIVISION-WLTV 23  
UPN-WBFS 33  
WB-WBZL 39  
RELIGIOUS-WEYS 22  
PBS-WLRN 17  
TELEFUTURA-WAMI 69

Minneapolis/St. Paul, MN  
ABC-KSTP 5  
CBS-WCCO 4  
FOX-KMSP 9  
INDEPENDENT-KSTC 45  
NBC-KARE 11  
PBS-KTCA 2  
UPN-WFTC 29  
WB-KMWB 23  
PBS-KTCI 17

Nashville, TN  
ABC-WKRN 2  
CBS-WTVF 5  
FOX-WZTV 17  
NBC-WSMV 4  
PBS-WNPT 8  
UPN-WUXP 30  
WB-WNAB 58

HOME SHOPPING-WJFB 66  
RELIGIOUS-WHTN 39  
HOME SHOPPING-WJFB 66

New York City, NY

ABC-WABC 7  
CBS-WCBS 2  
FOX-WNYW 5  
NBC-WNBC 4  
PBS-WNET 13  
UNIVISION-WXTV 41  
UPN-WWOR 9  
WB-WPIX 11  
HOME SHOPPING-WRNN 62  
INDEPENDENT-WLNY 55  
INTERNATIONAL-WMBC 63  
PBS-WNYE 25  
PBS-WNJB 58  
PBS-WLIW 21  
TELEFUTURA-WFTY 67  
TELEMUNDO-WNJU 47

Oklahoma City, OK

ABC-KOCO 5  
CBS-KWTV 9  
WB-KOCB 34  
FOX-KOKH 25  
RELIGIOUS-KSBI 52  
NBC-KFOR 4  
PBS-KETA 13  
UPN-KAUT 43

Orlando/Daytona Beach, FL

ABC-WFTV 9  
CBS-WKMG 6  
FOX-WOFL 35  
INDEPENDENT-WRDQ 27  
NBC-WESH 2  
PBS-WMFE 24  
UPN-WRBW 65  
RELIGIOUS-WACX 55  
RELIGIOUS-WTGL 52  
PBS-WBCC 68  
TELEFUTURA-WOTF 43  
UNIVISION-WVEN 26  
PBS-WBCC 68

Philadelphia, PA

ABC-WPVI 6  
CBS-KYW 3  
FOX-WTXF 29  
NBC-WCAU 10  
PBS-WHYY 12  
UPN-WPSG 57  
WB-WPHL 17  
INDEPENDENT-WWAC 53  
INDEPENDENT-WGTW 48  
RELIGIOUS-WFMZ 69  
PBS-WNJS 23  
PBS-WYBE 35  
TELEMUNDO-WWSI 62  
UNIVISION-WUVP 65

Phoenix, AZ

ABC-KNXV 15  
CBS-KPHO 5  
FOX-KSAZ 10  
INDEPENDENT-KTVK 3  
NBC-KPNX 12  
PBS-KAET 8  
UPN-KUTP 45  
WB-KASW 61  
RELIGIOUS-KDTP 39  
UNIVISION-KTVW 33

HOME SHOPPING-KPHZ 11

Pittsburgh, PA

ABC-WTAE 4  
CBS-KDKA 2  
FOX-WPGH 53  
NBC-WPXI 11  
PBS-WQED 13  
UPN-WNPA 19  
WB-WCWB 22  
RELIGIOUS-WPCB 40  
PBS-WNPB 24

Portland, OR

ABC-KATU 2  
CBS-KOIN 6  
FOX-KPTV 12  
NBC-KGW 8  
PBS-KOPB 10  
UPN-KPDX 49  
WB-KWBP 32

Raleigh/Durham, NC

ABC-WTVD 11  
CBS-WRAL 5  
FOX-WRAZ 50  
NBC-WNCN 17  
PBS-WUNC 4  
UPN-WRDC 28  
WB-WLFL 22

Reno, NV

ABC-KOLO 8  
CBS-KTVN 2  
FOX-KRXI 11  
NBC-KRNV 4  
PBS-KNPB 5  
UPN-KAME 21

Sacramento, CA

ABC-KXTV 10  
CBS-KOVR 13  
FOX-KTXL 40  
NBC-KCRA 3  
PBS-KVIE 6  
UPN-KMAX 31  
WB-KQCA 58  
UNIVISION-KUVS 19

Salt Lake City, UT

ABC-KTVX 4  
CBS-KUTV 2  
FOX-KSTU 13  
INDEPENDENT-KJZZ 14  
RELIGIOUS-KTMW 20  
NBC-KSL 5  
PBS-KULC 9  
PBS-KUED 7  
PBS-KBYU 11  
UPN-KPNZ 24  
WB-KUWB 30  
PAX-KUPX 16

San Antonio, TX

ABC-KSAT 12  
CBS-KENS 5  
FOX-KABB 29  
NBC-KMOL 4  
PBS-KLRN 9  
UPN-KBEJ 2  
WB-KRRT 35  
TELEMUNDO-KVDA 60  
UNIVISION-KWEX 41



San Diego, CA  
ABC-KGTV 10  
CBS-KFMB 8  
FOX-XETV 6  
NBC-KNSD 39  
PBS-KPBS 15  
WB-KSWB 69

San Francisco/Oakland, CA  
ABC-KGO 7  
CBS-KPIX 5  
FOX-KTVU 2  
INDEPENDENT-KICU 36  
NBC-KNTV 11  
PBS-KQED 9  
UPN-KBHK 44  
WB-KBWB 20  
AZTECA-KTNC 42  
RELIGIOUS-KTLN 68  
INDEPENDENT-KRON 4  
INDEPENDENT-KTSF 26  
PBS-KTEH 54  
PBS-KCSM 60  
PBS-KMTP 32  
PBS-KRCB 22  
TELEFUTURA-KFSF 66  
TELEMUNDO-KSTS 48  
UNIVISION-KDTV 14

Seattle/Tacoma, WA  
ABC-KOMO 4  
CBS-KIRO 7  
FOX-KCPQ 13  
INDEPENDENT-KONG 16  
NBC-KING 5  
PBS-KCTS 9  
UPN-KSTW 11  
WB-KTWB 22  
RELIGIOUS-KWDK 56  
HOME SHOPPING-KBCB 24  
HOME SHOPPING-KWOG 51  
PBS-KBTC 28

St. Louis, MO  
ABC-KDNL 30  
CBS-KMOV 4  
FOX-KTVI 2  
NBC-KSDK 5  
PBS-KETC 9  
WB-KPLR 11  
HOME SHOPPING NETWORK-WHSL 46  
RELIGIOUS-KNLC 24  
PAX-WPXS 13

Tampa/St. Petersburg, FL  
ABC-WFTS 28  
CBS-WTSP 10  
FOX-WTVT 13  
NBC-WFLA 8  
PBS-WEDU 3

UPN-WTOG 44  
WB-WTTA 38  
INDEPENDENT-WMOR 32  
RELIGIOUS-WCLF 22  
PBS-WUSF 16  
TELEFUTURA-WFTT 50  
UNIVISION-WVEA 62

Tucson, AZ  
ABC-KGUN 9  
CBS-KOLD 13  
FOX-KMSB 11  
PBS-KUAT 6  
UPN-KTTU 18  
WB-KWBA 58  
TELEMUNDO-KHRR 40  
UNIVISION-KXGR 46

Tulsa, OK  
ABC-KTUL 8  
CBS-KOTV 6  
FOX-KOKI 23  
NBC-KJRH 2  
PBS-KOED 11  
UPN-KTFO 41  
WB-KWBT 19  
RELIGIOUS-KGEB 53  
INDEPENDENT-KWHB 47  
ETV-KRSC 35

Waco, TX  
ABC-KXXV 25  
CBS-KWTX 10  
FOX-KWKT 44  
NBC-KCEN 6  
PBS-KNCT 46

Washington, DC  
ABC-WJLA 7  
CBS-WUSA 9  
FOX-WTTG 5  
NBC-WRC 4  
PBS-WETA 26  
UPN-WDCA 20  
WB-WBDC 50  
INTERNATIONAL-WNVC 56  
INTERNATIONAL-WNVT 53  
PBS-WHUT 32  
TELEFUTURA-WFDC 14  
INDEPENDENT-WJAL 68

West Palm Beach, FL  
ABC-WPBF 25  
CBS-WPEC 12  
FOX-WFLX 29  
RELIGIOUS-WFGC 61  
NBC-WPTV 5  
PBS-WXEL 42  
UPN-WTVX 34

-----  
**DirecTV DirecTV-5 - Ku-band**

119.2 degrees West longitude

NORAD: 27426

Satellite Type: Space Systems/Loral FS-1300

Launched: May 7, 2002 (ILS Proton-K / Blok DM3)

Transponder Power: 32 transponders - 113 watts each

**DirecTV DirecTV-6 - Ku-band**

118.8 degrees West longitude

NORAD: 24748

Satellite Type: Space Systems/Loral FS-1300

Launched: March 8, 1997 (Atlas IIA)

Transponder Power: 32 transponders - 115 watts each

DirecTV uses 11 transponders in this DBS orbital location to deliver programming.

Please see the main DirecTV listings at 101 degrees West longitude.

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**Panamsat Galaxy 10R - C-Band**

123 degrees West longitude

NORAD: 26056

Satellite Type: Boeing Space Systems BSS-601 HP

Launched: January 25, 2000 (Ariane 42L)

Transponder Power: 24 transponders - 40 watts each

Tr.	Downlink Freq in MHz
-----	-------------------------

1(V)	3720
------	------

2(H)	3740
------	------

3(V)	3760
------	------

4(H)	3780
------	------

5(V)	3800
------	------

6(H)	3820
------	------

7(V)	3840
------	------

8(H)	3860
------	------

9(V)	3880
------	------

10(H)	3900
-------	------

11(V)	3920
-------	------

12(H)	3940
-------	------

13(V)	3960
-------	------

14(H)	3980
-------	------

15(V)	4000
-------	------

16(H)	4020
-------	------

17(V)	4040
-------	------

18(H)	4060
-------	------

19(V)	4080
-------	------

20(H)	4100
-------	------

21(V)	4120
-------	------

22(H)	4140
-------	------

23(V)	4160
-------	------

24(H)	4180
-------	------

1 Data Transmissions

2 Data Transmissions

3 Data Transmissions

4 Data Transmissions

5 Showtime / The Movie Channel (digital)

Showtime - West

Showtime Too - West

Showtime Showcase - West

The Movie Channel - West  
Flix - West  
Sundance Channel - West  
The Movie Channel Xtra - West  
Showtime Beyond - West  
Showtime Extreme - West

6 Data Transmissions

7 TVN Entertainment (digital)

TVN Theater 1  
TVN Theater 2  
TVN Theater 3  
TVN Theater 4  
TVN Theater 5  
TVN Theater 6  
Passion Hot

8 Data Transmissions

9 TVN Entertainment (digital)

TVN Theater 7  
TVN Theater 8  
TVN Theater 9  
TVN Theater 10  
TVN Theater 11  
TVN Theater 12  
TVN Theater 13  
TVN Theater 14  
TVN Theater 15  
Spice  
Passion Too  
4DTV Data Download Channel

10 (none)

11 ABC Cable Networks (digital)

Toon Disney East  
Toon Disney West  
Soapnet East  
Soapnet West

12 TVN Entertainment (digital)

TVN Theater 16  
TVN Theater 17  
TVN Theater 18  
TVN Theater 19  
TVN Theater 20  
TVN Theater 21  
TVN Theater 22  
TVN Theater 23  
TVN Theater 24  
Playboy TV

13 TVN Entertainment (digital)

TVN Direct 2  
TVN Direct 3  
TVN Direct 4  
DMX Audio - Adult Alternative  
DMX Audio - Adult Contemporary  
DMX Audio - Alternative Rock  
DMX Audio - Hottest Hits  
DMX Audio - Listening Room

DMX Audio - Rap  
DMX Audio - Urban Adult Contemporary  
DMX Audio - Urban Beat  
DMX Audio - Classic R&B  
DMX Audio - Golden Oldies (50's)  
DMX Audio - Retro Dance  
DMX Audio - Rock 'n Roll Oldies  
DMX Audio - 70's Oldies  
DMX Audio - 80's Hits  
DMX Audio - 90's Hits  
DMX Audio - Flashback New Wave  
DMX Audio - Album Rock  
DMX Audio - Hard Rock  
DMX Audio - Classic Rock  
DMX Audio - Rock 'n Blues  
DMX Audio - Blues  
DMX Audio - Folk Rock  
DMX Audio - Hot Country  
DMX Audio - Traditional Country  
DMX Audio - Modern Country  
DMX Audio - Holiday and Happenings  
DMX Audio - Gospel  
DMX Audio - Contemporary Christian  
DMX Audio - Childrens  
DMX Audio - Latin Contemporary  
DMX Audio - Salsa  
DMX Audio - Dance  
DMX Audio - Reggae  
DMX Audio - Acid Jazz  
DMX Audio - Swing  
DMX Audio - Show Tunes  
DMX Audio - Great Standards  
DMX Audio - Jazz  
DMX Audio - Jazz Vocal Blends  
DMX Audio - Smooth Jazz  
DMX Audio - New Age  
DMX Audio - Lite Classical  
DMX Audio - Symphonic  
TVN Theater 33  
TVN TeleNuestros  
Hot Body  
TVN Theater 26  
Passion  
Urban X  
CRN 1: Cable Radio Network  
CRN 2: Cable Radio Network Sports  
CRN 3: Talk Radio Network  
CRN 4: Just for Laughs  
CRN 5: Radio America  
CRN 6: Langer Broadcasting Network

14 Showtime (digital)

Showtime HDTV - West  
Showtime Next - West  
Showtime Family Zone - West  
Showtime Women - West

- 15 Showtime - West (VC2+)  
**7.10 de e8776 516435xxxx wci1239054 /pvit**
- 16 TV Land - East (VC2+)  
**7.10 de e2707 516435xxxx wci1231377 /**
- 17 Nickelodeon - West (VC2+)  
**7.10 de e2707 516435xxxx wci1239051 /**
- 18 The Movie Channel - West (VC2+)  
**7.10 de e8776 516435xxxx wci1239055 /pvit**
- 19 MTV - West (VC2+)  
**7.10 de e2707 516435xxxx wci1239050 /**
- 20 Data Transmissions
- 21 ESPNNews (VC2+)  
**7.10 wq35 1309631242 860 585 xxxx espn exc14**
- 22 (none)
- 23 A&E - West (VC2+)  
**8.30 e940243 203965xxxx 103555553 group w**
- 24 Outdoor Channel  
**7.10 kb22 909943xxxx 356555553 steele valley es perris ca**  
Outdoor Channel (digital)

-----

**Panamsat Galaxy 10R - Ku-Band**

123 degrees West longitude  
 NORAD: 26056  
 Satellite Type: Boeing Space Systems BSS-601 HP  
 Launched: January 25, 2000 (Ariane 42L)  
 Transponder Power: 24 transponders - 108 watts each

Tr.	Downlink Freq in MHz
1(V)	11720
2(H)	11740
3(V)	11760
4(H)	11780
5(V)	11800
6(H)	11820
7(V)	11840
8(H)	11860
9(V)	11880
10(H)	11900
11(V)	11920
12(H)	11940
13(V)	11960
14(H)	11980
15(V)	12000
16(H)	12020
17(V)	12040
18(H)	12060
19(V)	12080
20(H)	12100
21(V)	12120
22(H)	12140
23(V)	12160

24(H) 12180

- 1 Data Transmissions
- 2 Data Transmissions
- 3 Data Transmissions
- 4 Data Transmissions  
SCPC Audio Services
  - 1012.75 87.25 Wal-Mart In-store Network
  - 1013.15 86.85 Sam's Club In-store Network
  - 1013.50 86.50 Wal-Mart In-store Network
  - 1013.95 86.05 Wal-Mart In-store Network
  - 1014.25 85.75 Sam's Club In-store Network
  - 1014.75 85.25 Wal-Mart In-store Network
  - 1015.05 84.95 Wal-Mart In-store Network
- 5 Data Transmissions
- 6 Data Transmissions
- 7 Data Transmissions
- 8 Data Transmissions
- 9 Occasional video
- 10 Data Transmissions
- 11 Data Transmissions
- 12 Data Transmissions
- 13 ISKYCOM (digital)
  - KBS
  - SBS
  - YTN
  - WOW
  - SC
  - Radio Korea
- 14 Data Transmissions
- 15 Data Transmissions
  - California Community Colleges Network (digital)
  - StarNet Distance Learning (digital)
- 16 Data Transmissions
- 17 Occasional video
- 18 Data Transmissions
- 19 Data Transmissions
- 20 Occasional video
- 21 Occasional video
- 22 Occasional video
- 23 Occasional video
- 24 Occasional video

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### **Panamsat Galaxy 5 - C-Band**

125 degrees West longitude

NORAD: 21906

Satellite Type: Boeing Space Systems BSS-376

Launched: March 13, 1992 (Atlas I)

Transponder Power: 24 transponders - 16 watts each

Tr. Downlink Freq  
in MHz

1(H) 3720  
 2(V) 3740  
 3(H) 3760  
 4(V) 3780  
 5(H) 3800  
 6(V) 3820  
 7(H) 3840  
 8(V) 3860  
 9(H) 3880  
 10(V) 3900  
 11(H) 3920  
 12(V) 3940  
 13(H) 3960  
 14(V) 3980  
 15(H) 4000  
 16(V) 4020  
 17(H) 4040  
 18(V) 4060  
 19(H) 4080  
 20(V) 4100  
 21(H) 4120  
 22(V) 4140  
 23(H) 4160  
 24(V) 4180

- 1 Disney - East (VC2+)
  - 7.10 E950069 13 Z439912 818 973 xxxx DISNEY CH**
- 2 Occasional video
- 3 Trinity Broadcasting Network
  - 5.58, 5.78** Trinity Broadcasting Radio Network
  - 7.28** Data Transmissions
  - 8.00** Trinity Broadcasting Network - Spanish SAP
  - 7.10 DE KF86 714730xxxx WCI1231155 /TBN NET**
- 4 Sci-Fi Channel (VC2+)
  - 7.10 de e930435 718983xxxx mi298719 /idbcommny**
- 5 CNN (VC2+)
  - 6.30** CNN Radio News
  - 7.58** CNN Radio News
  - 7.10 DE E2001 404885xxxx 2534175038**
- 6 Superstation TBS Atlanta (VC2+)
  - 6.48** Brother Staire Radio - religious
  - 7.10 8439901 1308439901 404 885 xxxx sa750 atis**
- 7 Superstation WGN (VC2+)
  - 6.80** Yesterday USA
  - 5.48** Superguide data transmissions
  - 5.58, 6.12** WCPE-FM 89.7 Raleigh/Durham/Chapel Hill, N.C. - classical
  - 6.30, 6.48** WFMT-FM 98.7 Chicago, IL - classical
  - 7.10 DE E2981 708534xxxx 2534175063 CHGO TLPRT**
- 8 HBO - West (VC2+)
  - 7.10 e930421 1308137106 516 361 xxxx hbo w**
- 9 ESPN (VC2+)
  - 5.80** ESPN Natural Sound
  - 7.10 wq35 1312238733 860 585 xxxx espn**
- 10 Occasional video
- 11 ABC Family - East (VC2+)

**8.30 e950058 1308439989 818 973 xxxx abc family**

- 12 Discovery - West (VC2+)
- 13 CNBC - East (VC2+)  
**7.10 de e970369 201583xxxx /cnbc usa**
- 14 ESPN2 (VC2+)  
**7.10 wq35 1305238149 860 585 xxxx espn2**
- 15 HBO - East (VC2+)  
**7.10 e930421 1308137163 516 361 xxxx hbo e**
- 16 Cinemax - West (VC2+)  
**7.10 e930421 1311137548 516 361 xxxx hbo max w**
- 17 TNT - East (VC2+)  
**7.56 La Cadena CNN Radio Noticias**  
**7.10 de e2001 404885xxxx 2534175037**
- 18 The National Network - East (VC2+)  
**7.10 de e2707 516435xxxx wci1239047 /**
- 19 USA - East (VC2+)  
**7.10 de miteq 516436xxxx mi298723**
- 20 Black Entertainment TV (VC2+)  
**7.10 e880629 1204136313 202 608 xxxx b e t**
- 21 Lifetime - East (VC2+)  
**8.30 e940242 203965xxxx 1171555553**
- 22 CNN Headline News (VC2+)  
**6.30 CNN Radio News**  
**7.58 CNN Headline News Radio Network**  
**7.10 de e2001 404885xxxx 2534175041**
- 23 A&E - East (VC2+)  
**8.30 e940242 203965xxxx 1123555553**
- 24 Showtime - East (VC2+)  
**7.10 de e2707 516435xxxx wci1239048 /**

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**Panamsat Galaxy 9 - C-Band**

127 degrees West longitude

NORAD: 23877

Satellite Type: Boeing Space Systems BSS-376

Launched: May 24, 1996 (Delta II 7925)

Transponder Power: 24 transponders - 16 watts each

Tr.            Downlink Freq  
                  in MHz

- 1(V)            3720
- 2(H)            3740
- 3(V)            3760
- 4(H)            3780
- 5(V)            3800
- 6(H)            3820
- 7(V)            3840
- 8(H)            3860
- 9(V)            3880
- 10(H)           3900
- 11(V)           3920
- 12(H)           3940
- 13(V)           3960



14(H)	3980
15(V)	4000
16(H)	4020
17(V)	4040
18(H)	4060
19(V)	4080
20(H)	4100
21(V)	4120
22(H)	4140
23(V)	4160
24(H)	4180

- 1 (none)
- 2 Gospel Music Network (VC2+)
  - 5.40** Truth Radio Network 1
  - 5.80** Truth Radio Network 2
  - 7.28** Genesis Communications Radio Network
  - 7.76** American Freedom Radio Network
  - 8.30 e970010 615650xxxx 749555553 speer comm**
- 3 Occasional video
- 4 STARZ! - East (VC2+)
  - 8.30 e010171 720852xxxx 113255553 starz**
- 5 Panamsat Galaxy 3D (digital)
  - Church Channel
  - Panamsat ad-hoc
- 6 (none)
- 7 (none)
- 8 STARZ! - West (VC2+)
  - 8.30 e010171 720852xxxx 113155553 starz**
- 9 (none)
- 10 (none)
- 11 (none)
- 12 STARZ! Theater - East (VC2+)
  - 8.30 e010171 720852xxxx 113655553 starz**
- 13 Data Transmissions
- 14 (none)
- 15 Data Transmissions
- 16 Encore - East (VC2+)
  - 8.30 e010171 720852xxxx 113355553 starz**
- 17 Data Transmissions
- 18 (none)
- 19 (none)
- 20 Encore Westerns - East (VC2+)
  - 8.30 e010171 720852xxxx 113455553 starz**
- 21 (none)
- 22 (none)
- 23 Occasional video
- 24 (none)

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**Loral Skynet Telstar 7 - C-band**

129 degrees West longitude

NORAD: 25922

Satellite Type: Space Systems/Loral FS-1300

Launched: September 25, 1999 (Ariane 44LP)  
Transponder Power: 24 transponders - 37 watts each

Tr. Downlink Freq  
in MHz

1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780
5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

1 TVE International - Americas (digital)

- TV Espana
- Canal 24 Horas
- Hispavision
- Canal Nostalgia
- TVE USA
- TV Galicia
- Euronews
- Radio 1
- Radio Clasica
- Radio 3
- Radio Exterior de Espana
- Radio 5 Todos Noticias

WorldLink Television (digital)

2 In Demand PPV (digital)

3 In Demand PPV (digital)

4 In Demand PPV (digital)

5 Playboy TV formats (digital)

6 (none)

7 (none)

8 (none)

9 VideoRola (digital)

10 Occasional video

11 (none)

- 12 Occasional video
- 13 Occasional video
- 14 A&E Networks (digital)
- 15 (none)
- 16 The Vision Channel (digital)
- 17 Home Box Office (digital)
  - HBO HDTV - East
  - HBO HDTV - West
- 18 (none)
- 19 ViSat from Telemex (digital)
  - TeleHit
  - Ritmoson
  - Telenovelas
  - Cinema Golden Choice 1
  - Cinema Golden Choice 2
  - Unicable
  - De Pelicula
  - Bandamax
  - XEW-2
  - XHTV-4
  - XHGC-5
  - XEQ-9
- 20 (none)
- 21 ACN - America's Collectibles Network
- 22 Olympusat (digital)
  - B-Mania Channel
  - FamilyNet
  - TV Warehouse
  - TV Super Store
- 23 (none)
- 24 Data Transmissions

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**Loral Skynet Telstar 7 - Ku-band**

129 degrees West longitude

NORAD: 25922

Satellite Type: Space Systems/Loral FS-1300

Launched: September 25, 1999 (Ariane 44LP)

Transponder Power: 24 transponders - 100 watts each

Tr.            Downlink Freq  
                  in MHz

- 1(V)            11720
- 2(H)            11740
- 3(V)            11760
- 4(H)            11780
- 5(V)            11800
- 6(H)            11820
- 7(V)            11840
- 8(H)            11860
- 9(V)            11880
- 10(H)           11900
- 11(V)           11920

12(H)	11940
13(V)	11960
14(H)	11980
15(V)	12000
16(H)	12020
17(V)	12040
18(H)	12060
19(V)	12080
20(H)	12100
21(V)	12120
22(H)	12140
23(V)	12160
24(H)	12180

- 1 Data Transmissions
- 2 Occasional video
- 3 Data Transmissions
- 4 Data Transmissions
- 5 Data Transmissions
- 6 Data Transmissions
- 7 Occasional video
- 8 Data Transmissions
- 9 Data Transmissions
- 10 Data Transmissions
- 11 Data Transmissions
- 12 Occasional video
- 13 Occasional video
- 14 Data Transmissions
- 15 Occasional video
- 16 Data Transmissions
- 17 Data Transmissions
- 18 Data Transmissions
- 19 Data Transmissions
- 20 Occasional video
- 21 Data Transmissions
- 22 Occasional video
- 23 Data Transmissions
- 24 Data Transmissions

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**SES Americom Satcom C3 - C-Band**

131 degrees West longitude

NORAD: 22117

Satellite Type: GE 3000

Launched: September 10, 1992 (Ariane 44LP)

Transponder Power: 24 transponders - 17 watts each

Tr.    Downlink Freq  
          in MHz

1(V)	3720
2(H)	3740
3(V)	3760
4(H)	3780

5(V) 3800  
6(H) 3820  
7(V) 3840  
8(H) 3860  
9(V) 3880  
10(H) 3900  
11(V) 3920  
12(H) 3940  
13(V) 3960  
14(H) 3980  
15(V) 4000  
16(H) 4020  
17(V) 4040  
18(H) 4060  
19(V) 4080  
20(H) 4100  
21(V) 4120  
22(H) 4140  
23(V) 4160  
24(H) 4180

- 1 Fox Cable Networks (digital)
- 2 The Learning Channel - East (VC2+)
- 3 In Demand PPV (digital)
- 4 Lifetime - West (VC2+)  
**7.10 e4626 1108741443 201 795 xxxx atis**
- 5 Hallmark Channel (digital)
- 6 CourtTV (digital)  
CourtTV - East  
CourtTV - West  
Northwest Cable News  
Occasional video services
- 7 C-SPAN 1 (House of Representatives)  
**5.20** CSPAN Audio 1 - C-SPAN Radio  
**5.40** CSPAN Audio 2 - BBC World Service  
**7.10 wit 1003145174 703 642 xxxx verestar**
- 8 Cable Networks (digital)  
Style Channel  
Bloomberg TV
- 9 Data Transmissions
- 10 America's Store  
**7.10 de e872069 727572xxxx wci1231415 /hsnstpete**
- 11 Fox Cable Networks (digital)
- 12 History Channel - East (VC2+)  
**8.30 e940243 203965xxxx 114755553 group w**
- 13 The Weather Channel (VC2+)  
**7.78** Weather Channel background music  
**7.10 de wd34 770226xxxx wci1231393 /twc**
- 14 New England Sports Network (digital)  
New England Sports Network (NESN)  
Red Sox Extra  
Boston Catholic TV
- 15 MTV / VH-1 / Nickelodeon (digital)  
MTV 2  
Nick / The N

- MTV Hits
- Nick Games and Sports
- MTV Spanish
- Nick Too - East
- VH-1 Rock
- Nick Too - West
- VH-1 Soul
- VH-1 Country
- VH-1 Mega Hits
- MTV Hits
- 16 Showtime (digital)
  - Showtime HDTV - East
  - Showtime Next - East
  - Showtime Family Zone - East
  - Showtime Women - East
- 17 Movie Channel - East (VC2+)
- 18 TV Land (digital)
  - TV Land - East
  - TV Land - West
- 19 Showtime / The Movie Channel (digital)
  - Showtime - East
  - Showtime Too - East
  - Showtime Showcase - East
  - The Movie Channel - East
  - Flix - East
  - Sundance Channel - East
  - The Movie Channel Xtra - East
  - Showtime Beyond - East
  - Showtime Extreme - East
- 20 Jones Space Segment (digital)
  - Great American Country
  - Product Information Network (PIN)
  - Occasional video services
- 21 Comedy Central - East (VC2+)
  - 7.10 e 4063 1309238357 516 361 xxxx hbo come a**
- 22 Discovery Networks (digital)
  - Discovery Health
  - Discovery Kids
  - The Science Channel
  - Discovery Home and Leisure
  - Discovery Civilization
  - BBC America
  - Health Network
  - Discovery Wings
  - Discovery Español
- 23 E! Entertainment TV (East) (VC2+)
  - 8.30 DE E881134 310845xxxx /globecast la**
  - E! Entertainment TV (West) (digital)
- 24 Oxygen (VC2+)
  - 8.30 de e940445 303486xxxx 311569 /wtcititanroad**

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**Panamsat Galaxy 1R - C-Band**  
 133 degrees West longitude

NORAD: 23016

Satellite Type: Boeing Space Systems BSS-376

Launched: February 19, 1994 (Delta II 7925)

Transponder Power: 24 transponders - 16 watts each

Tr. Downlink Freq  
in MHz

1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780
5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

- 1 Comedy Central - West (VC2+)  
**7.10 2731368 1302731368 444 444 xxxx sa750 atis**
- 2 Univision / Telefutura (digital)
- 3 Encore Networks (digital)
  - Love Stories - East
  - Westerns - East
  - Mystery - East
  - Action - East
  - True Stories - East
  - Love Stories - West
  - Westerns - West
  - Mystery - West
  - Action - West
  - True Stories - West
- 4 Scripps Networks (digital)
  - TV Food Network
  - Do-It-Yourself Network
  - Fine Living Network
- 5 Classic Arts Showcase
- 6 The National Network - West (VC2+)  
**7.10 de e2707 516435xxxx wci1239047 /**
- 7 Disney - West (VC2+)

**7.10 e950069 1312430319 818 973 xxxx disney ch**

8 Cartoon Network (VC2+)

**7.10 e880870 1202132845 404 885 xxxx**

9 ESPN / ESPN2 blackout feeds (digital)

10 MSNBC (VC2+)

**8.30 de fccall 516555xxxx /opt.info.field.**

11 Eternal Word TV Network (EWTN)

**5.40 WEWN - Worldwide Catholic Radio 1 (English)**

**7.38 WEWN - Worldwide Catholic Radio 2 (English)**

**5.58 WEWN - Worldwide Catholic Radio (Spanish)**

**7.10 read 1305238116 205 271 xxxx sa750 atis**

12 ShopNBC

**7.10 e4394 612330xxxx 887555553**

13 Starz! (digital)

Starz! - East

Starz! Theater - East

Black Starz! - East

Encore - East

WAM - East

Starz! - West

Starz! Family - East

Starz! Cinema - East

Encore - West

Starz! Cinema - West

14 ESPN feeds (VC2+) (occ)

ESPN Deportes (VC2+) (occ)

**7.10 wq35 1303338857 203 585 xxxx espn alt**

15 AOL Time Warner services (digital)

CNN en Español

CNN fn

Turner Classic Movies

CNN International

16 AOL Time Warner services (digital)

TNT - West

CNN Headline News clean feed

Turner South

Airport Network

17 The Inspirational Life Network

**5.58 Genesis Communications Radio Network**

**7.92 WNMX-FM Waxhaw, NC - variety (occ)**

**7.10 de e9138 704525xxxx /opt.info.field.**

The Inspirational Life Network (digital)

18 Home Box Office / Cinemax (digital)

HBO Comedy - East

HBO Zone - East

WMax - East

@Max - East

HBO Comedy - West

HBO Zone - West

ThrillerMax - East

OuterMax - East

ThrillerMax - West

WMax - West

@Max - West

5-Star Max - East



- OuterMax - West
- 5-Star Max - West
- 19 Cinemax - East (VC2+)  
**7.10 e 4063 1102130245 516 361 xxxx hbo occ c**
- 20 Home and Garden Network (VC2+)  
**7.10 de e940452 865470xxxx /hgtvnetwork**
- 21 USA - West (VC2+)  
**7.10 de e930435 718983xxxx mi298722 /idbcommny**
- 22 AT&T Headend in the Sky (digital)  
See the Galaxy 4R Ku-band satellite at 99 degrees West for a listing of services
- 23 Home Box Office / Cinemax (digital)
  - HBO - East
  - HBO 2 - East
  - HBO Signature - East
  - HBO Family - East
  - HBO Latino - East
  - HBO - West
  - HBO 2 - West
  - HBO Signature - West
  - HBO Family - West
  - HBO Latino - West
  - Cinemax - East
  - MoreMax - East
  - ActionMax - East
  - Cinemax - West
  - MoreMax - West
  - ActionMax - West
- 24 Cable Services (digital)
  - Trio
  - Newsworld International
  - Sci-Fi Channel

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**SES Americom Satcom C4 - C-Band**

135 degrees West longitude  
 NORAD: 22096  
 Satellite Type: GE 3000  
 Launched: August 31, 1992 (Delta II 7925)  
 Transponder Power: 24 transponders - 17 watts each

Tr.    Downlink Freq  
       in MHz

- 1(V)    3720
- 2(H)    3740
- 3(V)    3760
- 4(H)    3780
- 5(V)    3800
- 6(H)    3820
- 7(V)    3840
- 8(H)    3860
- 9(V)    3880
- 10(H)   3900
- 11(V)   3920

12(H) 3940  
13(V) 3960  
14(H) 3980  
15(V) 4000  
16(H) 4020  
17(V) 4040  
18(H) 4060  
19(V) 4080  
20(H) 4100  
21(V) 4120  
22(H) 4140  
23(V) 4160  
24(H) 4180

- 1 American Movie Classics - East (VC2+)  
**8.30 e010028 516803xxxx 116455553**
- 2 AT&T Headend in the Sky (digital)  
See the Galaxy 4R Ku-band satellite at 99 degrees West for a listing of services
- 3 Nickelodeon - East (VC2+)  
**7.10 dee8776 516435xxxx wci1239056 /pvit**
- 4 Univision / Galavision / Telefutura (digital)
- 5 Starz! / Encore (digital)  
Starz! Plex - East  
Starz! Plex - West  
Starz! Cinema - West  
Starz! - East  
Starz! - West  
Starz! Theater - West  
Black Starz! - West  
Starz! Family - West  
Encore - West  
WAM - West
- 6 History Channel - West (VC2+)  
**8.30 e940243 203965xxxx 908555553 group w**
- 7 Bravo (VC2+)
- 8 TV Guide Channel (digital)
- 9 QVC Network  
**7.10 e872076 1304630831 610 430 xxxx qvc hpa5**
- 10 Home Shopping Network (HSN)  
**7.10 de e872069 727572xxxx wci1231416 /hsnstpete**
- 11 The Speed Channel (VC2+)  
**8.30 DE E970182 310369xxxx /OPT.INFO.FIELD.**
- 12 tech tv  
**8.30 de e7540 510525xxxx 2534175243 spectrum sat sf**
- 13 Travel Channel (VC2+)
- 14 Cable Services (digital)  
TV Games Network  
Discovery Channel HDTV
- 15 Animal Planet (VC2+)  
**8.30 malfunctioning ATIS**
- 16 AT&T Headend in the Sky - Canales N pod (digital)  
See the Galaxy 4R Ku-band satellite at 99 degrees West for a listing of services
- 17 MTV - East (VC2+)  
**7.10 de e8776 516435xxxx wci1239052 /pvit**
- 18 In Demand PPV (digital)

19 C-SPAN 2 (Senate)  
**7.10 wit 1003145174 703 642 xxxx verestar**

C-SPAN 3 (digital)

20 Sundance Channel (VC2+)

21 Discovery - East (VC2+)

22 FLIX - East (VC2+)

**7.10 de e2707 516435xxxx wci1239046 /**

23 VH-1 - East (VC2+)

**7.10 de e8776 516435xxxx wci1239053 /pvit**

24 Country Music Television (CMT) (VC2+)

**7.10 de e2707 516435xxxx wci1231382 /**

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### **SES Americom Americom-7 - C-Band**

137 degrees West longitude

NORAD: 26495

Satellite Type: Lockheed Martin A2100

Launched: September 14, 2000 (Ariane 5)

Transponder Power: 24 transponders - 20 watts each

Tr.        Downlink Freq  
              in MHz

1(H)	3720
2(V)	3740
3(H)	3760
4(V)	3780
5(H)	3800
6(V)	3820
7(H)	3840
8(V)	3860
9(H)	3880
10(V)	3900
11(H)	3920
12(V)	3940
13(H)	3960
14(V)	3980
15(H)	4000
16(V)	4020
17(H)	4040
18(V)	4060
19(H)	4080
20(V)	4100
21(H)	4120
22(V)	4140
23(H)	4160
24(V)	4180

1 (none)

2 KMGH - ABC Denver (VC2+)

**7.50 C-band Talk - Dana Pretzer**

**8.30 de e930170 303486xxxx wci1239076 /wctititan**

3 (none)

4 Data Transmissions

- 5 KDVR - FOX Denver (VC2+)
  - 5.58** Colorado Talking Book Network
  - 7.50** WOKIE Satellite Radio Network
  - 8.30 de e930170 303486xxxx 316137 /wtcititanroad**
- 6 KCNC - CBS Denver (VC2+)
  - 8.30 de e930170 303486xxxx wci1239076 /wtcititan**
- 7 fX - East (VC2+)
  - 8.00** Cable Radio Network
  - 8.30 DE E970182 310369xxxx /FOX.DIGITAL**
- 8 NBC Network (digital)
- 9 Data Transmissions
- 10 (none)
- 11 Data Transmissions
- 12 (none)
- 13 (none)
- 14 KUSA - NBC Denver (VC2+)
  - 8.30 de e930170 303486xxxx wci1239076 /wtcititan**
- 15 (none)
- 16 (none)
- 17 (none)
- 18 Data Transmissions
- 19 FoxNet (VC2+)
  - 7.10 e970182 1108248322 310 369 xxxx fox tv**
- 20 (none)
- 21 (none)
- 22 (none)
- 23 KWGN - WB Denver (VC2+)
  - 8.30 de e930170 303486xxxx wci1239076 /wtcititan**
- 24 (none)

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**SES Americom Americom-8 - C-Band**

139 degrees West longitude  
 NORAD: 26639  
 Satellite Type: Lockheed Martin A2100  
 Launched: December 20, 2000 (Ariane 5)  
 Transponder Power: 24 transponders - 20 watts each

Tr.	Downlink Freq In MHz
1(V)	3720 (Continental United States beam)
2(H)	3740 (Pacific Northwest U.S., Alaska, Western Canada beam)
3(V)	3760 (Continental United States beam)
4(H)	3780 (Pacific Northwest U.S., Alaska, Western Canada beam)
5(V)	3800 (Continental United States beam)
6(H)	3820 (Pacific Northwest U.S., Alaska, Western Canada beam)
7(V)	3840 (Continental United States beam)
8(H)	3860 (Pacific Northwest U.S., Alaska, Western Canada beam)
9(V)	3880 (Continental United States beam)
10(H)	3900 (Pacific Northwest U.S., Alaska, Western Canada beam)
11(V)	3920 (Continental United States beam)
12(H)	3940 (Pacific Northwest U.S., Alaska, Western Canada beam)
13(V)	3960 (Continental United States beam)

- 14(H) 3980 (Pacific Northwest U.S., Alaska, Western Canada beam)
- 15(V) 4000 (Continental United States beam)
- 16(H) 4020 (Pacific Northwest U.S., Alaska, Western Canada beam)
- 17(V) 4040 (Continental United States beam)
- 18(H) 4060 (Pacific Northwest U.S., Alaska, Western Canada beam)
- 19(V) 4080 (Continental United States beam)
- 20(H) 4100 (Pacific Northwest U.S., Alaska, Western Canada beam)
- 21(V) 4120 (Continental United States beam)
- 22(H) 4140 (Pacific Northwest U.S., Alaska, Western Canada beam)
- 23(V) 4160 (Continental United States beam)
- 24(H) 4180 (Pacific Northwest U.S., Alaska, Western Canada beam)

1 (none)

2 Data Transmissions

3 Data Transmissions

SCPC Audio Services

- 1404.60 55.40 Wyoming News Network/Northern Ag Network/Northern Sports Network
- 1396.60 63.40 Kansas Info. Network/Kansas AgNet
- 1396.20 63.80 MissouriNet/Learfield Communications/Illinois sports
- 1395.90 64.10 Western Montana Radio Network/Red River Farm Network
- 1395.70 64.30 MissouriNet/Learfield Communications
- 1383.80 76.20 Liberty Works Radio Network
- 1382.10 77.90 MissouriNet/Learfield Communications/Blues hockey

Digital Audio

- Capitol Radio Networks
- Duke University sports
- North Carolina State sports
- Univ. of North Carolina sports
- North Carolina News Network
- Radio Pennsylvania
- Radio Pennsylvania News
- Penn State Sports Network
- Univ. of Pittsburgh Sports
- Pittsburgh Pirates Radio Network
- Philadelphia Phillies Radio Network
- Philadelphia 76ers Radio Network
- Philadelphia Flyers Radio Network
- Virginia News Network
- Univ. of Maryland sports
- Radio Iowa
- Univ. of Iowa sports
- Iowa State sports
- Illinois News Network
- Illinois RFD Radio Network

4 Data Transmissions

5 Data Transmissions

6 (none)

7 Data Transmissions

8 (none)

9 Data Transmissions

10 Data Transmissions

11 Data Transmissions

12 (none)

13 Data Transmissions

14 Data Transmissions

15 Westwood One / CBS / CNN (digital audio)

CBS Radio Network - East  
CBS Radio Network - Central/Mountain  
CBS Radio Network - Pacific  
CBS Radio Network - Long-form feeds  
CBS Radio Network - Occasional feeds  
CBS Radio Network - Affiliate News Service  
CNN Radio - East/Central  
CNN Radio - Mountain/Pacific  
CNN Headline News Radio  
NBC Radio Network - East/Central  
NBC Radio Network - Mountain/Pacific  
NBC Radio Network - Long-form feeds  
NBC Radio Network - Occasional feeds  
FOX Radio News  
FOX News Channel TV Audio  
CBS Marketwatch.com Radio  
CBS Healthwatch Radio  
Westwood One Sports - NFL Football Feed 1  
Westwood One Sports - NFL Football Feed 2  
Westwood One Sports - NCAA Football  
Westwood One Sports - NCAA Basketball  
Westwood One Sports - Notre Dame Football  
Westwood One Sports - NHL Hockey  
Westwood One Sports - Olympics Coverage  
Westwood One Sports - British Open, Masters, U.S. Open Golf  
Westwood One Sports - Wimbledon Tennis  
Westwood One Sports - HBO Boxing  
NFL Preview Show  
HBO's Inside the NFL  
In the Huddle  
Players, Inc. Radio  
The NFL Today  
This Week in the NHL  
America in the Morning  
America This Week  
First Light on NBC Radio  
G. Gordon Liddy Radio Show  
The Jim Bohannon Show  
Larry King Live  
Laura Ingraham Show  
Loveline  
The Radio Factor with Bill O'Reilly  
On the Garden Line with Jerry Baker  
Tom Leykis Show  
Troubleshooter Tom Martino  
This Week in Review  
Don and Mike Show  
Imus in the Morning  
CMT Radio Network  
BET Radio Network  
E! Radio Network  
ET Radio Minute with Mary Hart  
The Daily Show with Jon Stewart  
The Late Show with David Letterman

The Late Late Show with Craig Kilborn  
MTV Radio Network  
VH1 Radio Network  
Dave Ross  
Osgood File  
Metro Networks  
The Howard Stern Show  
Sporting News Radio  
MUSIC FORMAT: Adult Rock and Roll  
MUSIC FORMAT: Adult Standards  
MUSIC FORMAT: Bright AC  
MUSIC FORMAT: Hot Country  
MUSIC FORMAT: Mainstream Country  
MUSIC FORMAT: The Oldies Channel  
MUSIC FORMAT: Soft AC

Jones Radio Networks (digital)

Jones Radio - U.S. Country  
Jones Radio - CD Country  
Jones Radio - Smooth Jazz  
Jones Radio - Music of Your Life  
Jones Radio - Adult Hit Radio  
Jones Radio - Adult Contemporary  
Jones Radio - Good Time Oldies  
Jones Radio - Rock Classics  
Jones Radio - Classic Hit Country

16 Data Transmissions

17 Data Transmissions

Learfield Communications (digital audio)

MissouriNet  
Brownfield Network - Indiana  
Brownfield Network - Missouri  
Brownfield Network - Iowa  
Brownfield Network - Illinois  
Brownfield Network - Nebraska  
Brownfield Network - Indiana  
Radio Iowa  
Univ. of Missouri sports  
Univ. of Iowa sports  
Univ. of Indiana sports  
Nebraska Radio Network  
Waitt Radio  
Univ. of Illinois sports  
St. Louis Blues Radio Network  
St. Louis Rams Radio Network  
St. Louis Cardinals Radio Network  
Kansas City Royals Radio Network  
Univ. of Maryland sports  
Kansas City Chiefs Radio Network  
Derry Brownfield Show  
Univ. of North Carolina sports  
Univ. of Oklahoma sports  
Oklahoma State Univ. sports

Jones Radio Networks (digital audio)

Delilah  
Dave 'til dawn

Lia  
Bill Cody Classic Country Weekend  
Alan Kabel show  
America Live  
Danny Wright All Night  
Wall Street Wakeup with Chris Byron  
3 minutes with Nick Micheals  
The Hollywood Reporter  
HowStuffWorks with Marshall Brain  
Fight Back with David Horowitz  
NEWSWEEK On Air  
Maverick investing  
Clark Howard Radio Show  
Neal Boortz Radio Show  
Handel on the Law radio show

18 Data Transmissions

19 (none)

20 (none)

21 Premiere Radio Networks (digital audio)

Rush Limbaugh Show  
Rush Limbaugh Morning Update  
Dr. Laura  
Dr. Laura Moment  
Art Bell Coast-to-Coast  
Dreamland  
Dr. Dean Edell  
Dr. Dean Edell Medical Minute  
Jim Rome  
Rome Report  
Fox Sports Radio  
Michael Reagan  
Matt Drudge  
Jim Cramer  
Phil Hendrie  
Carson Daly features  
Rockline  
After Midnite  
Jay Leno Last Night  
Kidd Kraddick in the Morning  
Suze Orman  
Glenn Beck  
Bob and Tom  
T-Man  
Ben and Brian  
Rick Dees  
Denny McKeown  
Gary Sullivan  
The Weekend  
Cigar Dave  
Liz Bonis  
Dr. Natasha  
WestStar Talk Radio Network  
Kim Komando Radio Show  
NSN-Clear Channel (digital audio)  
Florida Radio Networks



Florida Radio News  
Tampa Bay Devil Rays Radio  
Miami Dolphins Radio  
Florida Marlins Radio  
Orlando Magic Radio  
Univ. of Florida sports  
Florida State sports  
Univ. of Miami sports  
Real Radio Network  
Tennessee Radio Networks  
Univ. of Tennessee sports  
Tennessee Agri-Net  
Nashville Predators Radio  
Alabama Radio Networks  
Alabama Agri-Net  
Kentucky News Network  
Oklahoma News Network  
Yancey Agriculture Network  
Vanderbilt Sports Network

22 Data Transmissions

23 ABC Radio Satellite Services (digital audio)

ABC Satcue  
ABC Newsnet 1E - Information and Advantage East  
ABC Newsnet 1C - Information and Advantage Central/Mountain  
ABC Newsnet 1P - Information and Advantage Pacific  
ABC Newsnet 2E - Entertainment and Contemporary East  
ABC Newsnet 2C - Entertainment and Contemporary Central/Mountain  
ABC Newsnet 2P - Entertainment and Contemporary Pacific  
ABC Newsnet 3E - Direction East  
ABC Newsnet 3C - Direction Central/Mountain  
ABC Newsnet 3P - Direction Pacific  
ABC News Special Report feed  
ABC News Service feed  
ABC News Long-form feeds (anchored)  
ABC News Long-form feeds (unanchored)  
ABC News Occasional audio feeds  
ESPN Radio - East  
ESPN Radio - West  
ESPN Radio - Refeeds  
ESPN Radio - Long-form programming feed 1  
ESPN Radio - Long-form programming feed 2  
Radio Disney  
Tom Joyner morning show  
Doug Banks morning show  
Moneytalk with Bob Brinker  
Mitch Albom show  
Marc Davis show  
Howie Carr show  
Sam Donaldson show  
Dick Bartley show  
Sean Hannity show  
WOR Radio Networks 1  
WOR Radio Networks 2  
Sports Byline radio  
Salem Radio Network

Dame-Gallagher Networks  
Lampo Group / Dave Ramsey  
Talk America Radio Network 1 / Talk America Radio Network 2  
Talk America Radio Network 3  
Business Talk Radio  
PGA Tour Radio  
Motor Racing Network - NASCAR Cars  
Motor Racing Network - NASCAR Trucks  
Wall Street Journal/Dow Jones Radio  
i.e america  
USA Radio Network  
Global American Broadcast  
Syndicated Solutions  
Radio America  
Talk Radio Network 1  
Entercom/WEEI-AM Boston  
Genesis Communications Network  
Talk One Network  
ABC Satellite Services 1  
ABC Satellite Services 2  
ABC Satellite Services 3  
ABC Satellite Services 4  
ABC Satellite Services 5  
ABC Satellite Services 6  
ABC Satellite Services 7  
ABC Satellite Services 9  
ABC Satellite Services 10  
ABC Satellite Services 11  
ABC Satellite Services 15  
ABC Satellite Services 16  
ABC Satellite Services 18  
ABC Satellite Services 19  
ABC Satellite Services 20  
ABC Satellite Services 21  
ABC Satellite Services 23  
ABC Satellite Services 24  
ABC Satellite Services 25  
ABC Satellite Services 26  
WestStar Talk Radio Network  
Kim Komando Radio Show  
ABC Radio - Classic Rock 24-hour format  
ABC Radio - Rejoice! 24-hour format  
ABC Radio - Hot AC 24-hour format  
ABC Radio - Classic R&B 24-hour format  
ABC Radio - The Touch 24-hour format  
ABC Radio - Memories 24-hour format  
ABC Radio - Stardust 24-hour format  
ABC Radio - Starstation 24-hour format  
ABC Radio - Country Coast-to-Coast 24-hour format  
ABC Radio - Oldies Radio 24-hour format  
ABC Radio - Real Country 24-hour format  
ABC Radio - ABC News at :45 and :00

24 Alaskan Rural Communication Service (digital)  
Alaska One (digital)  
Gavel-to-Gavel (digital)

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**Echostar DISH Network Echostar-1 - Ku-band**

148.05 degrees West longitude

NORAD: 23754

Satellite Type: Lockheed Martin LM7000

Launched: December 28, 1995 (Long March 2E)

Transponder Power: 16 transponders - 120 watts each

**Echostar DISH Network Echostar-2 - Ku-band**

147.8 degrees West longitude

NORAD: 24313

Satellite Type: Lockheed Martin LM7000

Launched: September 11, 1996 (Ariane 42P)

Transponder Power: 16 transponders - 120 watts each

Tr.    Downlink Freq  
          in MHz

1	12224
2	12239
3	12253
4	12268
5	12282
6	12297
7	12311
8	12326
9	12341
10	12355
11	12370
12	12384
13	12399
14	12414
15	12428
16	12443
17	12457
18	12472
19	12486
20	12501
21	12516
22	12530
23	12545
24	12559
25	12574
26	12588
27	12603
28	12618
29	12632
30	12647
31	12661
32	12676

All services are delivered by digital video compression using a Divicom MPEG 2 compression scheme.

See DISH Network entry at 119 degrees West longitude for a channel lineup.

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**SES Americom TDRS-5 - C-band and Ku-band**

174.3 degrees West longitude

NORAD: 21639

Satellite Type: TRW-constructed Satellite

Launched: August 2, 1991 (Shuttle - STS-43)

Transponder Power: 12 transponders - 5.5 watts each

Tr.	Downlink Freq. in MHz
-----	--------------------------

1(H)	3720.0
2(H)	3760.0
3(H)	3800.0
4(H)	3840.0
5(H)	3880.0
6(H)	3920.0
7(H)	3960.0
8(H)	4000.0
9(H)	4040.0
10(H)	4080.0
11(H)	4120.0
12(H)	4160.0

- This satellite operates in an inclined orbit

Some of the C-band transponders are video services for reception in Hawaii.

The Ku-band part is not standard U.S. Ku-band frequencies.

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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**New Skies Satellites NSS-803 - C-Band**

177 degrees West Longitude

NORAD: 24957

Satellite Type: Lockheed Martin LM7000

Launched: September 23, 1997 (Ariane 42L)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)  
10 transponders - 20 to 30 watts each (Hemisphere)  
10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz
-----	--------------------------

1/2	3742.5 (77 MHz)
-----	-----------------

3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility New Skies Satellites offers with beams and transponders, only the general transponder layout above will be used (not New Skies Satellites's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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### **New Skies Satellites NSS-803 - Ku-Band**

177 degrees West Longitude

NORAD: 24957

Satellite Type: Lockheed Martin LM7000

Launched: September 23, 1997 (Ariane 42L)

Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3

- Ku-spot beam 1 (East) is Vertical linear polarized
- Ku-spot beam 2 (West) is Horizontal linear polarized

- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility New Skies Satellites offers with beams and transponders, only the general transponder layout above will be used (not New Skies Satellites's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII F1 - C-Band**

180 degrees West Longitude

NORAD: 22871

Satellite Type: Space Systems/Loral FS-1300

Launched: October 22, 1993 (Ariane)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)

10 transponders - 20 to 30 watts each (Hemisphere)

10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII F1 - Ku-Band**

180 degrees West Longitude

NORAD: 22871

Satellite Type: Space Systems/Loral FS-1300

Launched: October 22, 1993 (Ariane)

Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3

- Ku-spot beam 1 (East) is Vertical linear polarized

- Ku-spot beam 2 (West) is Horizontal linear polarized

- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat VI F3 - C-Band**

178 degrees East longitude

NORAD: 20523

Satellite Type: Boeing Satellite Systems BSS-393

Launched: March 14, 1990 (Titan 3)

Spacewalk Fixed: August 19, 1991 (Shuttle STS-49)

Transponder Power: 6 transponders - 16 watts each (Global)

12 transponders - 20-40 watts each (Hemispheric)

20 transponders - 2-5.5 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2'	3665.0	(72 MHz)
1/2	3745.0	(72 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)

9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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### Intelsat VI F3 - Ku-Band

178 degrees East longitude

NORAD: 20523

Satellite Type: Boeing Satellite Systems BSS-393

Launched: March 14, 1990 (Titan 3)

Spacewalk Fixed: August 19, 1991 (Shuttle STS-49)

Transponder Power: 10 transponders - 8.5 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
9/12	11616.5	(Ku-spot, 150 MHz)

- West Ku-spot beam is Horizontal linear polarized
- East Ku-spot beam is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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### Intelsat VII F2 - C-Band



177 degrees East Longitude

NORAD: 23124

Satellite Type: Space Systems/Loral FS-1300

Launched: June 17, 1994 (Ariane 44LP)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)

10 transponders - 20 to 30 watts each (Hemisphere)

10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized

- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized

- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized

- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States.

Additional contributions are always welcome.

(no video reported)

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### **Intelsat VII F2 - Ku-Band**

177 degrees East Longitude

NORAD: 23124

Satellite Type: Space Systems/Loral FS-1300

Launched: June 17, 1994 (Ariane 44LP)

Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)

5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3
- Ku-spot beam 1 (East) is Vertical linear polarized
- Ku-spot beam 2 (West) is Horizontal linear polarized
- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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### **Intelsat VIII F2 - C-Band**

174 degrees East Longitude

NORAD: 24846

Satellite Type: GE 7000

Launched: June 25, 1997 (Ariane 44P)

Transponder Power: 6 transponders - 16-31 watts each (Global and Spot)  
10 transponders - 20 to 30 watts each (Hemisphere)  
10 transponders - 10 to 16 watts each (Zone)

Tr.	Downlink Freq. in MHz	
1/2	3742.5	(77 MHz)
3/4	3825.0	(72 MHz)
5/6	3905.0	(72 MHz)
7/8	3995.0	(72 MHz)
9	4055.0	(36 MHz)
10	4095.0	(36 MHz)
11	4135.0	(36 MHz)
12	4177.5	(41 MHz)

- Hemisphere beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Right Hand circular polarized
- Zone beams use transponders 1/2, 3/4, 5/6, 7/8, and 9 and are Left Hand circular polarized
- Global A and C-Spot A beams use transponders 9, 10, 11, 12 and are Right Hand circular polarized
- Global B and C-Spot B beams use transponders 9, 10, 11, 12 and are Left Hand circular polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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### **Intelsat VIII F2 - Ku-Band**

174 degrees East Longitude

NORAD: 24846

Satellite Type: GE 7000

Launched: June 25, 1997 (Ariane 44P)

Transponder Power: 10 transponders - 35-50 watts each

Tr.	Downlink Freq. in MHz	
1/2	10992.5	(Ku-spot, 77 MHz)
1/2	11747.5	(E 12 GHz & Spot 3, 77 MHz)
1/2	12547.5	(W 12 GHz & Spot 3, 77 MHz)
3/4	11075.0	(Ku-spot, 72 MHz)
3/4	11830.0	(E 12 GHz & Spot 3, 72 MHz)
3/4	12630.0	(W 12 GHz & Spot 3, 72 MHz)
5/6	11155.0	(Ku-spot, 72 MHz)
5/6	11910.0	(E 12 GHz & Spot 3, 72 MHz)
5/6	12710.0	(W 12 GHz & Spot 3, 72 MHz)
7/8	11495.0	(Ku-spot, 72 MHz)
7/9	11514.0	(Ku-spot, 112 MHz)
10/12	11638.0	(Ku-spot, 112 MHz)

- Ku-spot (11 GHz): West is Spot 2 or Spot 3  
East is Spot 1 or Spot 3

- Ku-spot beam 1 (East) is Vertical linear polarized

- Ku-spot beam 2 (West) is Horizontal linear polarized

- Ku-spot beam 3 is Vertical linear polarized

Note: Because of all the flexibility Intelsat offers with beams and transponders, only the general transponder layout above will be used (not Intelsat's true transponder numbering).

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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### **Panamsat PAS-2 - C-Band**

169 degrees East Longitude

NORAD: 23175

Satellite Type: Boeing Satellite Systems BSS-601

Launched: July 8, 1994 (Ariane 44L)

Transponder Power: 12 transponders (54 MHz wide) - 34 watts each

4 transponders (64 MHz wide) - 34 watts each

Tr.	Downlink Freq. in MHz	
1(V)	3730	(54 MHz, Pan American V2)
2(H)	3730	(54 MHz, Pan American V2)
3(V)	3790	(54 MHz, Pan American V1)
4(H)	3790	(54 MHz, Pan American V1)
5(V)	3850	(54 MHz, Pan American V2)
6(H)	3850	(54 MHz, Pan American V2)
7(V)	3915	(64 MHz, Pan American V1 or Africa)
8(H)	3915	(64 MHz, Pan American V1)
9(V)	3980	(54 MHz, Pan American V2)
10(H)	3980	(54 MHz, Pan American V2)
11(V)	4040	(54 MHz, Pan American V1 or Africa)
12(H)	4040	(54 MHz, Pan American V1)
13(V)	4100	(54 MHz, Pan American V2)
14(H)	4100	(54 MHz, Pan American V2)
15(V)	4165	(64 MHz, Pan American V1 or Africa)
16(H)	4165	(64 MHz, Pan American V1)

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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### **Panamsat PAS-2 - Ku-Band**

169 degrees East Longitude

NORAD: 23175

Satellite Type: Boeing Satellite Systems BSS-601

Launched: July 8, 1994 (Ariane 44L)

Transponder Power: 12 transponders (54 MHz wide) - 63 watts each

4 transponders (64 MHz wide) - 63 watts each

Tr.	Downlink Freq. in MHz	
1(H)	12281	(54 MHz, China 1)
2(V)	12281	(54 MHz, Australia)
3(H)	12341	(54 MHz, China 2)
4(V)	12341	(54 MHz, NE Asia)
5(H)	12401	(54 MHz, China 1)
6(V)	12401	(54 MHz, Australia)
7(H)	12466	(64 MHz, China 2 or Australia)
8(V)	12466	(64 MHz, NE Asia)
9(H)	12531	(54 MHz, China 1)
10(V)	12531	(54 MHz, Australia)
11(H)	12591	(54 MHz, China 2 or Australia)
12(V)	12591	(54 MHz, NE Asia)
13(H)	12651	(54 MHz, China 1)
14(V)	12651	(54 MHz, Australia)
15(H)	12716	(64 MHz, China 2 or Australia)
16(V)	12716	(64 MHz, NE Asia)

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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**Panamsat PAS-8 - C-Band**

166 degrees East longitude

NORAD: 25522

Satellite Type: Space Systems/Loral FS-1300

Launched: November 4, 1998 (ILS Proton-K / Blok DM-3)

Transponder Power: 24 transponders - 50 watts each

Tr.	Downlink Freq in MHz	
1(V)	3720	(36 MHz, Pacific beam)
2(H)	3740	(36 MHz, Pacific beam)
3(V)	3760	(36 MHz, Pacific beam)
4(H)	3780	(36 MHz, Pacific beam)
5(V)	3800	(36 MHz, Pacific beam)
6(H)	3820	(36 MHz, Pacific beam)
7(V)	3840	(36 MHz, Pacific beam)
8(H)	3860	(36 MHz, Pacific beam)
9(V)	3880	(36 MHz, Pacific beam)
10(H)	3900	(36 MHz, Pacific beam)
11(V)	3920	(36 MHz, Pacific beam)
12(H)	3940	(36 MHz, Pacific beam)
13(V)	3960	(36 MHz, Pacific beam)
14(H)	3980	(36 MHz, Pacific beam)
15(V)	4000	(36 MHz, Pacific beam)
16(H)	4020	(36 MHz, Pacific beam)
17(V)	4040	(36 MHz, Pacific beam)
18(H)	4060	(36 MHz, Pacific beam)
19(V)	4080	(36 MHz, Pacific beam)
20(H)	4100	(36 MHz, Pacific beam)
21(V)	4120	(36 MHz, Pacific beam)
22(H)	4140	(36 MHz, Pacific beam)
23(V)	4160	(36 MHz, Pacific beam)
24(H)	4180	(36 MHz, Pacific beam)

Note: This is a list of services given by contributors in the Western United States.  
Additional contributions are always welcome.

(no video reported)

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**Panamsat PAS-8 - Ku-Band**

166 degrees East longitude

NORAD: 25522

Satellite Type: Space Systems/Loral FS-1300

Launched: November 4, 1998 (ILS Proton-K / Blok DM-3)

Transponder Power: 24 transponders - 100 watts each

Tr.	Downlink Freq in MHz	
1(V)	12286	(36 MHz, Southeast Asia beam)
2(V)	12326	(36 MHz, Southeast Asia beam)
3(V)	12366	(36 MHz, Southeast Asia beam)
4(V)	12406	(36 MHz, Southeast Asia beam)
5(V)	12446	(36 MHz, Southeast Asia beam)
6(V)	12486	(36 MHz, Southeast Asia beam)
7(V)	12526	(36 MHz, Southeast Asia beam)
8(V)	12566	(36 MHz, Southeast Asia beam)
9(V)	12606	(36 MHz, Southeast Asia beam)
10(V)	12646	(36 MHz, Southeast Asia beam)
11(V)	12686	(36 MHz, Southeast Asia beam)
12(V)	12726	(36 MHz, Southeast Asia beam)
13(H)	12286	(36 MHz, NE Asia, Australia, United States beam)
14(H)	12326	(36 MHz, NE Asia, Australia, United States beam)
15(H)	12366	(36 MHz, NE Asia, Australia, United States beam)
16(H)	12406	(36 MHz, NE Asia, Australia, United States beam)
17(H)	12446	(36 MHz, NE Asia, Australia, United States beam)
18(H)	12486	(36 MHz, NE Asia, Australia, United States beam)
19(H)	12526	(36 MHz, NE Asia, Australia, United States beam)
20(H)	12566	(36 MHz, NE Asia, Australia, United States beam)
21(H)	12606	(36 MHz, NE Asia, Australia, United States beam)
22(H)	12646	(36 MHz, NE Asia, Australia, United States beam)
23(H)	12686	(36 MHz, NE Asia, Australia, United States beam)
24(H)	12726	(36 MHz, NE Asia, Australia, United States beam)

Note: This is a list of services given by contributors in the Western United States. Additional contributions are always welcome.

(no video reported)

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--End of South Scanner Satellite Services Chart--