

Comparison Table of Space Networks and Satellites

Version of 15 March 2012

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The Table lists “notified space networks” and “active satellites” at orbital positions in the geostationary orbit. All notified space networks operating at the same orbital positions are contained within horizontal lines. “Notified” means space networks in non-planned services¹ which have been announced to and coordinated by procedures of the International Telecommunication Union and published in dated editions of the online ITU Space Network List (www.itu.int/ITU-R/space/sn/). These networks enjoy international recognition and protection against harmful interference. Following columns show the administration (country or its part – Adm), the organization operating the network (Ntwk Org) and the Space Network Name. That last item appears in ITU documents as “Sat_Name” but in fact it refers to the Space Network Name (i.e. item in a document), not to a Satellite (spacecraft, vehicle in space).

The right-hand part of the Table lists satellites located in the geostationary orbit at, or close to, the nominal orbital position. The first column gives the COSPAR international designator (year of launch, serial number of launch in that year, and serial letter of the object). The designator identifies the satellite in a unique way and for its lifetime. The following column gives the name, or one of the names, of the satellite. The last but one column shows the observed longitude (East, West) at the date, month and year, in the last column. That information comes from the US Space Surveillance Network. It is published in the Two Line Elements, www.ghrs.msfc.nasa.gov/orbit/tleformat.html. Processed values appear in the Encyclopedia of Satellites and Probes of the Czech Academy of Sciences, author A. Vitek at www.lib.cas.cz/space40.

Orbital positions of some satellites not published in the Two Line Elements have been observed by the International Scientific Optical Network (Keldysh Institute of Applied Mathematics Moscow) and published in Table 2 of the 14th issue of the Classification of Geosynchronous Objects, ESA-ESOC, Darmstadt. That issue became available only after the end of the 49th session of the Scientific and Technical Subcommittee and could not have been included in the document A/AC.105/C.1/2012/CRP.25. These positions are denoted „Jan2012“.

No entry in the right-hand side of the Table means that no satellite was at that position and consequently the space networks at the left-hand side had no means of radio transmissions.

¹ A few additional space networks appear in the broadcasting satellite services. These have not been included here in order to keep the table concise.

Comparison Table of Space Networks and Satellites

Version of 11 Mar 2012

SPACE NETWORKS - NOTIFIED				SATELLITES IN THE GEOSTATIONARY ORBIT			
Nom. Long.	Adm	Ntwk Org	Space Network Name	COSPAR Int. Designation	Satellite Name	Longitude	TLE date
0.00 E	F USA	ESA	MSG USCID-A1	2005-049B	MSG 2 (Meteosat 9)	0.44W	Dec 2011
1.00 E	RUS RUS RUS RUS HOL		VOLNA-21 GALS-15 TOR-15M STATSIONAR-22 NSS-32 suspended				
2.00 E	HOL		NSS-20	1994-070A 1993-031A	Astra 1D Astra 1C, i=4.75	drifting 1.87E	Dec 2011
3.00 E	F F F F F F		TELECOM-2C TELECOM 3C SYRACUSE-3F VIDEOSAT-8-KU-C SYRACUSE-31F TELECOM-4C GEOSAT-3E	2010-037B 2009-008B 2007-021A	RASCOM-QAF 1R Hot Bird 10 (Atl. Bird 4) Sinosat 3 (planned 125E)	2.88E 3.11E 3.32E	Dec 2011 Dec 2011 Dec 2011
4.00 E	F USA USA F F	EUT EUT	EUTELSAT 2-4E MILSTAR 13 USGAE-2 EUTELSAT 3-4E F-SAT-KU2-E-4E	2000-052A	Eutelsat W1	3.99E	Dec 2011
4.80 E	S		SIRIUS-2	2007-057A	Sirius 4	4.82E	Dec 2011
5.00 E	USA S S S LUX	NOT	USMB-5 SIRIUS-3B SIRIUS-P TELE-X LUX-G3-2	1995-055A	Astra 1E, i=1.40	4.95E	Dec 2011
5.50 E	CTI	RAS	RASCOM-C				
5.70 E	MLA MLA		MEASAT-SA1 suspended MEASAT-5.7E suspended				
6.00 E	G G G		SKYNET-4B SKYNET-4K SKYNET-5C	2007-007B	Skynet 5A	5.96E	Dec 2011
7.00 E	F USA F F F F F	EUT EUT EUT EUT EUT	EUTELSAT 2-7E USMB-6 EUTELSAT 3-7E EUTELSAT-KA-7E EUTELSAT-B1-7E F-SAT-KU2-E-7E EUTELSAT 1-3 F-SAT-KA-E-7E	2004-008A	Eutelsat W3A	7.01E	Dec 2011
8.00 E	RUS RUS RUS RUS		VOLNA-15 STATSIONAR-18 GALS-7 TOR-8M				
8.50 E	USA		USGON-2				
9.00 E	F		F-SATDAB-1B	2006-007B 2010-069A	Hot Bird 7A KA SAT	9.00E 9.02E	Dec 2011 Dec 2011
10.00 E	F F F BEL F F F	EUT EUT ESA	EUTELSAT 2-10E EUTELSAT 3-10E MSG-S1 SATCOM-4/10E 3GSAT-G17R F-SAT-C-E-10E F-SAT-KU2-E-10E	2009-016A 2002-040B	Eutelsat W2A MSG 1, i=0.97	10.06E 9.71E	Dec 2011 Dec 2011
11.80 E	I		SICRAL-3H	2009-020A 1990-021A	SICRAL 1B Intelsat VI F-3, i=8.48	11.84E 11.53E	Dec 2011 Dec 2011
12.00 E	RUS RUS RUS RUS RUS		PROGNOZ-2 TOR-18M GALS-17 STATSIONAR-27 VOLNA-27	2009-010A	Raduga 1-8, i=1.60	12.15E	Dec 2011

13.00 E	F	EUT	EUTELSAT 2-13E	2008-065A	Hot Bird 9	13.01E	Dec 2011
	F	EUT	EUTELSAT 3-13E	2006-032A	Hot Bird 8	13.09E	Dec 2011
	F	EUT	EUTELSAT-B1-13E	2002-038A	Hot Bird 6	13.11E	Dec 2011
	F	EUT	EUTELSAT-KA-13E	2010-021B	COMSATBw-2	13.19E	Dec 2011
	F		F-SAT-KA-E-13E	1994-026A	USA 118 (Mercury 2)	12.80E	Jan 2012
	D		GENESIS-8				
	F		F-SAT-KU2-E-13E				
14.00 E	RUS		TOR-12M				
15.00 E	RUS		GALS-12				
	RUS		VOLNA-23				
	RUS		STATSIONAR-23				
16.00 E	F	EUT	EUTELSAT 2-16E	2011-057A	Eutelsat W3C	15.12E	Dec 2011
	F	EUT	EUTELSAT 3-16E	1998-013A	Hot Bird 4	15.77E	Dec 2011
	F		F-SAT-KU2-E-16E				
	F	EUT	EUTELSAT-KA-16E	2000-019A	Sesat	15.99E	Dec 2011
	F	EUT	EUTELSAT-B1-16E	2008-065B	Eutelsat W2M	drifting	
16.20 E	I		SICRAL-2A	2001-005A	Sicral, i=3.53	16.13E	Dec 2011
	I		SICRAL-3A				
16.50 E	F		SATDAB-3A				
17.00 E	RUS	IK	INTERSPUTNIK-17E	1995-064A	AsiaSat 2	drifting	
	RUS	IK	INTERSPUTNIK-17E-CK	2011-074A	Amos 5 drifting to planned	17 E	Jan 2012
19.00 E	LUX		LUX-KA-19E				
19.20 E	LUX		GDL-7	2008-057A	Astra 1M	19.17E	Dec 2011
	LUX		GDL-6	1999-033A	Astra 1H	19.23E	Dec 2011
	LUX		LUX-G3-19.2E	2006-012A	Astra 1KR	19.15E	Dec 2011
				2007-016A	Astra 1L	19.19E	Dec 2011
				2001-025A	Astra 2C	19.22E	Dec 2011
20.00 E	ARS	ARB	ARABSAT 2-C	1996-063A	Arabsat 2B drifting?	20.01E	Dec 2011
				2011-049B	Arabsat 5C	19.22E	Dec 2011
				1997-008A	USA 130 (DSP F18)	20.32E	Jan 2012
21.00 E	USA		AFRIBSS	1998-063A	AfriStar 1	20.98E	Dec 2011
21.50 E	F	ESA	ARTEMIS-21.5E-DR	2001-029A	Artemis i=9.54	21.18E	Dec 2011
	F	EUT	EUTELSAT 2-21.5E				
	F	ESA	ARTEMIS-21.5E-LM				
	F	EUT	EUTELSAT 3-21.5E	1999-018A	Eutelsat W3	21.57E	Dec 2011
	F	ESA	ARTEMIS-21.5-NAV				
	F	EUT	EUTELSAT 1-5				
23.00 E	RUS		VOLNA-17				
	RUS		GALS-8				
	RUS		STATSIONAR-19				
	RUS		ROSCOM-3				
23.30 E				1997-025A	Thor II, i=3.25 from June 11 at	23.30E	Dec 2011
23.50 E	D		DFS II-1	2002-015B	Astra 3A	23.47E	Dec 2011
	D		DFS-1	2010-021A	Astra 3B	23.48E	Dec 2011
24.00 E	RUS		TOR-7M				
24.20 E	LUX		LUX-24.2E				
	LUX		LUX-G3-24.2E				
25.00 E	G		INMARSAT-3 IOR WEST	1998-006B	Inmarsat-3 F5, i=1.42	24.72E	Dec 2011
	G		INMARSAT-4 25E	2005-044A	Inmarsat 4 F2, i=2.22	25.11E	Dec 2011
25.50 E	F	EUT	EUTELSAT 1-8	1998-057A	Hot Bird 5	25.52E	Dec 2011
	F	EUT	EUTELSAT-KA-25.5E				
	F	EUT	EUTELSAT-B1-25.5E				
	F	EUT	EUTELSAT 3-25.5E				
	F		F-SAT-KU3-E-25.5E				
26.00 E	IRN		ZOHREH-2				
	ARS	ARB	ARABSAT 2-B	2010-025A	Badr 5 = Arabsat 5B	26.00E	Dec 2011
	ARS	ARB	ARABSAT 1-B	2006-051A	Badr 4 = Arabsat 4B	26.01E	Dec 2011
	ARS	ARB	ARABSAT-EXT-C2	2008-034B	Badr 6 = Arabsat 3C	26.03E	Dec 2011
	ARS	ARB	ARABSAT-KA-26E				
	ARS	ARB	ARABSAT-KU-26E				
28.20 E	LUX		LUX-28.2E	1998-050A	Astra 2A	28.17E	Dec 2011
				2000-081A	Astra 2D	28.16E	Dec 2011
				2000-054A	Astra 2B	28.22E	Dec 2011
28.50 E	D		DFS II-2	2001-011A	Eurobird 1	28.48E	Dec 2011
	D		DFS-2	2011-041A	Astra 1N	28.33E	Dec 2011
28.75 E	UAE		EMARSAT-1L/M suspended				
29.00 E	USA		FLTSATCOM-C INDOC-1	1993-056A	USA 95 (UFO F2), i=6.43	29.26E	Jan 2012
	E		SECOMSAT B29E	2005-005A	XTAR-EUR	29.02E	Dec 2011
30.00 E	USA		USGAE-16R	2002-001A	USA 164 (Milstar-2 F3), i=4.60	29.97E	Jan 2012
30.50 E	ARS	ARB	ARABSAT 2-A	2010-032B	Arabsat 5A = Badr 5A	30.50E	Dec 2011
	ARS	ARB	ARABSAT-KA-30.5E				
	ARS	ARB	ARABSAT 5A-30.5E				

31.00 E	ARS	ARB	ARABSAT 1-C	1997-076A	Astra 1G	31.49E	Dec 2011
	TUR		TURKSAT-1B resuming op	1993-074A	USA 97 (DSCS III B-w), i=7.35	31.30E	Jan 2012
	TUR		TURKSAT-K1 resuming op				
	TUR		TURKSAT-2B	1996-030B	Amos 1,2009=Intelsat 24,i=2.26	30.92E	Dec 2011
33.00 E	USA		USASAT-55I				
	F	EUT	EUTELSAT 2-33E	2003-043A	Eurobird 3	33.10E	Dec 2011
	F	EUT	EUTELSAT 3-33E				
	F	EUT	EUTELSAT-KA-33E				
	F		SAT-KU3-E-33E				
	USA		INTELSAT5 33E				
	USA		INTELSAT7 33E				
	USA		INTELSAT8 33E				
	USA		USMB-7				
	USA		INTELSAT9 33E	2011-016A	Intelsat New Dawn (Yahsat 1A)	32.79E	Dec 2011
	USA		USASAT-60N				
34.00 E	IRN		ZOHREH-1 suspended	2008-011A	AMC 14, i=15.12	33.59E	Dec 2011
				1993-076A	NATO IV B, USA98, i=8.97	34.19E	Dec 2011
35.00 E	RUS		PROGNOZ-3				
	RUS		STATSIONAR-D3				
	RUS		TOR-2M	1999-009B	Skynet 4E, i=6.60	35.17E	Dec 2011
	RUS		STATSIONAR-2				
	RUS		GALS-6				
	RUS		VOLNA-11				
36.00 E	RUS		RST-1				
	F	EUT	EUTELSAT 2-36E	2009-065A	Eutelsat W7	35.91E	Dec 2011
	F	EUT	EUTELSAT 3-36E	2000-028A	Eutelsat W4	36.10E	Dec 2011
	F		F-SAT-KU3-E-36E				
	F	EUT	EUTELSAT-KA-36E				
38.00 E	PAK		PAKSAT-1	1996-006A	Palapa C1 =PakSat 1	38.20E	Dec 2011
	PAK		PAKSAT-1R	2011-042A	PakSat-1R	37.99E	Dec 2011
39.00 E	GRC		HELLAS-SAT	2003-020A	Hellas Sat 2	39.01E	Dec 2011
	CYP		KYPROS-SAT-C				
	CYP		KYPROS-SAT-L4				
	CYP		KYPROS-SAT-KA3 susp.				
39.50 E	G		DJCF-1A				
40.00 E	RUS		LOUTCH-7	2004-043A	Ekspress AM-1, i=1.41	40.06E	Dec 2011
	RUS		EXPRESS-4				
	RUS		EXPRESS-4B				
	RUS		VOLNA 4R				
42.00 E	TUR		TURKSAT 1D	2008-030B	Turksat 3A	42.01E	Dec 2011
	TUR		TURKSAT-K2	2001-002A	Turksat 2A (Eurasiasat 1)	41.98E	Dec 2011
	TUR		TURKSAT-KX	2011-077A	NigComSat-1B moving to 42.5E		
	TUR		TURKSAT-1A				
44.00 E	USA		USGGR-4	1989-035A	USA 37 (Vortex),i=6.89	45.90E	Jan 2012
	USA		USCSID-A2	2009-001A	USA 202, i=3.04	44.01E	Jan 2012
	UAE		EMARSAT-1E	2003-026A	Thuraya 2, i=3.07	44.04E	Dec 2011
	UAE		EMARSAT-1F/M				
45.00 E	RUS		STATSIONAR-D4				
	RUS		VOLNA-3				
	D		EUROPE*STAR-1	2000-068A	Europe*Star 1=Intelsat12	45.00E	Dec 2011
	RUS		STATSIONAR-9				
	RUS		STATSIONAR-9A				
	XSU		GALS-2				
	F		F-SATDAB-4A	1999-052A	Telstar 7 = Galaxy 27	45.08E	Dec 2011
	XSU		TOR-3				
46.00 E	G		DJCF-1B				
	MLA		MEASAT-46E	1996-002B	Measat 1, i=3.78	45.95E	Dec 2011
47.00 E	F		SYRACUSE-3H	2005-041B	Syracuse 3A=Africasat	47.00E	Dec 2011
	F		SYRACUSE-31H				
47.50 E	D		EUROPE*STAR-3	1994-034A	Intelsat 702 (Intel. 601 drifting)	47.56E	Dec 2011
48.00 E	IND		INSAT-2T(48)	2003-018A	GSAT-2	drifting	
	IND		INSAT-2(48)				
	IND		INSAT-2M(48)				
	IND		INSAT-EK48R	1996-067A	Hot Bird 2, i=2.45	48.19E	Dec 2011
	IND		INSAT-EK48				
49.00 E	USA		USMB-8	2009-047A	USA 207 (PAN)	49.51E	Jan 2012
	RUS		TOR-16M	2003-053A	Yamal 200 N2 (Yamal 202)	49.01E	Dec 2011
	RUS		ROSCOM-4				
	RUS		STATSIONAR-M11				
	RUS		GALS-13				
	RUS		VOLNA-25				
	RUS		STATSIONAR-24				

50.00 E	TUR	TURKSAT-1C	1997-007A	JC-SAT 4 = Intelsat 26, i=3.69	50.39E	Dec 2011
	TUR	TURKSAT-K3	1999-005A	Telstar 6 = Galaxy 25	50.00E	Dec 2011
	TUR	TURKSAT-C50E				
50.50 E	THA	THAICOM-C1				
51.00 E	G	AM-SAT AF3 BSS	1998-056B	Sirius 3, i=2.62	51.25E	Dec 2011
51.50 E	CHN	CHINASAT-51.5E	1996-039A	Apstar 1A, i=5.84	51.45E	Dec 2011
52.50 E	UAE	EMARSAT-1G	2011-016B	Yahsat Y1A	52.51E	Dec 2011
53.00 E	RUS	VOLNA-4				
	G	SKYNET-4C	2007-056B	Skynet 5B	52.71E	Dec 2011
	G	SKYNET-4L				
	G	SKYNET-5D				
	RUS	EXPRESS-5B	2003-060A	Ekspress AM-22	52.99E	Dec 2011
	RUS	EXPRESS-5				
55.00 E	RUS	KUPON-1				
	IND	INSAT-2(55)	2003-043E	Insat 3E	55.02E	Dec 2011
	IND	INSAT-2T(55)	1996-021A	Astra 1F	54.87E	Dec 2011
	USA	MILSTAR 4				
	RUS	KUPON-1T				
	RUS	KUPON-1S				
	IND	INSAT-EK55R	2011-022A	GSat-8	55.03E	Dec 2011
	IND	INSAT-EK55				
	RUS	KUPON-1M				
56.00 E	RUS	RST-2	1998-068A	Bonum 1	55.94E	Dec 2011
57.00 E	HOL	INTELSAT5A INDOC2				
	HOL	INTELSAT7 57E				
	HOL	INTELSAT8 57E				
	USA	USGCSS PH2 INDOC-2	2000-065A	USA 153 (DSCS III B)	56.71E	Jan 2012
	USA	USGCSS PH3 INDOC-2				
	USA	USGCSS PH3B INDOC-2				
	HOL	NSS-8	2009-058A	NSS 12	57.04E	Dec 2011
	HOL	NSS-36				
57.34 E			1997-049B	Meteosat 7 i=7.31	57.34E	Jan 2012
58.00 E	RUS	TOR-13M				
58.50 E	KAZ	KAZSAT1	2006-022A	KazSat 1		drifting since 2008
58.75 E	CHN	COMPASS-58.75E	2000-069A	Beidou 1A, i=1.92		drifting
60.00 E	USA	USGCSS PH3 INDOC	2009-017A	USA204 (WGS F2)	60.20E	Jan 2012
	USA	USGCSS PH3B- INDOC				
	USA	USGOVSAT-10				
	USA	INTELSAT6 60E				
	USA	INTELSAT8 60E				
	USA	INTELSAT9 60E	2002-007A	Intelsat 904	60.01E	Dec 2011
62.00 E	USA	INTELSAT7 62E				
	USA	USMB-9				
	USA	INTELSAT6 62E				
	USA	INTELSAT8 62E				
	USA	INTELSAT9 62E	2001-039A	Intelsat 902	61.99E	Dec 2011
63.00 E	D	GENESIS-9	2009-054B	COMSATBw-1	63.02E	Dec 2011
64.00 E	G	INMARSAT 3 IOR-1				
	G	INMARSAT GSO-2N				
	USA	INTELSAT9 64E	2002-041A	Intelsat 906	64.14E	Dec 2011
	USA	INTELSAT8 64E				
	USA	INTELSAT7 64E				
64.50 E	G	INMARSAT-2 IOR 1	1996-020A	Inmarsat 3-F1	64.46E	Dec 2011
65.00 E	G	INMARSAR-3 IOR-2				
	G	INMARSAT GSO-2H				
66.00 E	USA	INTELSAT5 INDOC4	2010-065B	Intelsat 17 (Hylas)	66.00E	Dec 2011
	USA	INTELSAT7 66E				
	USA	INTELSAT9 66E				
68.00 E	USA	USASAT-14I-2				
68.50 E	USA	USASAT-14I	2001-019A	PAS 10 = Intelsat 10	68.51E	Dec 2011
	USA	USASAT-14I-3	1998-052A	PAS 7 = Intelsat 7	68.69E	Dec 2011
	USA	USASAT-60C	2003-041A	USA 171 (Adv.Orion 3), i=5.31	68.72E	Jan 2012
69.00 E	RUS	TOR-14M				
	RUS	GALS-14				
70.00 E	RUS	VOLNA-19	2007-058A	Cosmos-2434 (Raduga-1M1)	70.02E	Dec 2011
	USA	USGON-1				
	USA	USTRO-6	2003-057A	USA 174 (UFO F11), i=2.79	69.68E	Jan 2012
	RUS	STATSIONAR-20				
	RUS	GALS-16				
	RUS	TOR-17M				
	TON	TONGASAT-H70				

70.50 E	F F F	EUT EUT	EUTELSAT-E-70.5E EUTELSAT 3-70.5E F-SAT-KU3-E-70.5E	2002-051A	Eutelsat W5	70.51E	Dec 2011
72.00 E	USA USA USA AUS USA		FLTSATCOM-C INDOC-2 USASAT-14J-2 KASATCOM-3 DEF-R-SAT-2A USASAT-14J	1995-023A 1996-035A 1990-002B 1999-063A	Intelsat 7A F-1 Intelsat 709 Leasat 5 ,i=9.81 USA 146 (UFO F10), i=4.00	72.04E 72.10E 72.20E 72.70E	Dec 2011 Dec 2011 Dec 2011 Jan 2012
74.00 E	IND IND IND IND IND IND IND IND		INSAT-1B INSAT-2(74) INSAT-2K(74) INSAT-2T(74) INSAT-2M(74) INSAT-EK(74) INSAT-2E(74) INSAT-EK74R	2002-002A 2002-043A 2004-036A 2007-037A	Insat 3C Kalpana-1 (MetSat-1) GSAT-3 (EDUSAT), i=1.63 Insat 4CR	74.02E 74.03E drifting 73.98E	Dec 2011 Dec 2011 Dec 2011
75.00 E	BLR USA USA USA BLR	IK IK	INTERBELAR-2 FLTSATCOM-C INDOC-3 USMB-10 USCSID-A3 INTERSPUTNIK-75E-Q	1990-097B 1999-053A 1996-003A 1997-049A	USA 67 (SDS 2F2), i=15.21 LMI 1 Mugunghwa 2 (Koreasat2) i=3.72 Hot Bird 3, i=2.15	74.78E 75.00E 74.83E 74.81E	Jan 2012 Dec 2011 Dec 2011 Dec 2011
76.00 E	RUS F F		GOMS-M F-SAT-KU3-E-76E F-SAT-KU-E-76E	2011-001A	Elektro-L1	76.08E	Dec 2011
76.50 E	CHN CHN		APSTAR-4 APSTAR-76E	1997-062A	Apstar 2R	76.54E	Dec 2011
77.00 E	RUS CHN		CSSRD-2 CTDRS-1-77E	2008-019A	Tian Lian 1A	77.03E	Dec 2011
78.50 E	THA THA THA THA THA THA		THAICOM-AK2 THAICOM-A2 THAICOM-A2B THAICOM-A2KA suspended THAICOM-G1K THAICOM-G8A suspended	2006-020B	Thaicom 5	78.48E	Dec 2011
79.60 E	CHN		CHINASAT-34A				
80.00 E	RUS RUS RUS RUS RUS CHN RUS RUS CHN CHN		STATSIONAR-1 PROGNOZ-4 POTOK-2 EXPRESS-6 VOLNA-8R CHINASAT-31 EXPRESS-6B FOTON-2 COMPASS-80E CTDRS-1-80E	2011-048A 2000-082A 2005-010A 2009-007B	Kosmos 2473 Beidou 1B, i=3.38 Ekspress AM-2 Ekspress MD-1	79.89E drifting in L 80.02E 80.11E	Dec 2011 Dec 2011 Dec 2011
				1985-010B	USA 8 (MAGNUM 2), i=17.28	80.86E	Jan 2012
81.75 E	RUS		YAMAL-E3				
82.00 E	USA USA USA AUS		USMB-11 USGGR-8 USCSID-A4 DEF-R-SAT-1A				
83.00 E	IND IND IND IND IND IND IND		INSAT-2(83) INSAT-2K (83) INSAT-2E83 INSAT-2M(83) INSAT-1D INSAT-EK83 INSAT-EK83R	2005-049A 2000-016B 2011-034A 1999-016A	Insat 4A Insat 3B GSat-12 Insat 2E	83.04E drifting 83.06E 83.08E	Dec 2011 Dec 2011 Dec 2011
84.00 E	CHN		CHINASAT-84B	2010-024A	Beidou DW 4	84.02E	Dec 2011
85.00 E	RUS RUS RUS USA RUS CHN RUS USA USA USA USA		VOLNA-5 STATSIONAR-3 TOR-4M USTRO-9 GALS-3 SINOSAT-3A TOR-4 INTELSAT6 85E INTELSAT KFOS 85E INTELSAT7 85E INTELSAT8 85E TDRS 85E	2010-002A 2009-067A 1995-035B	Raduga-1M2 Intelsat IS-15 TDRS 7, i=12.82	84.99E 85.13E 85.68E	Dec 2011 Dec 2011 Dec 2011
85.40 E	RUS RUS		STATSIONAR-D5 SADKO-1				

86.50 E	CHN CHN KAZ	FY-2B FY-2BS KAZSAT2	2006-053A	FengYun 2D, i=1.94	86.49E	Dec 2011
			2011-035B	KazSat-2	86.51E	Dec 2011
87.50 E	CHN CHN	DFH-3-OC CHINASAT-1	1998-033A	Zhongwei 1	87.51E	Dec 2011
88.00 E	SNG SNG	ST-1A ST-1A-CK	1998-049A 2011-022B	ST-1 ST-2	88.14E 88.03E	Dec 2011 Dec 2011
89.00 E	USA	TDRS 89E	2000-034A	TDRS 8, i=2.71	89.19E	Dec 2011
90.00 E	XSU RUS RUS USA USA RUS RUS	VOLNA-8 LOUTCH-3 STATSIONAR-6 MILSTAR 5 USTRO-7 EXPRESS-7B EXPRESS-7	2003-053B 1989-090B	Yamal 200 N1 (Yamal 201) USA 48 (MAGNUM2), i=15.93	90.03E 90.22E	Dec 2011 Jan 2012
90.75 E	J	DRTS-90.75E	2002-042B	Kodama (DRTS)	90.74E	Dec 2011
91.50 E	MLA MLA MLA MLA	MEASAT-IC91.5 MEASAT-1 MEASAT-AK 91.5 MEASAT-91.2E	2006-056A 2009-032A	Measat 3 Measat 3A	91.50E 91.44E	Dec 2011 Dec 2011
92.00 E	USA USA	USMB-12 USCSID-A5	2000-080A	USA 155, (SDS 5F2), i=4.98	92.12E	Jan 2012
92.20 E	CHN CHN CHN CHN	CHNBSAT-92.2E SINOSAT-92.2E APSTAR-92E CHINASAT-92.2E	2008-028A	Zhongxing 9	92.18E	Dec 2011
93.00 E	AUS	DEF-R-SAT-3A				
93.50 E	IND IND IND IND IND IND IND IND	INSAT-2(93.5) INSAT-2K(93.5) INSAT-2T(93.5) INSAT-2M(93.5) INSAT-1C INSAT-EK93.5 INSAT-EK93.5R INSAT-2E93.5	2003-013A 2007-007A	Insat 3A Insat 4B	93.59E 93.51E	Dec 2011 Dec 2011
95.00 E	HOL HOL HOL HOL HOL RUS	INTELSAT KA 95E INTELSAT8 95E INTELSAT7 95E INTELSAT5A 95E NSS-9 CSDRN	2002-057A 2010-063A	NSS 6 USA 223 (NROL-32)	94.97E 95.89E	Dec 2011 Jan 2012
96.50 E	RUS RUS RUS RUS	STATSIONAR-14 LOUTCH-9 EXPRESS-8 EXPRESS-8B	2008-003A	Ekspress AM-33	96.53E	Dec 2011
97.50 E	CHN	SINOSAT-3 suspended				
98.00 E	RUS CHN CHN CHN CHN CHN	PROGNOZ-8 CHINASAT-22 CHINASAT-3 DFH-3A-OC CHINASAT-44 CHINASAT-64	2003-052A 2000-003A	Zhongxing-20 Zhongxing-22, i=3.27	98.02E 97.91E	Dec 2011 Dec 2011
98.50 E	UAE	EMARSAT-4S	2008-001A	Thuraya 3, i=4.96	98.59E	Dec 2011
99.00 E	RUS RUS	STATSIONAR-T STATSIONAR-T2				
100.00 E	USA USA	USBUD-1 FLTSATCOM-A INDOC-4	1986-096A	USA 20,(FLTSATC. F7)i=12.73	99.41E	Jan 2012
100.50 E	CHN CHN CHN CHN	ASIASAT-E ASIASAT-EK1 ASIASAT-EKS ASIASAT-EKX	2009-042A	Asiasat 5	100.54E	Dec 2011
101.50 E	CHN	CHINASAT-45	2011-069A	Asiasat 7	101.44E	Dec 2011
103.00 E	RUS RUS USA CHN RUS USA RUS CHN CHN CHN	STATSIONAR-21 LOUTCH-5 USGON-3 STW-2 EXPRESS-9 USTRO-8 EXPRESS-9B DFH-4-OB DFH-3-OB CHINASAT-65	2000-001A 2006-038A 2000-013A 2001-033A	USA 148 (DSCS III B-08),i=2.98 Zhongxing-22A, FH1, i=1.83 Ekspress 2A, i=5.39 USA 159 (DSP 21), i=6,41	103.82E 103.30E 102.89E 103.88E	Jan 2012 Dec 2011 Dec 2011 Jan 2012

105.00 E	AUS	ASIABSS	2000-016A	AsiaStar	104.98E	Dec 2011
	CHN	FY-2A	2008-066A	FengYun 2E	104.50E	Dec 2011
	CHN	CHINASAT-46				
	CHN	FY-2AS				
105.50 E	CHN	ASIASAT-CK	1999-013A	Asiasat 3S	105.52E	Dec 2011
	CHN	ASIASAT-CK-1				
	CHN	ASIASAT-1				
	CHN	ASIASAT-CKS				
	CHN	ASIASAT-CKX				
106.50 E	USA	USMB-13				
107.70 E	INS	INDOSTAR-1	1997-071B	Cakrawatra 1, i=4.91	107.85E	Dec 2011
108.00 E	INS	PALAPA-B1	2009-027A	Indostar II/Protostar II	108.10E	Dec 2011
	INS	PALAPA-C2	1999-042A	Telkom 1	108.07E	Dec 2011
	INS	PALAPA-B1-EC				
108.20 E	G	AM SAT A4	2000-059A	GE-1A	108.21E	Dec 2011
109.00 E	G	INMARSAT-3 POR WEST	1992-021B	Inmarsat 2-F4, i= 6.41	108.75E	Dec 2011
109.65 E	J	TAIKI-109.65				
109.85 E	J	BS-3N	2010-056B	BSAT-3B	109.83E	Dec 2011
	J	BSAT-109.85	2007-036B	BSAT-3A	109.86E	Dec 2011
			2001-011B	BSAT-2a	drifting	
			2003-028A	BSAT-2c	109.87E	Dec 2011
			1998-024B	BSAT-1b	109.84E	Jan 2012
110.00 E	USA	USGGR-11				
	USA	USCSID-A6				
	J	N-SAT-110	2000-060A	N-SAT-110	110.01E	Dec 2011
	J	BSAT-110	2011-041B	BSat-3c	109.94E	Dec 2011
	J	N-SAT-110E				
	J	JMCS-2				
	J	BS-3				
110.50 E	CHN	CHINASAT-6	1998-044A	Sinosat 1	110.32E	Dec 2011
	CHN	CHINASAT-2	2003-021A	Beidou 3, i=1.12	110.57E	Dec 2011
	CHN	DFH-3A-OB	2011-026A	ZX-10	110.53E	Dec 2011
	CHN	CHINASAT-33				
	CHN	COMPASS-110.5E				
111.50 E	IND	INSAT-KU10(111.5)E				
113.00 E	INS	PALAPA-B2	2009-046A	Palapa D1	112.99E	Dec 2011
	KOR	KOREASAT-113E	2006-034A	Mugunghwa 5	113.07E	Dec 2011
	KOR	KOREASAT-2				
	INS	PALAPA-C1-K				
	KOR	INFOSAT-B				
	INS	PALAPA-C1				
	KOR	KOREASAT-113X				
113.20 E	CHN	CHNBSAT-113E				
115.50 E	CHN	DFH-4-OD	2007-031A	Zhongxing 6B	115.54E	Dec 2011
	CHN	CHINASAT-MSB4				
	CHN	DFH-3-OD				
	CHN	CHINASAT-115.5E				
	CHN	DFH-5-OD	2004-004A	USA 176 (DSP F22)	115.44E	Jan 2012
116.00 E	CHN	ASIASAT-B				
	KOR	INFOSAT-C	2010-070B	Koreasat 6	116.00E	Jan 2012
	KOR	KOREASAT-1	1999-046A	Mugunghwa 3 (Koreasat 3)	116.01E	Dec 2011
116.20 E	KOR	COMS-116.2E				
118.00 E	INS	PALAPA-C3-X	2005-046A	Telkom 2	118.05E	Dec 2011
	INS	PALAPA-B3				
	INS	PALAPA-C3-K suspended				
	INS	PALAPA-C3				
	INS	PALAPA-B3-EC suspended				
119.00 E	CHN	CHNBSAT-119E				
119.50 E	THA	THAICOM-IP1	2005-028A	Thaicom 4 (IPStar 1)	119.50E	Dec 2011
120.00 E	J	GMS-120E				
	THA	THAICOM-AK3				
	THA	THAICOM-A3				
	THA	THAICOM-A3B				
	THA	THAICOM-G2K				
	THA	THAICOM-A3KA suspen.				
	THA	THAICOM-G9A suspended				
121.00 E	CHN	DFH-3-OH				
	AUS	DEF-R-SAT-4B 121.0E				

122.00 E	CHN CHN CHN CHN CHN	ASIASAT-A ASIASAT-AK ASIASAT-AK1 ASIASAT-AKS ASIASAT-AKX	2003-014A	AsiaSat 4	122.09E	Dec 2011
123.00 E	INS	GARUDA-2	2000-011A	Garuda 1, i=1.09	122.96E	Dec 2011
123.50 E	CHN CHN	FY-2C FY-2CS	2004-042A	FengYun 2C	123.72E	Dec 2011
124.00 E	J J J	JCSAT-FO-124E JCSAT-3B SJC-1	1999-006A	JC-Sat 6	124.00E	Dec 2011
125.00 E	CHN CHN CHN CHN CHN	STW-1 DFH-3-OA DFH-4-OA CHINASAT-49 CHINASAT-MSB5	2010-042A	XN 6	125.05E	Dec 2011
126.00 E	THA	THAICOM-C2	1995-022A	USA 110 (Adv. Orion 1),i=10,4,	126.07E	Jan 2012
127.50 E	J	JCSAT-T-127.5E				
128.00 E	RUS RUS J RUS RUS J RUS RUS J	STATSIONAR-D6 GALS-10 N-SAT-128 TOR-6M STATSIONAR-15 JCSAT-FO-128E VOLNA -9 TOR-6 JCSAT-3A	2004-010A 2006-033A 2009-044A	Raduga-17 JCSAT 10 (JCSat 3A) JCSAT 12 (JCSAT-RA)	librating 128.01E 127.94E	 Dec 2011 Dec 2011
128.20 E	KOR	COMS-128.2E	2010-032A	Cheollian	128.24E	Dec 2011
130.00 E	RUS CHN RUS RUS CHN CHN	GALS-5 SINOSAT-3C TOR-10M PROGNOZ-5 DFH-3A-OD CHINASAT-4	2011-047A 2010-064A	ZX-1A = Chinasat 1A Zhongxing 20A	129.87E 130.09E	Dec 2011 Dec 2011
131.00 E	CHN	APSTAR-1				
132.00 E	J J J J VTN J VTN VTN	JCSAT-FO-132E D-STAR-1 N-STAR-A N-STAR-A2 VINASAT-4A2 N-STAR-F VINASAT-4A3 VINASAT-TTC	2006-010A 2008-018A	JCSAT 9 Vinasat 1	132.08E 131.97E	Dec 2011 Dec 2011
133.00 E	USA	TDRS 133E				
134.00 E	CHN CHN TON TON	APSTAR-2 CHINASAT-134E TONGASAT C/KU-2 TONGASAT AP-2	2005-012A	Apstar 6	133.98E	Dec 2011
136.00 E	J J J J J	JCSAT-FO-136E D-STAR-2 N-STAR-B N-STAR-B2 N-STAR-E	2002-035B	N-Star 3 (N-Star c)	136.03E	Dec 2011
138.00 E	CHN CHN TON TON	APSTAR 5-KU CHINASAT-138E TONGASAT C/KU-3 TONGASAT AP-3	2004-024A	Telstar 18 (Apstar 5)	138.00E	Dec 2011
140.00 E	RUS J RUS RUS RUS J J CHN CHN J RUS	VOLNA-6 GMS-140E LOUTCH-4 STATSIONAR 7 EXPRESS-10 MTSAT-140E MTSAT-B-140E CHINASAT-32 COMPASS-140E MTSAT-C-140E EXPRESS-10B	2005-023A 2005-006A 2010-001A	Ekspress AM-3 Himawari-6 Beidou DW 3	139.94E 140.06E 140.11E	Dec 2011 Dec 2011 Dec 2011
140.40 E	CHN	CHINASAT-35B				
142.00 E	CHN THA THA	APSTAR-142E THAICOM-G3K THAICOM-G12A	1994-043A	Apstar 1. i=6.49	142.17E	Dec 2011
143.00 E	J	WINDS-A	2008.007A	Kizuna	142.17E	Dec 2011

143.50 E	G	INMARSAT-3 POR-3	2005-009A	Inmarsat 4 F1, i=2.48	143.52E	Dec 2011
143.72 E	J	N-SAT-143.72E				
144.00 E	J	SUPERBIRD-C	2008-038A	Superbird C2	143.95E	Dec 2011
	J	JMCS-1				
	KOR	SKDAB-2	2004-007A	MBSAT	144.08E	Dec 2011
	J	JMCS-1R				
	J	N-SAT-146				
	J	JMCS-C2-X				
	J	SB-SAT-144				
	J	SUPERBIRD-C2				
144.50 E	CHN	CHINASAT-35C				
145.00 E	RUS	LOUTCH-10				
	RUS	STATSIONAR-16				
	USA	USGON 6				
	RUS	EXPRESS-11				
	RUS	VOLNA-16R				
	J	MTSAT-C-145E	2006-004A	MTSAT-2	145.05E	Dec 2011
	J	MTSAT-B-145E				
146.00 E	INS	PALAPA PAC-KU 146E	2006-059A	Kiku-8 (ETS VIII), i=1.59	145.74E	Jan 2012
	INS	PALAPA-PAC-C 146				
148.00E	MLA	MEASAT-2	1996-063B	Measat-2 = AfricaSat-2	147.97E	Dec 2011
	MLA	MEASAT 148E				
150.00 E	J	JCSAT-1	1997-075A	JC-Sat 5, i=1.58	150.05E	Dec 2011
	USA	USGCSS PH3B W PAC-3	1995-038A	USA 113 (DSCS III F9), i=7.01	149.62E	Jan 2012
	J	JCSAT-1R				
	J	JCSAT-FO-150E				
150.50 E	INS	PALAPA-C4	1996-030A	Palapa C2, i=1.55	150.51E	Dec 2011
152.00 E	AUS	AUSSAT A 152E	2007-044A	Optus D2	152.06E	Dec 2011
	AUS	AUSSAT B 152E MOB				
	AUS	AUSSAT B 152E MXL				
	AUS	AUSSAT B 152E				
	USA	USGAE-9R	2001-009A	USA 157 (Milstar-2F2), i=5.23	152.13E	Jan 2012
153.50 E	RUS	IK	INTERSPUTNIK-153.5EO			
154.00 E	J	JCSAT-2	2002-015A	JC-SAT 8	153.92E	Dec 2011
	J	JCSAT-2R				
	J	JCSAT-FO-154E				
156.00 E	AUS	AUSSAT B 156E S	2009-044B	Optus D3	156.03E	Dec 2011
	AUS	AUSSAT B 156E R	2003-028B	Optus C1 (Defense C1)	156.03E	Dec 2011
	AUS	AUSSAT B 156E MOB				
	AUS	AUSSAT B 156EMXL				
	AUS	AUSSAT B 156 E				
	AUS	AUSSAT B 156E MC				
	AUS	AUSSAT B 156E NZ				
	AUS	ADF 156E GOV				
	AUS	AUSSAT C 156E FSS				
	AUS	AUSSAT C 156E GOV				
	AUS	AUSSAT D 156E FSS				
157.00 E	USA	INTELSAT 5A 157E				
	USA	INTELSAT8 157E				
	USA	INTELSAT6 157E				
	USA	INTELSAT7 157E				
158.00 E	J	JMCS-3A				
	J	SUPERBIRD-A	1997-036A	Superbird C, i=20.80	158.03E	Dec 2011
	J	SUPERBIRD-A2-KA				
	J	SUPERBIRD-A2-R				
	J	SUPERBIRD-A2				
160.00 E	J	GMS-160E				
	AUS	AUSSAT B 160E R	2006-043B	Optus D1	160.01E	Dec 2011
	AUS	AUSSAT B 160E MOB				
	AUS	AUSSAT B 160E MXL				
	AUS	AUSSAT B 160E S				
	AUS	AUSSAT B 160E MC				
	AUS	AUSSAT B 160E				
	AUS	AUSSAT B 160E NZ				
	CHN	COMPASS-160E	2010-057A	Beidou DW 6	160.09E	Dec 2011
162.00 E	J	JMCS-3B				
	J	SUPERBIRD-B2	2000-012A	Superbird 4	162.00E	Dec 2011
	J	SUPERBIRD-B2-KA				
	J	SUPERBIRD-B				
	J	SUPERBIRD-B2-R				
163.00 E	CHN	CHINASAT-163E				
163.50 E	RUS	YAMAL-E5				

164.00 E	AUS	AUSSAT A 164E	1994-055A	Optus B3, i=3.62	164.09E	Dec 2011
	AUS	AUSSAT A 164E PAC	1992-037A	USA 82 (DSCS III B12), i=8.70	163.92E	Jan 2012
	AUS	AUSSAT B 164EMOB				
	AUS	AUSSAT B 164E MXL				
	AUS	AUSSAT B 164E				
166.00 E	USA	USASAT-14H	1998-065A	PAS 8 = Intelsat 8	165.99E	Dec 2011
	RUS	PROGNOZ-6				
	USA	USASAT-60B				
167.00 E	RUS	VSSRD-2				
169.00 E	USA	USASAT-14G	1997-046A	PAS 5 = Intelsat 5	169.00E	Dec 2011
		USASAT-60J	2006-024A	USA 187 (MITEx DSC)	168.29E	Jan 2012
172.00 E	USA	FLTSATCOM W PAC	2005-052A	AMC 23	172.01E	Dec 2011
	USA	FLTSATCOM-C W PAC-1				
	USA	KASATCOM-5				
	USA	USASAT-14K	1998-016A	USA 138 (UFO F8), i=4.70	172.08E	Jan 2012
	USA	USASAT-60A	2011-011A	USA 230 (SBIRS-GEO10), i=6.37	172.94E	Jan 2012
174.00 E	USA	INTELSAT8 174E	1994-040A	PAS 2, i=1.83	drifting	
	USA	INTELSAT9 174E				
	USA	INTELSAT7 174E				
175.00 E	USA	USGCSS PH3 W PAC	2007-046A	USA 195 (WGS F1)	174.98E	Jan 2012
	USA	USGCSS PH3B W PAC				
	USA	USGOVSAT-12				
177.00 E	USA	INTELSAT7 177E	2011-032A	Tian Lien 1B	176.90E	Dec 2011
177.50 E	USA	MILSTAR 14				
	USA	USGAE 4				
178.00 E	G	INMARSAT-3 POR-2	1996-070A	Inmarsat 3-F3	178.10E	Dec 2011
	USA	INTELSAT6 178E				
	USA	INTELSAT9 178E	1989-087A	Intelsat 602, i=8.98	178.16E	Dec 2011
	USA	INTELSAT7 178E				
	USA	INTELSAT8 178E				
179.00 E	G	INMARSAT-3 POR-1				
180.00 E	USA	USGCSS PH3B W PAC-2	1993-066A	Intelsat 701	drifting	
	USA	INTELSAT7 180E				
	USA	USGCSS PH3B W PAC-2	2011-056A	Intelsat 18	179.98E	Dec 2011
	USA	INTELSAT5 PAC3				
177.00 W	HOL	INTELSAT5 183E	1995-003A	USA 108 (UFO F4), i=7.01	177.03W	Jan 2012
	HOL	INTELSAT IBS 183E				
	HOL	INTELSAT5A 183E				
	HOL	FLTSATCOM-C W PAC-2				
	HOL	INTELSAT8 183E				
	HOL	INTELSAT7 183E				
	HOL	NSS-19	2009-008A	NSS 9	177.01W	Dec 2011
174.00 W	USA	TDRS 174W	2002-055A	TDRS-10	173.24W	Dec 2011
			1987-022A	GOES 7, i=13.62 active?	172.25W	Dec 2011
171.00 W	USA	TDRS WEST	1993-003B	TDRS 6, i=11.18	171.20W	Dec 2011
170.00 W	RUS	STATSIONAR-D2				
	RUS	VOLNA-7				
	RUS	TOR-5M				
	RUS	STATSIONAR-10				
	RUS	GALS-4				
	RUS	TOR-5				
	RUS	STATSIONAR-10A				
	RUS	STATSIONAR-M1 susp.				
	RUS	ROSCOM-2 suspended				
168.00 W	RUS	POTOK-3				
	RUS	FOTON-3				
167.00 W			1991-054B	TDRS 5, i=11.29	167.01W	Dec 2011
165.00 W	USA	USGON-4	2000-024A	USA 149 (DSP F20), i=7.41	165.45W	Jan 2012
160.00 W	RUS	ESDRN				
159.00 W	RUS	PROGNOZ-7				
150.00 W	USA	USGAE-10R	1995-060A	USA 115(Milstar DSF-2), i=9.47	150.02W	Jan 2012
145.00 W	USA	USGON-7	1991-080B	USA 75 (DSP F16), i=13.14	145.41W	Jan 2012
	USA	FLTSATCOM-C W PAC-3	1989-046A	USA 39(DSP F14), i=12.52	reorbited	
144.00 W	USA	USLL-PAC				
	USA	P92-6				
	USA	P-197-2				
	USA	USTRO-2				
	USA	USCSID-W2				
142.00 W	G	INMARSAT-3 POR EAST	1991-018A	Inmarsat 2-F2, i=7.86	141.98W	Jan 2012
	G	INMARSAT-2 POR EAST	1990-093A	Inmarsat 2-F1, i=8.55	drifting	

141.00 W	USA USA USA USA USA	P-92-5 P-197-3 USLL-PAC2 USTRO-3 USCSID-W1	2001-046A	USA 162 (SDS 3F3), i=5.17	140.78W	Jan 2012
139.00 W	USA	USASAT-22I	2000-081B	GE 8 (Aurora 3)	139.01W	Dec 2011
137.00 W	USA USA	USASAT-22G USASAT-22J	2000-054B	GE 7	136.95W	Dec 2011
135.00 W	USA USA USA USA USA	GOES WEST USGCSS PH3B E PAC USASAT-21A GOES-WEST-1 USASAT-22K	2000-022A 2004-003A 2003-008A 2010-008A	GOES 11 decommissioned Dec 2011 AMC-10 (GE 10) USA 167 (DSCS III A-3), i=0.48 GOES 15 moving to 135W	134.94W 135.32W	Dec 2011 Jan 2012
133.00 W	USA USA USA	USASAT-22A USASAT-35Y LM RPS-133W	2003-013B 2005-041A	Galaxy 12 moving to 129W from 133W Galaxy 15 librating,controlled	132.97W	Dec 2011
131.00 W	USA USA	USASAT-22H USASAT-35A	2004-017A	AMC-11 (GE-11)	131.00W	Dec 2011
130.00 W	USA USA USA	USGCSS PH3 E PAC-2 USGCSS PH3B E PAC-2 USRDS WEST	1997-065A	USA134(DSCS III F10), i=5.40	129.58W	Jan 2012
129.00 W	USA	USASAT-24N	2008-063A 2003-031B	Ciel 2 Galaxy 12 moving to 129W from 133W	128.85W	Dec 2011
128.00 W	USA	ASC-1				
127.00 W	USA USA J	USASAT-24O USASAT-35C N-SAT-127W	2003-044A	Galaxy 13 (Horizons-1)	126.96W	Dec 2011
125.00 W	USA USA	USASAT-22B USASAT-35D	2005-030A 2008-038B	Galaxy 14 AMC 21	124.89W 124.92W	Dec 2011
123.00 W	USA USA	USASAT-24P USASAT-35E	2008-024A	Galaxy 18	123.01W	Dec 2011
121.00 W	USA USA PNG	USASAT-31G USASAT-23G PACSTAR-L4	2003-034A	EchoStar 9 (Telstar 13)	121.02W	Dec 2011
120.00 W	USA	MILSTAR 6				
119.00 W	USA USA	USABSS-10 USABSS-7	2004-016A	DirecTV-7S	119.02W	Dec 2011
118.70 W	CAN CAN CAN CAN	ANIK E-D CANSAT KA-SX CANSAT KA-5 CANSAT-18	2007-009A 2002-006A 2010-010A	Anik F3 EchoStar 7 Echostar XIV	118.66W 118.78W 118.84W	Dec 2011 Dec 2011 Dec 2011
116.80 W	MEX	MORELOS-2	1998-070A	Satmex 5	116.81W	Dec 2011
115.00 W	USA	USASAT-28G	2006-049A 2001-018A 2001-012A 2011-059A	XM Radio 4 (Blues) Sirius XM-1 Roll Sirius XM-2 Rock ViaSat-1	115.23W 115.21W 115.19W 115.12W	Dec 2011 Dec 2011 Dec 2011 Dec 2011
114.90 W	CAN CAN MEX	ANIK D-2 CANSAT-17 MEXSAT-114.9C-KU	1994-065A	Solidaridad 2, i=3.41	114.79W	Dec 2011
113.50 W	MEX	MORELOS 1				
113.00 W	MEX MEX MEX MEX	SOLIDARIDAD-2 SOLDARIDAD 2MA SOLIDARIDAD 2M SATMEX-7	2006-020A	Satmex 6	112.96W	Dec 2011
111.10 W	CAN CAN CAN	Anik-F2 CANSAT KA-4 ANIK E-B	2004-027A 2006-054A 2004-001A	Anik F2 Wildblue 1 Telstar 14 (Estrela do Sul 1)	111.06W 111.18W drifting	Dec 2011 Dec 2011
110.20 W	USA	USABSS-6	2006-003A 2009-035A	EchoStar 10 Terrestar 1, i=5.22	110.18W 110.29W	Dec 2011 Dec 2011
110.00 W	USA	USABSS-5	2002-023A 2008-035A	DirecTV 5 EchoStar 11	110.07W 109.94W	Dec 2011 Dec 2011
109.20 W	MEX MEX MEX MEX	SOLIDARIDAD 1MA SOLIDARIDAD-1 SOLIDARIDAD 1M SATMEX-6				
107.30 W	USA CAN CAN	LM-RPS-107.3W ANIK-F1 ANIK E-A	2005-036A 2000-076A	Anik F1R Anik F1	107.30W 107.39W	Dec 2011 Dec 2011
106.50 W	CAN	MSAT	1996-022A	MSAT, i=4.03	106.57W	Dec 2011

105.00 W	USA	ATS-5	1967-111A	ATS 3, i=8.09	105.29W	Dec 2011
	USA	FLTSATCOM-C E PAC-1	2004-041A	AMC-15	105.03W	Dec 2011
	USA	USASAT-23H	2006-054B	AMC-18	104.91W	Dec 2011
	USA	USASAT-31K	2009-033A	GOES 14	105.32W	Dec 2011
	USA	USASAT-35G	1985-035A	Gstar 1, i=12.52	105.12W	Dec 2011
	G	GIBSAT A1	1995-057A	USA 114(UFO F6), i=6.35	105.38W	Jan 2012
103.00 W	USA	USASAT-24E	1996-054A	GE 1	103.00W	Dec 2011
	USA	USASAT-31L	2005-015A	Spaceway 1	102.89W	Dec 2011
	USA	USASAT-35H	2009-075A	DirecTV 12	102.74W	Dec 2011
			2009-075A	DirecTV 12	102.74W	Dec 2011
			1995-019A	AMSC-1, i=5.85	103.46W	Dec 2011
			2010-005A	Solar Dynamics Obs., i=27.95	101.73W	Dec 2011
101.20 W	USA	USABSS-1	2010-061A	SkyTerra	101.19W	Dec 2011
101.00 W	USA	ACS-1	2060-043A	DirecTV 9S	101.06W	Dec 2011
	USA	MCS-1	2010-016A	SES-1	100.96W	Dec 2011
	USA	USASAT-31M	2001-052A	DirecTV-4S	101.12W	Dec 2011
	USA	USASAT-35I				
	USA	USASAT-7D				
100.80 W	USA	USABSS-2	2005-019A	DirecTV-8	100.83W	Dec 2011
100.00 W	USA	FLTSATCOM E PAC				
	USA	FLTSATCOM-C E PAC-2				
	USA	USRDSS CENTRAL				
99.00 W	USA	USASAT-24J	1995-027A	USA 111 (UFO F5). i=7.38	99.20W	Jan 2012
	USA	USASAT-35J	2008-013A	DirecTV 11	99.22W	Dec 2011
	USA	USASAT-35N	2006-023A	Galaxy 16	98.99W	Dec 2011
			2005-046B	Spaceway-2	99.11W	Dec 2011
			2011-035A	SES-3	98.81W	Dec 2011
98.00 W	G	INMARSAT-3 AOR WEST3	2008-039A	Inmarsat 4F3, i=3.01	97.60W	Dec 2011
	G	INMARSAT-4 98W				
97.00 W	USA	USASAT-6A	2008-045A	Galaxy 19	97.08W	Dec 2011
	USA	USASAT-24D				
	USA	USASAT-35K				
96.80 W	USA	USOBO-2				
96.00 W	USA	USASAT-28L	2009-034A	Sirius FM5	95.99W	Dec 2011
95.00 W	G	UKSAT-10				
	USA	COMSTAR D-2	2007-036A	Spaceway 3	94.93W	Dec 2011
	USA	USASAT-23F	2002-030A	Galaxy-3C	95.04W	Dec 2011
	USA	USASAT-24L	2001-020A	USA 158	95.52W	Jan 2012
	USA	USASAT-35L				
93.00 W	USA	USASAT-24S	1997-026A	Telstar 5 = Galaxy 25	93.08W	Dec 2011
	USA	USASAT-35M	2008-016A	ICOG1, i=4.76	92.84W	Dec 2011
92.00 W	B	SBTS B4				
91.10W	CAN	CAN-BSS2 TTAC	1999-027A	Nimiq	91.08W	Dec 2011
			2002-062A	Nimiq 2	91.16W	Dec 2011
91.00 W	USA	USASAT-24K	2007-016B	Galaxy 17	91.01W	Dec 2011
	USA	USASAT-35N				
	USA	USASAT-9A				
90.00 W	USA	MILSTAR 1	2003-012A	USA 169 (Milstar-2 F4), i=3.66	90.03W	Jan 2012
	USA	USGAE-1				
89.00 W	USA	USASAT-24E	2005-022A	Intelsat Americas 8 (Telstar 8)	89.02W	Dec 2011
	USA	USASAT-31S				
	USA	USASAT-35O				
87.00 W	USA	USASAT-24T	1997-050A	GE 3	86.87W	Dec 2011
	USA	USASAT-35P	2011-049A	SES-2	87.00W	Dec 2011
	USA	SPACENET-3				
85.10 W	USA	USASAT-28F	2005-008A	XM Radio 3 (Rhytm)	85.08W	Dec 2011
			2010-053A	Sirius XM-5	85.24W	Dec 2011
85.00 W	USA	USASAT-24U	2004-048A	AMC 16	84.97W	Dec 2011
	USA	USASAT-9C				
	USA	USASAT-31U				
	USA	USASAT-24U				
84.00 W	B	B-SAT P	2000-046A	Brasilsat B4	83.97W	Dec 2011
83.00 W	USA	USASAT-24V	2003-024A	AMC-9 (GE-12)	83.02W	Dec 2011
	USA	USASAT-35R				
82.00W	CAN	CANSAT KA-3	2008-044A	Nimiq 4	81.97W	Dec 2011
	CAN	CAN-BSS1 TTAC				
81.00 W	USA	USASAT-9D	1996-002A	PAS 3R, i=1.29	drifting	
	ARG	P-P-SAT-1				
79.00 W	USA	TDRS CENTRAL	1997-002A	GE 2	drifting	
	USA	TDRS-C2				
	USA	USASAT-24W	1998-063B	AMC-5 (GE5), i=1.38	79.01W	Dec 2011
	USA	USASAT-35T				
78.00 W	URG	VENESAT-1	2008-055A	Simon Bolivar	77.99W	Dec 2011

77.00 W	USA	USASAT-240	1995-073A 2002-039A 1998-028A 2000-038A	EchoStar 1 EchoStar 8 EchoStar 4, i=2.35 EchoStar 6	77.13W 77.04W drifting 76.95W	Dec 2011 Dec 2011 Aug 2011 Dec 2011
76.00 W	USA	USASAT-12C				
75.00 W	USA B B USA	GOES EAST B-SAT-S SISCOMIS-4 GOES-EAST-1	2006-018A 1998-006A	GOES N, i=0.34 Brazilsat B-3A	75.01W 74.96W	Dec 2011 Dec 2011
74.00 W	USA USA USA	USASAT-22E USASAT-15B USASAT-35V	2007-063B	Horizons 2 drifting to 84.85E	74.06W	Dec 2011
			2009-050A 1999-056A	Nimiq 5 DirecTV-1R	72.65W 72.47W	Dec 2011 Dec 2011
72.00 W	ARG USA USA	NAHUEL-C USASAT-8B USASAT-35W	2000-067A	GE 6	72.01W	Dec 2011
70.00 W	B USA B B B	SBTS B1 USRDSS EAST SBTS C1 SISCOMIS-3 B-SAT-1C	2008-018B	Star One C2	70.02W	Dec 2011
68.00 W	USA B	MILSTAR 8 B SAT 1J resuming oper.	2010-039A 1995-016A	USA 214 (AEHF SV-1), i=4.18 Brazilsat B2, i=3.47	69.03W 67.92W	Jan 2012 Dec 2011
67.00 W	CLM ASA	SIMON BOLIVAR 2	1999-060A 2011-054A	GE 4 QuetzSat-1	66.98W 67.07W	Dec 2011 Dec 2011
65.50 W	RUS	YAMAL-W3				
65.00 W	B B B	SBTS B2 SISCOMIS-2 B-SAT-R	2007-056A	Star One C1	65.01W	Dec 2011
63.00 W	B B	B-SAT E B-SAT I	2011-021A	Telstar 14 (Estrela do Sul 2)	63.00W	Dec 2011
62.00 W	USA	TDRS 62W				
61.50 W	USA USA	USABSS-8 USABSS-17	2003-033A 2010-034A 1997-059A	Rainbow 1 Echostar 15 Echostar 3	61.33W 61.54W 61.39W	Dec 2011 Dec 2011 Dec 2011
61.00 W	B USA B	SBTS B3 USMB-1 B-SAT-O	2009-054A 2004-031A	Amazonas 2 Amazonas	61.00W 60.97W	Dec 2011 Dec 2011
			2001-031A	GOES 12. i=1.02	59.57W	Dec 2011
58.00 W	USA USA USA	USASAT-25G USASAT-26G-3 USASAT-26G	2010-006A 2000-043A	Intelsat IS-16 PAS 9	58.12W 58.00W	Dec 2011 Dec 2011
55.50 W	USA USA USA	INTELSAT8 304.5E INTELSAT9 304.5E INTELSAT7 304.5E	1999-071A 1998-037A	Galaxy 11 Intelsat 805	55.47W 55.53W	Dec 2011 Dec 2011
55.00 W	G G	INMARSAT-3 AOR WEST INMARSAT-2 AOR WEST				
54.00 W	G G	INMARSAT-3 AOR WEST2 INMARSAT GSO-2J	1997.027A	Inmarsat 3-F4, i=1.00	54.01W	Dec 2011
53.00 W	USA USA USA USA G	INTELSAT7 307E INTELSAT IBS 307E INTELSAT8 307E INTELSAT9 307E INMARSAT GSO-2L	1996-015A	Intelsat VIIA F-2	52.98W	Dec 2011
52.50 W	USA	USGCSS PH3B W ATL	2003-040A	USA 170 (DSCS III B-6)	52.30W	Jan 2012
50.00 W	USA USA USA USA	INTELSAT7 310E INTELSAT5A CONT2 INTELSAT10 310E INTELSAT9 310E	2000-072A 1995-013A	PAS 1R Intelsat 705 operating at 50W	49.94W	Dec 2011
49.40 W	USA	USOBO 3	1994-084A	USA 107 (DSP F17), i=11.62	49.50W	Jan 2012
49.00 W	USA	TDRS 49W	1988-091B	TDRS-West, i=13.42	48.70W	Jan 2012
47.00 W	USA	USASAT-25E	1994-064A	NSS 703	47.04W	Dec 2011
46.00 W	USA	TDRS 46W	1989-021B	TDRS 4 reorbited		
45.00 W	USA USA USA USA USA	USASAT-13I USASAT-13I-2 USASAT-25D USASAT-55G USASAT-60I	2009-064A	Intelsat IS-14	44.98W	Dec 2011
43.00 W	USA USA USA	USASAT-55F USASAT-25C USASAT-26C	2007-044B	Intelsat IS-11	42.96W	Dec 2011

42.50 W	USA USA	USGCSS PH3 MID- ATL USGCSS PH3B MID-ATL				
41.00 W	USA USA	TDRS-EAST-ISS TDRS EAST	2002-011A	TDRS 9, i=1.47	40.92W	Dec 2011
40.50 W	HOL HOL HOL HOL HOL HOL	INTELSAT5A 319.5E INTELSAT K 319.5E INTELSAT7 319.5E INTELSAT8 319.5E NSS-18 INTELSAT IBS 319.5E	1998-014A	Intelsat 806	40.46W	Dec 2011
39.00 W	G USA	DJCF-2A USGAE-17R	1994-054A 1994.009A	USA 105 (Mercury 1), i=7.87 USA 99 (Milstar DSF-1), i=8.27	40.04W 40.04W	Jan 2012 Jan 2012
38.00 W	USA	USGON-5				
37.50 W	USA USA USA	USASAT-25A USASAT-25A-1 USASAT-26A	2009-009A 2005-003A	Telstar11N AMC 12	37.57W 37.38W	Dec 2011 Dec 2011
36.00 W	RUS	YAMAL-W2				
34.50 W	USA USA USA USA	INTELSAT8 325.5E INTELSAT6 325.5E INTELSAT9 325.5E INTELSAT7 325.5E	2002-016A	Intelsat 903	34.45W	Dec 2011
34.00 W	G G G	SKYNET-4D SKYNET-4M SKYNET-5A	2001-005B	Skynet 4F, i=4.95	34.08W	Dec 2011
33.50 W	G	UKDIGISAT-3	2010-065A	HYLAS-1 (antenna OK?)	33.46W	Dec 2011
31.50 W	USA USA	INTELSAT8 328.5E INTELSAT9 328.5E	2008-034A	Protostar 1	31.44W	Dec 2011
30.40 W	USA	USDKH2				
30.00 W	E E E E USA USA USA E E E E E	HISPASAT-2B KU HISPASAT-2A KU HISPASAT-2C3 KU HISPASAT-2D KU USMB-2 USGGR-3 USCSID-E4 HISPASAT-2AKA HISPASAT-2B 30KA HISPASAT-2AX HISPASAT-1DKU HISPASAT-1	2000-007A 2006-007A 2002-044A 2010-070A	Hispasat 1C Spainsat Hispasat 1D Hispasat 1E	30.02W 29.95W 29.46W 29.98W	Dec 2011 Dec 2011 Dec 2011 Dec 2011
29.50 W	USA USA USA	INTELSAT8 330.5E INTELSAT6 330.5E INTELSAT9 330.5E	1997-009A	Intelsat 801, i=2.91	29.53W	Dec 2011
27.50 W	USA USA USA USA	INTELSAT7 332.5E INTELSAT6 332.5E INTELSAT8 332.5E INTELSAT9 332.5E	2003-007A	Intelsat 907	27.46W	Dec 2011
26.50 W	RUS RUS RUS RUS RUS	STATSIONAR-D1 VOLNA-13 TOR-1M STATSIONAR-17 GALS-1	1998-029A	USA 139 (Adv.Orion), i=8.62	26.36W	Jan 2012
26.00 W	G	DJCF-2B				
25.00 W	RUS RUS RUS RUS	GALS-9 VOLNA-1A STATSIONAR-8 TOR-9M				
24.5 W	USA USA USA USA	INTELSAT7 335.5E INTELSAT6 335.5E INTELSAT8 335.5E INTELSAT9 335.5E	2002-027A	Intelsat 905	24.49W	Dec 2011
24.00 W	RUS USA	PROGOZ-1 USCSID-E3				
23.00 W	USA	FLTSATCOM ATL	1996-042A	USA 127 (UFO F7), i=5.72	22.79W	Dec 2011
22.50 W	USA USA	FLTSATCOM-C E ATL-1 KASATCOM-2				
22.00 W	HOL	NSS-16	2002-019A	NSS-7	21.99W	Dec 2011
21.50 W	HOL HOL HOL HOL	INTELSAT K 338.5E INTELSAT5A 338.5E INTELSAT8 338.5E INTELSAT7 338.5E				
20.20 W	BEL	SATCOM-4/20.2W				

20.00 W	USA USA USA HOL USA	INTELSAT7 340E INTELSAT6 340E INTELSAT8 340E NSS-31 INTELSAT9 340E	1997-053A	Intelsat 803 = NSS 803	19.99W	Dec 2011
19.00 W	USA	USMB-3				
18.00 W	USA USA USA	INTELSAT7 342E INTELSAT8 342E INTELSAT9 342E	2008-030A 2001-024A	Skynet 5C Intelsat 901	17.78W 17.99W	Dec 2011 Dec 2011
17.00 W	G	INMARSAT-3 AOR EAST2				
16.00 W	RUS RUS	ZSSRD-2 WSDRN	2011-074B	Luch 5A drifting to planned	16 W ?	Jan 2012
15.50 W	USA G G	FLTSATCOM-C E ATL-2 INMARSAT-3 AOR EAST INMARSAT-2 AOR EAST	1989-077A 1996-053A	USA46 (FLTSATCOM F8),i=10 Inmarsat 3-F2	15.94W 15.43W	Jan 2012 Dec 2011
15.00 W	USA	USASAT-14L	1999-059A	Orion 2	15.00W	Dec 2011
14.50 W	RUS	GOMS-1M				
14.00 W	RUS RUS RUS	VOLNA-2 EXPRESS-2 EXPRESS-2B	2002-029A	Ekspress A1R, i=1.31	13.96W	Dec 2011
13.50 W	RUS RUS	POTOK-1 FOTON-1				
13.00 W	USA USA USA USA	P92-4 P-197-4 USCSID-E2 USTRO-4				
12.50 W	USA F F	USLL-ATL2 EUTELSAT 3-12.5W F-SAT-KU2-E-12.5W	2009-068A 2002-040A	USA 211 (WGS F3) Atlantic Bird 1	11.96W 12.44W	Jan 2012 Dec 2011
12.00 W	USA USA USA	USGCSS PH3B ATL USGOVSAT-8 TDRS 12W				
11.00 W	RUS	EXPRESS-3	2009-007A	Ekspress AM-44	10.98W	Dec 2011
10.00 W	USA USA USA USA USA USA F	USLL-ATL P92-3 P-197-5 USMB-4 USCSID-E1 USTRO-5 MSG-S2	2011-011A	USA 227 (NROL 27), i=4.85	10.06W	Jan 2012
9.50 W	RUS	KUPON-3				
8.00 W	F F F F F F F F	TELECOM-2A TELECOM-3A SYRACUSE-3C TELECOM-4A VIDEOSAT-6-KA SYRACUSE-31C F-SAT-KU-E-8W VIDEOSAT-6	2001-042A 1996-044B 2011-051A	Atlantic Bird 2 Telecom 2D. i=5.06 Atlantic Bird 7	8.09W 7.80W 7.28W	Dec 2011 Dec 2011 Dec 2011
			2000-046B 1998-024A 2010-037A	Nilesat 102 Nilesat 101 Nilesat 201	7.04W 7.00W 7.02W	Dec 2011 Dec 2011 Dec 2011
5.00 W	F F F F F F F F	TELECOM-2B TELECOM-3B SYRACUSE-3E VIDEOSAT-7-KA TELECOM-4B SYRACUSE-31E F-SAT-KU-E5W VIDEOSAT-6	2002-035A 2006-033B	Atlantic Bird 3 Syracuse 3B	4.95W 5.16W	Dec 2011 Dec 2011
4.00 W	ISR ISR	AMOS 1-B AMOS 2-B	2003-059A 2008-022A 1998-035A	Amos 2 Amos 3 Thor III, i=0.71	3.95W 4.00W 4.27W	Dec 2011 Dec 2011 Dec 2011
3.00 W	RUS RUS RUS RUS RUS	GALS-11 STATSIONAR-M2 INTERSPUTNIK-3W TOR-11M INTERSPUTNIK-3W-Q	1997-042A	Agila 2 =ABS 3	3.08W	Dec 2011

1.00 W	G	SKYNET-4A	1990-079A	Skynet 4C, i=10.97	1.20W	Dec 2011
	G	SKYNET-4J				
	USA	INTELSAT8 359E	2004-022A	Intelsat 10-02	0.97W	Dec 2011
	G	SKYNET-5B				
	USA	INTELSAT9 359E				
	USA	INTELSAT10 359E				
	USA	INTELSAT7 359E				
0.80 W	NOR	BIFROST	2008-006A	Thor 2R	0.77W	Dec 2011
	NOR	BIFROST-15 suspended	2009-058B	Thor 6	0.82W	Dec 2011