

14 February 2012

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**Committee on the Peaceful
Uses of Outer Space**
Scientific and Technical Subcommittee
Forty-ninth session
Vienna, 6-17 February 2012
Item 15 of the agenda*

Actual situation in the Geostationary Orbit

Information provided by the delegation of the Czech Republic

* A/AC.105/C.1/L.310. Item 15. "Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union".



Actual situation in the Geostationary Orbit

Information on a Technical Presentation by the Czech delegation to be held on 15 February 2012 at the end of the afternoon session of the Subcommittee

There are two data bases dealing with radio transmissions from the Geostationary Orbit. One is the Space Network List maintained by the International Telecommunication Union. The other is the Online Index of Objects Launched into Outer Space, maintained by the OOSA and in the Classification of Geosynchronous Satellites published yearly by the European Space Agency Operation Center (ESOC) in Darmstadt. An important aspect is the matching of the Space Networks Radio Stations with satellites operating at the same orbital positions. The study may contribute to improve the efficiency of the Use of the geostationary orbit.

The presentation will be downloadable on Scientific and Technical Subcommittee website <http://www.unoosa.org/oosa/en/COPUOS/stsc/2012/presentations.html>, for actual tables please contact Mr. Lubos Perek (perek@ig.cas.cz).

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Annex I

Comparison Table of Space Networks and Satellites

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 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/snl). 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 Encyclopaedia 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 yearly issue of the Classification of Geosynchronous Objects, ESA-ESOC, Darmstadt. These positions are denoted „end of yyyy“.

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.

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Comparison Table of Space Networks and Satellites

Version of 10 Feb 2012							
SPACE NETWORKS - NOTIFIED				SATELLITES IN THE GEOSTATIONARY ORBIT			
Nom.	Adm	Ntwk	Space Network Name	COSPAR Int.	Satellite Name	Longitude	TLE
Long.		Org		Designation		(mean)	date
0.00 E	F	ESA	MSG	2005-049B	MSG 2 (Meteosat 9)	0.44W	Dec 2011
	USA		USCID-A1				
1.00 E	RUS		VOLNA-21				
	RUS		GALS-15				
	RUS		TOR-15M				
	RUS		STATSIONAR-22				
	HOL		NSS-32 suspended				
2.00 E	HOL		NSS-20	1994-070A	Astra 1D	drifting	
				1993-031A	Astra 1C, i=4.75	1.87E	Dec 2011
3.00 E	F		TELECOM-2C	2010-037B	RASCOM-QAF 1R	2.88E	Dec 2011
	F		TELECOM 3C	2009-008B	Hot Bird 10	3.11E	Dec 2011
	F		SYRACUSE-3F	2007-021A	Sinosat 3 (planned 125E)	3.32E	Dec 2011
	F		VIDEOSAT-8-KU-C				
	F		SYRACUSE-31F				
	F		TELECOM-4C	2009-008B	Atlantic Bird 4A	3.11E	Dec 2011
	F		GEOSAT-3E				
4.00 E	F	EUT	EUTELSAT 2-4E	2000-052A	Eutelsat W1	3.99E	Dec 2011
	USA		MILSTAR 13				
	USA		USGAE-2				
	F	EUT	EUTELSAT 3-4E				
	F		F-SAT-KU2-E-4E				
4.80 E	S		SIRIUS-2	2007-057A	Sirius 4	4.82E	Dec 2011
5.00 E	USA		USMB-5				
	S		SIRIUS-3B				
	S		SIRIUS-P				
	S	NOT	TELE-X				
	LUX		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		MEASAT-SA1 suspended				
	MLA		MEASAT-5.7E suspended				
6.00 E	G		SKYNET-4B				
	G		SKYNET-4K				
	G		SKYNET-5C	2007-007B	Skynet 5A	5.96E	Dec 2011
7.00 E	F	EUT	EUTELSAT 2-7E				
	USA		USMB-6				
	F	EUT	EUTELSAT 3-7E	2004-008A	Eutelsat W3A	7.01E	Dec 2011
	F	EUT	EUTELSAT-KA-7E				
	F	EUT	EUTELSAT-B1-7E				
	F		F-SAT-KU2-E-7E				
	F	EUT	EUTELSAT 1-3				
8.00 E	RUS		VOLNA-15				
	RUS		STATSIONAR-18				
	RUS		GALS-7				
	RUS		TOR-8M				
8.50 E	USA		USGON-2				
9.00 E	F		F-SATDAB-1B	2006-007B	Hot Bird 7A	9.00E	Dec 2011
10.00 E	F	EUT	EUTELSAT 2-10E	2009-016A	Eutelsat W2A	10.06E	Dec 2011
	F	EUT	EUTELSAT 3-10E	2010-064A	KA SAT	9.02E	Dec 2011
	F	ESA	MSG-S1	2002-040B	MSG 1, i=0.97	9.71E	Dec 2011
	BEL		SATCOM-4/10E				
	F		3GSAT-G17R				
	F		F-SAT-C-E-10E				
	F		F-SAT-KU2-E-10E				
11.80 E	I		SICRAL-3H	2009-020A	SICRAL 1B	11.84E	Dec 2011
				1990-021A	Intelsat VI F-3, i=8.48	11.53E	Dec 2011
12.00 E	RUS		PROGNOZ-2	2009-010A	Raduga 1-8, i=1.60	12.15E	Dec 2011
	RUS		TOR-18M				
	RUS		GALS-17				
	RUS		STATSIONAR-27				
	RUS		VOLNA-27				

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				
	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	20.01E	Dec 2011
				2011-049B	SES-2	20.00E	Dec 2011
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				
23.30 E				1997-025A	Thor II, i=3.25	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				
28.20 E	LUX		LUX-28.2E	1998-050A	Astra 2A	28.17E	Dec 2011
	ARS	ARB	ARABSAT 5B-26E	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	29.24E	end2010
	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=3.87	29.98E	end2010
30.50 E	ARS	ARB	ARABSAT 2-A	2010-032B	Arabsat 5A = Badr 5A	30.50E	end2010
	ARS	ARB	ARABSAT-KA-30.5E				
31.00 E	ARS	ARB	ARABSAT 1-C				
	TUR		TURKSAT-1B suspended				
	TUR		TURKSAT-K1 suspended				
	TUR		TURKSAT-1B	1996-030B	Amos 1,2009=Intelsat 24,i=2.26	30.92E	Dec 2011
	TUR		TURKSAT-2B				
				1997-076A	Astra 1G	31.49E	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				
	USA		INTELSAT5 33E				
	USA		INTELSAT7 33E				
	USA		INTELSAT8 33E				
	USA		INTELSAT8 33E				
	USA		INTELSAT9 33E	2011-016A	Intelsat New Dawn	32.79E	Dec 2011
	USA		USASAT-60N				
				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	1999-009B	Skyнет 4E, i=6.60	35.17E	Dec 2011
	RUS		TOR-2M				
	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-B1-36E				
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	drifting	
	USA		USCSID-A2	2009-001A	USA 202, i=2.83	44.04E	end 2010
	UAE		EMARSAT-1E	2003-026A	Thuraya 2, i=3.07	44.04E	Dec 2011
	UAE		EMARSAT-1F/M				
45.00 E	RUS		STATSIONAR-D4				
	XSU		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)	2003-018E	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)	49.01E	end 2010
	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	1993-074A	USA 97 (DSCS III F8), i=6.54	56.77E	end 2010
	USA	USGCSS PH3 INDOC-2				
	USA	USGCSS PH3B INDOC-2				
	HOL	NSS-8	2009-058A	NSS 12	57.04E	Dec 2011
	HOL	NSS-36				
57.46E		no BSS satellite	1997-049B	Meteosat 7 i=7.31	57.34E	Dec 2011
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-2	2009-017A	USA204 (WGS F2)	60.17E	end 2010
	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	2006-024A	USA 187 (MITeXOSC), i=0.66	65.04E	end 2010
	G	INMARSAT GSO-2H				
66.00 E	USA	INTELSAT5 INDOC4	2010-065B	Intelsat 17	66.00E	Dec 2011
	USA	INTELSAT7 66E				
67.50 E	UAE	YAHSAT-BSS-67.5E				
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				
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	2001-033A	USA 159 (DSP F21), i=3.99	69.49E	end 2010
	USA		USTRO-6				
	RUS		STATSIONAR-20				
	RUS		GALS-16				
	RUS		TOR-17M				
	TON		TONGASAT-H70				
70.50 E	F	EUT	EUTELSAT-E-70.5E	2002-051A	Eutelsat W5	70.51E	Dec 2011
	F	EUT	EUTELSAT 3-70.5E				
	F		F-SAT-KU3-E-70.5E				
72.00 E	USA		FLTSATCOM-C INDOC-2	1995-023A	Intelsat 706	72.04E	Dec 2011
	USA		USASAT-14J-2	2003-057A	USA 174 (UFO F11), i=2.39	71.53E	end 2010
	USA		KASATCOM-3	1996-035A	Intelsat 709	72.10E	Dec 2011
	AUS		DEF-R-SAT-2A	1990-002B	Leasat 5 i=9.81	72.20E	Dec 2011
	USA		USASAT-14J	1999-063A	USA 146 (UFO F10), i=3.38	72.55E	end 2010
74.00 E	IND		INSAT-1B	2002-002A	Insat 3C	74.02E	Dec 2011
	IND		INSAT-2(74)	2002-043A	Kalpana-1 (MetSat-1)	74.03E	Dec 2011
	IND		INSAT-2K(74)	2004-036A	GSAT-3 (EDUSAT), i=1.63	drifting	
	IND		INSAT-2T(74)	1985-010B	USA 8 (MAGNUM 1), i=16.93	73.80E	end 2010
	IND		INSAT-2M(74)	2007-037A	Insat 4CR	73.98E	Dec 2011
	IND		INSAT-EK(74)				
	IND		INSAT-2E(74)				
	IND		INSAT-EK74R				
75.00 E	BLR	IK	INTERBELAR-2	1990-097B	USA 67 (SDS 2F2), i=14.68	74.81E	end 2010
	USA		FLTSATCOM-C INDOC-3	1999-053A	LMI 1	75.00E	Dec 2011
	USA		USMB-10	1996-003A	Mugunghwa 2 (Koreasat2) i=3.72	74.83E	Dec 2011
	USA		USCSID-A3	1997-049A	Hot Bird 3, i=2.15	74.81E	Dec 2011
	BLR	IK	INTERSPUTNIK-75E-Q				
76.00 E	RUS		GOMS-M	2011-001A	Elektro-L1	76.08E	Dec 2011
	F		F-SAT-KU3-E-76E				
	F		F-SAT-KU-E-76E				
76.50 E	CHN		APSTAR-4	1997-062A	Apstar 2R	76.54E	Dec 2011
	CHN		APSTAR-76E				
77.00 E	RUS		CSSRD-2				
	CHN		CTDRS-1-77E	2008-019A	Tian Lian 1A	77.03E	Dec 2011
78.50 E	THA		THAICOM-AK2	2006-020B	Thaicom 5	78.48E	Dec 2011
	THA		THAICOM-A2				
	THA		THAICOM-A2B				
	THA		THAICOM-A2KA suspended				
	THA		THAICOM-G1K				
	THA		THAICOM-G8A suspended				
79.60 E	CHN		CHINASAT-34A				
80.00 E	RUS		STATSIONAR-1				
	RUS		PROGNOZ-4	2011-048A	Kosmos 2473	79.89E	Dec 2011
	RUS		POTOK-2				
	RUS		EXPRESS-6				
	RUS		VOLNA-8R				
	CHN		CHINASAT-31				
	RUS		EXPRESS-6B	2000-082A	Beidou 1B, i=3.38	drifting	
	RUS		FOTON-2	2005-010A	Ekspress AM-2	80.02E	Dec 2011
	CHN		COMPASS-80E	2009-007B	Ekspress MD-1	80.11E	Dec 2011
	CHN		CTDRS-1-80E				
81.75 E	RUS		YAMAL-E3				
82.00 E	USA		USMB-11				
	USA		USGGR-8				
	USA		USCSID-A4				
	AUS		DEF-R-SAT-1A				

83.00 E	IND	INSAT-2(83)	2005-049A	Insat 4A	83.04E	Dec 2011
	IND	INSAT-2K (83)	2000-016B	Insat 3B	drifting	
	IND	INSAT-2E83	2011-034A	GSat-12	83.06E	Dec 2011
	IND	INSAT-2M(83)	1999-016A	Insat 2E	83.08E	Dec 2011
	IND	INSAT-1D				
	IND	INSAT-EK83				
	IND	INSAT-EK83R				
84.00 E	CHN	CHINASAT-84B	2010-024A	Beidou DW 4	84.02E	Dec 2011
85.00 E	RUS	VOLNA-5				
	RUS	STATSIONAR-3	2010-002A	Raduga-1M2	84.99E	Dec 2011
	RUS	TOR-4M				
	USA	USTRO-9				
	XSU	GALS-3				
	CHN	SINOSAT-3A				
	XSU	TOR-4				
	USA	INTELSAT6 85E	2009-067A	Intelsat IS-15	85.13E	Dec 2011
	USA	INTELSAT KFOS 85E				
	USA	INTELSAT7 85E				
	USA	INTELSAT8 85E				
	USA	TDRS 85E	1995-035B	TDRS 7, i=12.82	85.68E	Dec 2011
85.40 E	RUS	STATSIONAR-D5				
	RUS	SADKO-1				
86.50 E	CHN	FY-2B	2006-053A	FengYun 2D, i=1.94	86.49E	Dec 2011
	CHN	FY-2BS				
	KAZ	KAZSAT2	2011-035B	KazSat-2	86.51E	Dec 2011
87.50 E	CHN	DFH-3-OC	1998-033A	Zhongwei 1	87.51E	Dec 2011
	CHN	CHINASAT-1				
88.00 E	SNG	ST-1A	1998-049A	ST-1	88.14E	Dec 2011
	SNG	ST-1A-CK	2011-022B	ST-2	88.03E	Dec 2011
89.00 E	USA	TDRS 89E	2000-034A	TDRS 8, i=2.71	89.19E	Dec 2011
90.00 E	XSU	VOLNA-8				
	RUS	LOUTCH-3	2003-053B	Yamal 200 N1 (Yamal 201)	90.03E	Dec 2011
	RUS	STATSIONAR-6				
	USA	MILSTAR 5	1889-090B	USA 48 (MAGNUM2), i=15.24	89.35E	end 2010
	USA	USTRO-7				
	RUS	EXPRESS-7B				
	RUS	EXPRESS-7				
90.75 E	J	DRTS-90.75E	2002-042B	Kodama (DRTS)	90.74E	Dec 2011
91.50 E	MLA	MEASAT-IC91.5	2006-056A	Measat 3	91.50E	Dec 2011
	MLA	MEASAT-91.5E	2009-032A	Measat-3A	91.44E	Dec 2011
	MLA	MEASAT-AK 91.5				
	MLA	MEASAT-1				
92.00 E	USA	USMB-12				
	USA	USCSID-A5				
92.20 E	CHN	CHNBSAT-92.2E	2008-028A	Zhongxing 9	92.18E	Dec 2011
	CHN	SINOSAT-92.2E				
	CHN	APSTAR-92E				
	CHN	CHINASAT-92.2E				
93.00 E	AUS	DEF-R-SAT-3A				
93.50 E	IND	INSAT-2(93.5)	2003-013A	Insat 3A	93.59E	Dec 2011
	IND	INSAT-2K(93.5)				
	IND	INSAT-2T(93.5)	2007-007A	Insat 4B	93.51E	Dec 2011
	IND	INSAT-2M(93.5)	2003-041A	USA 171, i=4.55	93.58E	end 2010
	IND	INSAT-1C				
	IND	INSAT-EK93.5				
	IND	INSAT-EK93.5R				
	IND	INSAT-2E93.5				
95.00 E	HOL	INTELSAT KA 95E				
	HOL	INTELSAT8 95E				
	HOL	INTELSAT7 95E				
	HOL	INTELSAT5A 95E				
	HOL	NSS-9	2002-057A	NSS 6	94.97E	Dec 2011
	RUS	CSDRN				
96.50 E	RUS	STATSIONAR-14	2008-003A	Ekspress AM-33	96.53E	Dec 2011
	RUS	LOUTCH-9				
	RUS	EXPRESS-8				
	RUS	EXPRESS-8B				

97.50 E	CHN		SINOSAT-3 suspended				
98.00 E	RUS		PROGNOZ-8				
	CHN		CHINASAT-22				
	CHN		CHINASAT-3	2003-052A	Zhongxing-20	98.02E	Dec 2011
	CHN		DFH-3A-OC				
	CHN		CHINASAT-44	2000-003A	Zhongxing-22, i=3.27	97.91E	Dec 2011
	CHN		CHINASAT-64				
98.50 E	UAE		EMARSAT-4S	2008-001A	Thuraya 3, i=4.96	98.59E	Dec 2011
99.00 E	RUS		STATSIONAR-T				
	RUS		STATSIONAR-T2	1986-096A	USA 20,i=12.73	99.50E	end 2010
100.00 E	USA		USBUD-1				
	USA		FLTSATCOM-A INDOC-4				
100.50 E	CHN		ASIASAT-E	2009-042A	Asiasat 5	100.54E	Dec 2011
	CHN		ASIASAT-EK1	2001-020A	USA 158 (GeoLITE), i=3.53	100.05E	end 2010
	CHN		ASIASAT-EKS	2010-063A	USA 223 (NROL-32), deorbited		
	CHN		ASIASAT-EKX				
101.50 E	CHN		CHINASAT-45				
103.00 E	RUS		STATSIONAR-21				
	RUS		LOUTCH-5				
	USA		USGON-3	2000-001A	USA 148 (DSCS III B-08)	103.66E	end 2010
	CHN		STW-2	2006-038A	Zhongxing-22A, FH1, i=1.83	103.30E	Dec 2011
	RUS		EXPRESS-9	2000-013A	Ekspress 2A, i=5.39	102.89E	Dec 2011
	USA		USTRO-8	2004-004A	USA 176(DSP F22), i=3.42	102.28E	end 2010
	RUS		EXPRESS-9B				
	CHN		DFH-4-OB				
	CHN		DFH-3-OB				
	CHN		CHINASAT-65				
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
				1994-040B	BS-3N	drifting	
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-K				
	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				
116.00 E	CHN	ASIASAT-B				
	KOR	INFOSAT-C				
	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				
	THA	THAICOM-G9A suspended				
121.00 E	CHN	DFH-3-OH				
	AUS	DEF-R-SAT-4B 121.0E				
122.00 E	CHN	ASIASAT-A	2003-014A	AsiaSat 4	122.09E	Dec 2011
	CHN	ASIASAT-AK				
	CHN	ASIASAT-AK1				
	CHN	ASIASAT-AKS				
	CHN	ASIASAT-AKX				
123.00 E	INS	GARUDA-2	2000-011A	Garuda 1, i=1.09	122.96E	Dec 2011
123.50 E	CHN	FY-2C	2004-042A	FengYun 2C	123.72E	Dec 2011
	CHN	FY-2CS				
124.00 E	J	JCSAT-FO-124E	1999-006A	JC-Sat 6	124.00E	Dec 2011
	J	JCSAT-3B				
	J	SJC-1				
125.00 E	CHN	STW-1	2010-042A	XN 6	125.05E	Dec 2011
	CHN	DFH-3-OA				
	CHN	DFH-4-OA				
	CHN	CHINASAT-49				
	CHN	CHINASAT-MSB5				
126.00 E	THA	THAICOM-C2	1995-022A	USA 110 (Adv. Orion 1), i=9.61	125.60E	end 2010
127.50 E	J	JCSAT-T-127.5E				
128.00 E	RUS	STATSIONAR-D6	2004-010A	Raduga-17	drifting	
	RUS	GALS-10				
	J	N-SAT-128	2006-033A	JCSAT 10	128.01E	Dec 2011
	RUS	TOR-6M				
	RUS	STATSIONAR-15				
	J	JCSAT-FO-128E	2009-044A	JCSAT 12 (JCSAT-RA)	127.94E	Dec 2011
	RUS	VOLNA -9				
	RUS	TOR-6				
	J	JCSAT-3A				
128.20 E	KOR	COMS-128.2E	2010-032A	Cheollian	128.24E	Dec 2011
130.00 E	RUS	GALS-5				
	CHN	SINOSAT-3C	2011-047A	ZX-1A = Chinasat 1A	129.87E	Dec 2011
	RUS	TOR-10M				
	RUS	PROGNOZ-5				
	CHN	CHINASAT-4	2010-064A	Zhongxing 20A	130.09E	Dec 2011
131.00 E	CHN	APSTAR-1				

132.00 E	J	JCSAT-FO-132E	2006-010A	JCSAT 9	132.08E	Dec 2011
	J	D-STAR-1				
	J	N-STAR-A				
	J	N-STAR-A2				
	VTN	VINASAT-4A2	2008-018A	Vinasat 1	131.97E	Dec 2011
	J	N-STAR-F				
	VTN	VINASAT-4A3				
	VTN	VINASAT-TTC				
133.00 E	USA	TDRS 133E				
134.00 E	CHN	APSTAR-2	2005-012A	Apstar 6	133.98E	Dec 2011
	CHN	CHINASAT-134E				
	TON	TONGASAT C/KU-2				
	TON	TONGASAT AP-2				
136.00 E	J	JCSAT-FO-136E	2002-035B	N-Star 3 (N-Star c)	136.03E	Dec 2011
	J	D-STAR-2				
	J	N-STAR-B				
	J	N-STAR-B2				
	J	N-STAR-E				
138.00 E	CHN	APSTAR 5-KU	2004-024A	Telstar 18 (Apstar 5)	138.00E	Dec 2011
	CHN	CHINASAT-138E				
	TON	TONGASAT C/KU-3				
	TON	TONGASAT AP-3				
140.00 E	RUS	VOLNA-6	2005-023A	Ekspress AM-3	139.94E	Dec 2011
	J	GMS-140E	2005-006A	Himawari-6	140.06E	Dec 2011
	RUS	LOUTCH-4				
	RUS	STATSIONAR 7				
	RUS	EXPRESS-10				
	J	MTSAT-140E				
	J	MTSAT-B-140E				
	CHN	CHINASAT-32	2010-001A	Beidou DW 3	140.11E	Dec 2011
	CHN	COMPASS-140E				
	J	MTSAT-C-140E				
	RUS	EXPRESS-10B				
140.40 E	CHN	CHINASAT-35B				
142.00 E	CHN	APSTAR-142E	1994-043A	Apstar 1. i=6.49	142.17E	Dec 2011
	THA	THAICOM-G3K				
	THA	THAICOM-G12A				
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-6R				
	J	MTSAT-C-145E	2006-004A	MTSAT-2	145.05E	Dec 2011
	J	MTSAT-B-145E				
146.00 E	INS	PALAPA PAC-KU 146E				
	INS	PALAPA PAC-C 146E	2006-059A	Kiku-8 (ETS VIII), i=0.74	145.77E	Dec 2011
148.00E	MLA	MEASAT-2	1996-063B	Measat-2 = AfricaSat-2	147.97E	Dec 2011
150.00 E	J	JCSAT-1	1997-075A	JC-Sat 8, i=1.58	150.05E	Dec 2011
	USA	USGCSS PH3B W PAC-3	1995-038A	USA 113 (DSCS III F9), i=6.20	149.80E	end 2010
	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=4.48	152.14E	end 2010

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 A 160E				
	AUS	AUSSAT A 160E PAC				
	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				
164.00 E	AUS	AUSSAT A 164E	1994-055A	Optus B3, i=3.62	164.09E	Dec 2011
	AUS	AUSSAT A 164E PAC				
	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				
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=4.08	171.327E	end 2010
	USA	USASAT-60A				
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)	175.12E	end 2010
	USA	USGCSS PH3B W PAC-3				
	USA	USGOVSAT-12				
177.00 E	USA	INTELSAT7 177E	2011-032A	TL 102	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				
	USA		INTELSAT7 180E	1993-066A	Intelsat 701	drifting	
	USA		USGCSS PH3B W PAC-2				
	USA		INTELSAT5 PAC3	2011-056A	Intelsat 18	179.98E	Dec 2011
177.00 W	HOL		INTELSAT5 183E				
	HOL		INTELSAT IBS 183E				
	HOL		INTELSAT5A 183E	1995-003A	USA 108 (UFO F4), i=6.31	177.55W	end 2010
	USA		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-5M				
	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=6.62	165.56W	end 2010
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=8.77	150.11W	end 2010
145.00 W	USA		USGON-7				
	USA		FLTSATCOM-C W PAC-3	1989-046A	USA 39(DSP F14), i=12.52	144.62W	end 2010
144.00 W	USA		USLL-PAC	2001-046A	USA 162 (SDS 3F3), i=4.50	144.14W	end 2010
	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	141.84W	end 2010
	G		INMARSAT-2 POR EAST	1990-093A	Inmarsat 2-F1, i=8.55	drifting	
141.00 W	USA		P-92-5				
	USA		P-197-3				
	USA		USLL-PAC2				
	USA		USTRO-3				
	USA		USCSID-W1				
139.00 W	USA		USASAT-22I	2000-081B	GE 8 (Aurora 3)	139.01W	Dec 2011
137.00 W	USA		USASAT-22G	2000-054B	GE 7	136.95W	Dec 2011
	USA		USASAT-22J				
135.00 W	USA		GOES WEST	2000-022A	GOES 11 decommissioned Dec 2011		
	USA		USGCSS PH3B E PAC	2004-003A	AMC-10 (GE 10)	134.94W	Dec 2011
	USA		USASAT-21A	2003-008A	USA 167 (DSCS III A-3)	134.87W	end 2010
	USA		GOES-WEST-1	2010-008A	GOES 15 moving to 135W		
	USA		USASAT-22K				
133.00 W	USA		USASAT-22A	2003-013B	Galaxy 12 moving to 129W from 133W		
	USA		USASAT-35Y	2005-041A	Galaxy 15	132.97W	Dec 2011
	USA		LM RPS-133W				
131.00 W	USA		USASAT-22H	2004-017A	AMC-11 (GE-11)	131.00W	Dec 2011
	USA		USASAT-35A				
130.00 W	USA		USGCSS PH3 E PAC-2	1997-065A	USA134(DSCS III F10), i=4.57	130.02W	end 2010
	USA		USGCSS PH3B E PAC-2				
	USA		USRDSS WEST				
129.00 W	USA		USASAT-24N	2008-063A	Ciel 2	128.85W	Dec 2011
				2003-031B	Galaxy 12 moving to 129W from 133W		

128.00 W	USA		ASC-1				
127.00 W	USA		USASAT-240	2003-044A	Galaxy 13/Horizons-1	126.96W	Dec 2011
	USA		USASAT-35C				
	J		N-SAT-127W				
125.00 W	USA		USASAT-22B	2005-030A	Galaxy 14	124.89W	Dec 2011
	USA		USASAT-35D				
123.00 W	USA		USASAT-24P	2008-024A	Galaxy 18	123.01W	Dec 2011
	USA		USASAT-35E				
121.00 W	USA		USASAT-31G	2003-034A	EchoStar 9 (Telstar 13)	121.02W	Dec 2011
	USA		USASAT-23G				
	PNG		PACSTAR-L4				
120.00 W	USA		MILSTAR 6				
119.00 W	USA		USABSS-10	2004-016A	DirecTV-7S	119.02W	Dec 2011
	USA		USABSS-7				
118.70 W	CAN		ANIK E-D	2007-009A	Anik F3	118.66W	Dec 2011
	CAN		CANSAT KA-SX	2002-006A	EchoStar 7	118.78W	Dec 2011
	CAN		CANSAT KA-5	2010-010A	Echostar XIV	118.84W	Dec 2011
	CAN		CANSAT-18				
116.80 W	MEX		MORELOS-2	1998-070A	Satmex 5	116.81W	Dec 2011
115.00 W	USA		USASAT-28G	2006-049A	XM Radio 4 (Blues)	115.23W	Dec 2011
				2001-018A	Sirius XM-1 Roll	115.21W	Dec 2011
				2011-059A	ViaSat-1	115.12W	Dec 2011
114.90 W	CAN		ANIK D-2				
	CAN		CANSAT-17				
	MEX		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		SOLIDARIDAD-2	2006-020A	Satmex 6	112.96W	Dec 2011
	MEX		SOLDARIDAD 2MA				
	MEX		SOLIDARIDAD 2M				
	MEX		SATMEX-7				
111.10 W	CAN		Anik-F2	2004-027A	Anik F2	111.06W	Dec 2011
	CAN		CANSAT KA-4	2006-054A	Wildblue 1	111.18W	Dec 2011
	CAN		ANIK E-B				
110.20 W	USA		USABSS-6	2009-035A	Terrestrial 1, i=5.22	110.29W	Dec 2011
110.00 W	USA		USABSS-5	2002-023A	DirecTV-5	110.07W	Dec 2011
				2008-035A	EchoStar 11	109.94W	Dec 2011
				2006-003A	EchoStar 10	110.18W	Dec 2011
109.20 W	MEX		SOLIDARIDAD 1MA susp.	1992-021B	Inmarsat 2F4	108.75W	Dec 2011
	MEX		SOLIDARIDAD-1 susp.				
	MEX		SOLIDARIDAD 1M susp.				
	MEX		SATMEX-6 suspended				
107.30 W	USA		LM-RPS-107.3W				
	CAN		ANIK-F1	2005-036A	Anik F1R	107.30W	Dec 2011
	CAN		ANIK E-A	2000-076A	Anik F1	107.39W	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=5.65	105.24W	end 2010
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	2007-032A	DirecTV 10	102.79W	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	1995-027A	USA 111 (UFO F5). i=6.68	100.47W	end 2010
	USA		FLTSATCOM E PAC-2				
	USA		USRSS CENTRAL				

99.00 W	USA		USASAT-24J	2008-013A	DirecTV 11	99.22W	Dec 2011
	USA		USASAT-35J	2005-046B	Spaceway 2	99.11W	Dec 2011
	USA		USASAT-31N	2006-023A	Galaxy 16	98.99W	Dec 2011
				2011-035A	SES-2	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-28EL	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				
	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				
91.10 W	CAN		CAN-BSS2 TTAC	2002-062A	Nimiq 2	91.16W	Dec 2011
				1999-027A	Nimiq	91.08W	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				
	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	Arabsat 5C	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-3C	2004-048A	AMC 16	84.97W	Dec 2011
	USA		USASAT-9C				
	USA		USASAT-35O				
	USA		USASAT-31U				
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	79.68W	Dec 2011
	USA		USASAT-35T				
78.00 W	URG		VENESAT-1	2008-055A	Simon Bolivar	77.99W	Dec 2011
77.00 W	USA		USASAT-24O	1995-073A	EchoStar 1	77.13W	Dec 2011
				2002-039A	EchoStar 8	77.04W	Dec 2011
				1998-028A	EchoStar 4, i=2.35	drifting	Aug 2011
				2000-038A	EchoStar 6	76.95W	Dec 2011
76.00 W	USA		USASAT-12C				
75.00 W	USA		GOES EAST	2006-018A	GOES N, i=0.34	75.01W	Dec 2011
	B		B-SAT-S	1998-006A	Brazilsat B-3A	74.96W	Dec 2011
	B		SISCOMIS-4				
	USA		GOES-EAST-1				
74.00 W	USA		USASAT-22E	2007-063B	Horizons 2	74.06W	Dec 2011
	USA		USASAT-15B				
	USA		USASAT-35V				
				2009-050A	Nimiq 5	72.65W	Dec 2011
				1999-056A	DirecTV-1R	72.47W	Dec 2011
72.00 W	ARG		NAHUEL-C				
	USA		USASAT-8B	2000-067A	GE 6	72.01W	Dec 2011
	USA		USASAT-35W				

70.00 W	B		SBTS B1	2008-018B	Star One C2	70.02W	Dec 2011
	USA		USRDSS EAST				
	B		SBTS C1				
	B		SISCOMIS-3				
	B		B-SAT-1C				
68.00 W	USA		MILSTAR 8	2003-012A	USA 169 (Milstar-2 F4), i=2.81	67.57W	end 2010
				1995-016A	Brazilsat B2, i=3.47	67.92W	Dec 2011
67.00 W	CLM	ASA	SIMON BOLIVAR 2	1999-060A	GE 4	66.98W	Dec 2011
65.50 W	RUS		YAMAL-W3				
65.00 W	B		SBTS B2	2007-056A	Star One C1	65.01W	Dec 2011
	B		SISCOMIS-2				
	B		B-SAT-R				
63.00 W	B		B-SAT E	2004-091A	Estrela do Sul 1 Telstar 14	drifting	
	B		B-SAT I	2011-021A	Telstar 14	63.00W	Dec 2011
62.00 W	USA		TDRS 62W				
61.50 W	USA		USABSS-8	2003-033A	Rainbow 1	61.33W	Dec 2011
	USA		USABSS-17	2010-034A	EchoStar XV	61.54W	Dec 2011
				1997-059A	EchoStar 3	61.39W	Dec 2011
61.00 W	B		SBTS B3	2009-054A	Amazonas 2	61.00W	Dec 2011
	USA		USMB-1				
	B		B-SAT-O	2004-031A	Amazonas	60.97W	Dec 2011
				2001-031A	GOES 12. i=1.02	59.57W	Dec 2011
58.00 W	USA		USASAT-25G	2010-006A	Intelsat IS-16	58.12W	Dec 2011
	USA		USASAT-26G-3	2000-043A	PAS 9	58.00W	Dec 2011
	USA		USASAT-26G				
55.50 W	USA		INTELSAT8 304.5E	1999-071A	Galaxy 11	55.47W	Dec 2011
	USA		INTELSAT9 304.5E	1998-037A	Intelsat 805	55.53W	Dec 2011
	USA		INTELSAT7 304.5E				
55.00 W	G		INMARSAT-3 AOR WEST				
	G		INMARSAT-2 AOR WEST				
54.00 W	G		INMARSAT-3 AOR WEST2	1997.027A	Inmarsat 3-F4, i=1.00	54.01W	Dec 2011
	G		INMARSAT GSO-2J				
53.00 W	USA		INTELSAT7 307E	1996-015A	Intelsat VIIA F-2	52.98W	Dec 2011
	USA		INTELSAT IBS 307E				
	USA		INTELSAT8 307E				
	USA		INTELSAT9 307E				
	G		INMARSAT GSO-2L				
52.50 W	USA		USGCSS PH3B W ATL	2003-040A	USA 170 (DSCS III B-6)	52.43W	end 2010
50.00 W	USA		INTELSAT7 310E	2000-072A	PAS 1R	49.94W	Dec 2011
	USA		INTELSAT5A CONT2	1995-013A	Intelsat 705 operating at 50W		
	USA		INTELSAT10 310E				
	USA		INTELSAT9 310E	1988-091B	TDRS-West, i=13.42	48.15W	Dec 2011
49.40 W	USA		USOBO-3	1994-084A	USA 107 (DSP F17), i=10.90	49.74W	end 2010
49.00 W	USA		TDRS 49W				
47.00 W	USA		USASAT-25E	1994-064A	NSS 703	46.99W	Dec 2011
46.00 W	USA		TDRS 46W	1989-021B	TDRS 4, i=12.14	46.21W	Nov 2011
45.00 W	USA		USASAT-13I	2009-064A	Intelsat IS-14	44.98W	Dec 2011
	USA		USASAT-13I-2	1991-080B	USA 75 (DSP F16), i=12.49	45.05W	end 2010
	USA		USASAT-25D				
	USA		USASAT-55G				
	USA		USASAT-60I				
43.00 W	USA		USASAT-55F	2007-044B	Intelsat IS-11	42.96W	Dec 2011
	USA		USASAT-25C				
	USA		USASAT-26C				
42.50 W	USA		USGCSS PH3 MID- ATL				
	USA		USGCSS PH3B MID-ATL				
41.00 W	USA		TDRS-EAST-ISS				
	USA		TDRS EAST	2002-011A	TDRS 9, i=1.47	40.92W	Dec 2011
40.50 W	HOL		INTELSAT5A 319.5E				
	HOL		INTELSAT K 319.5E				
	HOL		INTELSAT7 319.5E				
	HOL		INTELSAT8 319.5E	1998-014A	Intelsat 806	40.46W	Dec 2011
	HOL		NSS-18				
	HOL		INTELSAT IBS 319.5E				
39.00 W	G		DJCF-2A				
	USA		USGAE-17R	1994.009A	USA 99 (Milstar DSF-1), i=7.51	39.00W	end 2010
38.00 W	USA		USGON-5				
37.50 W	USA		USASAT-25A	2009-009A	Telstar11N	37.57W	Dec 2011
	USA		USASAT-25A-1	2005-003A	AMC 12	37.38W	Dec 2011

	USA		USASAT-26A				
36.00 W	RUS		YAMAL-W2				
34.50 W	USA		INTELSAT8 325.5E	2002-016A	Intelsat 903	34.45W	Dec 2011
	USA		INTELSAT6 325.5E				
	USA		INTELSAT9 325.5E				
	USA		INTELSAT7 325.5E				
34.00 W	G		SKYNET-4D	2001-005B	Skynet 4F, i=4.95	34.08W	Dec 2011
	G		SKYNET-4M				
	G		SKYNET-5A				
33.50 W	G		UKDIGISAT-3	2010-065A	HYLAS-1 (antenna OK?)	33.46W	Dec 2011
31.50 W	USA		INTELSAT8 328.5E	2008-034A	Protostar 1	31.44W	Dec 2011
	USA		INTELSAT9 328.5E				
30.40 W	USA		USDKH2				
30.00 W	E		HISPASAT-2B KU	2000-007A	Hispasat 1C	30.02W	Dec 2011
	E		HISPASAT-2A KU	2006-007A	Spainsat	29.95W	Dec 2011
	E		HISPASAT-2C3 KU				
	E		HISPASAT-2D KU				
	USA		USMB-2				
	USA		USGGR-3				
	USA		USCSID-E4				
	E		HISPASAT-2AKA				
	E		HISPASAT-2B 30KA				
	E		HISPASAT-2AX				
	E		HISPASAT-1DKU	2002-044A	Hispasat 1D	29.46W	Dec 2011
	E		HISPASAT-1	2010-070A	Hispasat 1E	29.98W	Dec 2011
29.50 W	USA		INTELSAT8 330.5E	1997-009A	Intelsat 801, i=2.91	29.53W	Dec 2011
	USA		INTELSAT6 330.5E				
	USA		INTELSAT9 330.5E				
27.50 W	USA		INTELSAT7 332.5E				
	USA		INTELSAT6 332.5E				
	USA		INTELSAT8 332.5E				
	USA		INTELSAT9 332.5E	2003-007A	Intelsat 907	27.46W	Dec 2011
26.50 W	RUS		STATSIONAR-D1				
	RUS		VOLNA-13				
	RUS		TOR-1M				
	RUS		STATSIONAR-17				
	RUS		GALS-1				
26.00 W	G		DJCF-2B				
				1994-054A	USA 105 (Mercury 1), i=7.08	25.41W	end 2010
25.00 W	RUS		GALS-9				
	RUS		VOLNA-1A				
	RUS		STATSIONAR-8				
	RUS		TOR-9M				
24.5 W	USA		INTELSAT7 335.5E				
	USA		INTELSAT6 335.5E				
	USA		INTELSAT8 335.5E				
	USA		INTELSAT9 335.5E	2002-027A	Intelsat 905	24.49W	Dec 2011
24.00 W	RUS		PROGOZ-1				
	USA		USCSID-E3				
23.00 W	USA		FLTSATCOM ATL	1996-042A	USA 127 (UFO F7), i=5.19	22.73W	end 2010
22.50 W	USA		FLTSATCOM-C E ATL-1				
	USA		KASATCOM-2				
22.00 W	HOL		NSS-16	2002-019A	NSS-7	21.99W	Dec 2011
21.50 W	HOL		INTELSAT K 338.5E				
	HOL		INTELSAT5A 338.5E				
	HOL		INTELSAT8 338.5E				
	HOL		INTELSAT7 338.5E				
20.20 W	BEL		SATCOM-4/20.2W				
20.00 W	USA		INTELSAT7 340E				
	USA		INTELSAT6 340E				
	USA		INTELSAT8 340E	1997-053A	Intelsat 803 = NSS 803	19.99W	Dec 2011
	HOL		NSS-31				
	USA		INTELSAT9 340E				
19.00 W	USA		USMB-3				
18.00 W	USA		INTELSAT7 342E				
	USA		INTELSAT8 342E	2008-030A	Skynet 5C	17.78W	Dec 2011
	USA		INTELSAT9 342E	2001-024A	Intelsat 901	17.99W	Dec 2011
17.00 W	G		INMARSAT-3 AOR EAST-2				

16.00 W	RUS		ZSSRD-2	2011-074B	Luch 5A drifting to planned	16 W	Jan 2012
	RUS		WSDRN				
15.50 W	USA		FLTSATCOM-C E ATL-2	1989-077A	USA46(FLOTSATCOM F8)	15.37W	end 2010
	G		INMARSAT-3 AOR EAST	1996-053A	Inmarsat 3-F2	15.43W	Dec 2011
	G		INMARSAT-2 AOR EAST				
15.00 W	USA		USASAT-14L	1999-059A	Orion 2	15.00W	Dec 2011
14.50 W	RUS		GOMS-1M	1998-029A	USA 139 (Adv. Orion 2), i=8.35	14.61W	end 2010
14.00 W	RUS		VOLNA-2				
	RUS		EXPRESS-2	2002-029A	Ekspress A1R, i=1.31	13.96W	Dec 2011
	RUS		EXPRESS-2B				
13.50 W	RUS		POTOK-1				
	RUS		FOTON-1				
13.00 W	USA		P92-4				
	USA		P-197-4				
	USA		USCSID-E2				
	USA		USTRO-4				
12.50 W	USA		USLL-ATL2	2009-068A	USA 211 (WGS F3)	12.27W	end 2010
	F	EUT	EUTELSAT 3-12.5W	2002-040A	Atlantic Bird 1	12.44W	Dec 2011
	F		F-SAT-KU2-E-12.5W				
12.00 W	USA		USGCSS PH3B ATL				
	USA		USGOVSAT-8	2000-065A	USA 153 (DSCS III B-11)	11.82W	end 2010
	USA		TDRS 12W				
11.00 W	RUS		EXPRESS-3	2009-007A	Ekspress AM-44	10.98W	Dec 2011
10.00 W	USA		USLL-ATL	2000-080A	USA 155 (SDS 3 F2), i=4.25	10.10W	end 2010
	USA		P92-3				
	USA		P-197-5				
	USA		USMB-4				
	USA		USCSID-E1				
	USA		USTRO-5				
	F	ESA	MSG-S2				
9.50 W	RUS		KUPON-3				
8.00 W	F		TELECOM-2A	2001-042A	Atlantic Bird 2	8.09W	Dec 2011
	F		TELECOM-3A	1996-044B	Telecom 2D, i=5.06	7.80W	Dec 2011
	F		SYRACUSE-3C	2011-051A	Atlantic Bird 7	7.28W	Dec 2011
	F		TELECOM-4A				
	F		VIDEOSAT-6-KA				
	F		SYRACUSE-31C				
	F		F-SAT-KU-E-8W				
	F		VIDEOSAT-6				
				2000-046B	Nilesat 102	7.04W	Dec 2011
				1998-024A	Nilesat 101	7.00W	Dec 2011
				2010-037A	Nilesat 201	7.02W	Dec 2011
5.00 W	F		TELECOM-2B	2002-035A	Atlantic Bird 3	4.95W	Dec 2011
	F		TELECOM-3B				
	F		SYRACUSE-3E	2006-033B	Syracuse 3B	5.16W	Dec 2011
	F		VIDEOSAT-7-KA				
	F		TELECOM-4B				
	F		SYRACUSE-31E				
	F		F-SAT-KU-E5W				
	F		VIDEOSAT-7				
4.00 W	ISR		AMOS 1-B	2003-059A	Amos 2	3.95W	Dec 2011
	ISR		AMOS 2-B	2008-022A	Amos 3	4.00W	Dec 2011
				1998-035A	Thor III, i=0.71	4.27W	Dec 2011
3.00 W	RUS		GALS-11	1997-042A	Agila 2 =ABS 3	3.08W	Dec 2011
	RUS		STATSIONAR-M2				
	RUS	IK	INTERSPUTNIK-3W				
	RUS		TOR-11M				
	RUS	IK	INTERSPUTNIK-3W-Q				
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
			BIFROST-15 suspended	2009-058B	Thor 6	0.82W	Dec 2011

Annex II

List of Space Networks with No Satellites at Nominal Positions

The Table lists “notified space networks” is an excerpt from the table in Annex I. Only space networks, notified in January 2012, having no satellites at their nominal orbital positions in the geostationary orbit have been listed.

The right-hand part of the Table contains five columns referring to specific dates in 2008 to 2012. No entry means that no space network was listed in the ITU Space Network List at that date.

“No sat” means that no satellite was present at that orbital position at the date in the heading. Remarks have been inserted in some cells quoting positions of nearby satellites.

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List of Space Networks with no Satellites at Nominal Positions									
			Version of	4 Feb 2012					
Notified Space Networks				Status as of					
Nom.	Adm	Ntwk	Space Network Name	5 May	30 Nov	17 Feb	13 May	16 Jan	
Long.		Org		2008	2009	2010	2011	2012	
1.00 E	RUS		VOLNA-21	No sat	No sat	No sat	No sat	No sat	
	RUS		GALS-15	No sat	No sat	No sat	No sat	No sat	
	RUS		TOR-15M	No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-22	No sat	No sat	No sat	No sat	No sat	
	F		GEOSAT KU 1E	---	---	---	No sat	No sat	
5.50 E	CTI	RAS	RASCOM-C	---	---	---	No sat	No sat	
	Remark: Satellite 2010-037B Rascom QAF is at 2.28E								
8.00 E	RUS		VOLNA-15	No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-18	No sat	No sat	No sat	No sat	No sat	
	RUS		GALS-7	No sat	No sat	No sat	No sat	No sat	
	RUS		TOR-8 M	---	No sat	No sat	No sat	No sat	
8.50 E	USA		USGON-2	USA149	No sat	No sat	No sat	No sat	
	Remark: Satellite 2000-024A USA 149 moved to 165W								
14.00 E	RUS		TOR-12 M	---	No sat	No sat	No sat	No sat	
15.00 E	RUS		GALS-12	No sat	No sat	No sat	No sat	No sat	
	RUS		VOLNA-23	No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-23	No sat	No sat	No sat	No sat	No sat	
	Remark: Satellite 2011-057A Eutelsat W3C is at 15.12E								
16.50 E	F		SATDAB-3A	---	No sat	No sat	No sat	No sat	
17.00 E	BLR	IK	INTERSPUTNIK-17E	No sat	No sat	No sat	No sat	No sat	
19.00 E	LUX		LUX-KA-19E	No sat	No sat	No sat	No sat	No sat	
23.00 E	RUS		VOLNA-17	No sat	No sat	No sat	No sat	No sat	
	RUS		GALS-8	No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-19	No sat	No sat	No sat	No sat	No sat	
24.00 E	RUS		TOR-7M	---	No sat	No sat	No sat	No sat	
24.20 E	LUX		LUX-24.2E	---	No sat	No sat	No sat	No sat	
35.00 E	RUS		GALS-6	No sat	No sat	No sat	No sat	No sat	
	RUS		PROGNOZ-3	No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-2	No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-D3	No sat	No sat	No sat	No sat	No sat	
	RUS		VOLNA-11	No sat	No sat	No sat	No sat	No sat	
	RUS		TOR-2M	---	No sat	No sat	No sat	No sat	
39.50 E	G		DJCF-1A	No sat	No sat	No sat	No sat	No sat	
50.50 E	THA		THAICOM-C1	---	---	No sat	No sat	No sat	
58.00 E	RUS		TOR-13M		No sat	No sat	No sat	No sat	
58.75 E	CHN		COMPASS-58.75E	No sat	No sat	No sat	No sat	No sat	
65.00 E	G		INMARSAT-3 IOR-2	No sat	No sat	No sat	No sat	No sat	
	G		INMARSAT GSO-2H	---	No sat	No sat	No sat	No sat	
	Remark: Satellite 2006-024A USA 187 was at 65.04E in 2010								

66.00 E	G		INTELSAT KA 66E		Int 7 F-4	No sat	Int 7 F-2	---	No sat
	USA		INTELSAT INDOC		Int 7 F-4	No sat	Int 7 F-2	---	No sat
	USA		INTELSAT5A 66E		Int 7 F-4	No sat	Int 7 F-2	---	No sat
	USA		INTELSAT7 66E		Int 7 F-4	No sat	Int 7 F-2	Int 7 F-2	No sat
	USA		INTELSAT9 66E		---	---	Int 7 F-2	Int 7 F-2	No sat
	USA		INTELSAT5 INDOC4		---	---	Int 7 F-2	Int 7 F-2	No sat
Remark: Satellite 1994-034A Intelsat 702 moved to 47.52E in 2011									
67.50 E	UAE		YAHSAT-BSS-67.5E		---	No sat	No sat	No sat	No sat
68.00 E	USA		USASAT-14I-2		No sat	No sat	No sat	No sat	No sat
69.00 E	RUS		GALS-14		No sat	No sat	No sat	No sat	No sat
	RUS		TOR-14M		---	No sat	No sat	No sat	No sat
77.00 E	RUS		CSSRD-2		No sat	No sat	No sat	No sat	No sat
Remark: Satellite 2008-019A Tian Lian A is at 77.03E									
79.60 E	CHN		CHINASAT-34A		---	---	---	---	No sat
81.75 E	RUS		YAMAL-E3		No sat	No sat	No sat	No sat	No sat
82.00 E	USA		USMB-11		No sat	No sat	No sat	No sat	No sat
	USA		USGGR-8		No sat	No sat	No sat	No sat	No sat
	USA		USCSID-A4		No sat	No sat	No sat	No sat	No sat
	AUS		DEF-R-SAT-1A		No sat	No sat	No sat	No sat	No sat
85.40 E	RUS		STATSIONAR-D5		No sat	No sat	No sat	No sat	No sat
	RUS		SADKO-1		---	---	---	No sat	No sat
92.00 E	USA		USCSID-A5		No sat	No sat	No sat	No sat	No sat
	USA		USMB-12		No sat	No sat	No sat	No sat	No sat
93.00 E	AUS		DEF-R-SAT-3A		No sat	No sat	No sat	No sat	No sat
99.00 E	RUS		STATSIONAR-T		Ekran 21	No sat	No sat	No sat	No sat
	RUS		STATSIONAR-T2		Ekran 21	No sat	No sat	No sat	No sat
100.00 E	USA		USBUD-1		---	Leasat 5	Leasat 5	No sat	No sat
	USA		FLTSATCOM-A INDOC 4		---	---	---	No sat	No sat
101.50 E	CHN		CHINASAT-45		---	No sat	No sat	No sat	No sat
106.50 E	USA		USMB-13		No sat	No sat	No sat	No sat	No sat
109.65 E	J		TAIKI-109.65-34.5		---	BSat-1A	BSat-1A	No sat	No sat
113.20 E	CHN		CHNBSAT -113.5E		---	---	---	---	No sat
116.20 E	KOR		COMS-116.2E		---	---	---	---	No sat
119.00 E	CHN		CHNBSAT- 119E		---	---	---	---	No sat
120.00 E	J		GMS-120E		No sat	No sat	No sat	No sat	No sat
	THA		THAICOM-A3		Thaicom1	Thaicom1	Thaicom1	Thaicom1	No sat
	THA		THAICOM-AK3		Thaicom1	Thaicom1	Thaicom1	Thaicom1	No sat
	THA		THAICOM-A3B		Thaicom1	Thaicom1	Thaicom1	Thaicom1	No sat
Remark: Satellite 2005-028A Thaicom 4 is at 119.50E, 1993-078B Thaicom 1 is drifting									
121.00 E	CHN		DFH-3-OH		No sat	No sat	No sat	No sat	No sat
	AUS		DEF-R-SAT-4B 121.0E		No sat	No sat	No sat	No sat	No sat
126.00 E	THA		THAICOM C2		---	No sat	No sat	No sat	No sat
Remark: Satellite 1995-022A USA 110 is was at 126E in 2010									
128.00 E	RUS		GALS-10		No sat	No sat	No sat	Raduga 1	No sat
	RUS		VOLNA-9		No sat	No sat	No sat	Raduga 1	No sat
	RUS		STATSIONAR-15		No sat	No sat	No sat	Raduga 1	No sat
	RUS		STATSIONAR-D6		No sat	No sat	No sat	Raduga 1	No sat
	RUS		STATSIONAR-D6-30B		No sat	No sat	No sat	Raduga 1	No sat
Remark: Satellite 2004-010A Raduga 1 1 7 was drifting in 2010									
130.00 E	RUS		GALS-5		No sat	No sat	No sat	No sat	No sat
	RUS		PROGNOZ-5		No sat	No sat	No sat	No sat	No sat

	RUS		TOR-10M		---	No sat	No sat	No sat	No sat	
131.00 E	CHN		APSTAR-1		No sat	No sat	No sat	No sat	No sat	
133.00 E	USA		TDRS 133E		---	---	No sat	No sat	No sat	
140.40 E	CHN		CHINASAT-35B		---	---	---	---	No sat	
143.72 E	J		N-SAT-143.72E		---	No sat	No sat	No sat	No sat	
144.50 E	CHN		CHINASAT-35C		---	---	---	---	No sat	
157.00 E	USA		INTELSAT5A 157E		Int 6 F-2	No sat	No sat	No sat	No sat	
	USA		INTELSAT6 157E		Int 6 F-2	No sat	No sat	No sat	No sat	
	USA		INTELSAT7 157E		Int 6 F-2	No sat	No sat	No sat	No sat	
	USA		INTELSAT8 157E		Int 6 F-2	No sat	No sat	No sat	No sat	
	Remark: Intelsat 6 F-2 moved in 2008 from 157E to 178 E									
163.00 E	CHN		CHINASAT-163E		---	No sat	No sat	No sat	No sat	
167.00 E	RUS		VSSRD-2		No sat	No sat	No sat	No sat	No sat	
174.00 E	USA		INTELSAT5A PAC1		Int 6 F-5	No sat	No sat	---	---	
	USA		INTELSAT7 174E		Int 6 F-5	No sat	No sat	PAS 2	No sat	
	USA		INTELSAT8 174E		Int 6 F-5	No sat	No sat	PAS 2	No sat	
	USA		INTELSAT9 174E		Int 6 F-5	No sat	No sat	PAS 2	No sat	
	Remark: Satellite 1994-040A PAS 2 = In telsat 2 was drifting in 2011									
177.00 E	USA		INTELSAT7 177E		---	No sat	No sat	No sat	No sat	
	Remark: Satellite 2011-032A TL-102 was at 176.90E in Dec 2011									
177.50 E	USA		MILSTAR 14		No sat	No sat	No sat	No sat	No sat	
	USA		USGAE-4		No sat	No sat	No sat	No sat	No sat	
179.00 E	G		INMARSAT-3 POR-1		No sat	No sat	No sat	No sat	No sat	
	Remark: Satellite 1996-070A Inmarsat 3 F-3 was at 178.10E in Dec 2011									
170.00 W	RUS		GALS-4		No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-10		No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-10A		No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-D2		No sat	No sat	No sat	No sat	No sat	
	RUS		STATSIONAR-D2-30B		No sat	No sat	No sat	---	---	
	RUS		TOR-5		No sat	No sat	No sat	No sat	No sat	
	RUS		VOLNA-7		No sat	No sat	No sat	No sat	No sat	
	RUS		TOR-5M		---	No sat	No sat	No sat	No sat	
168.00 W	RUS		FOTON-3		No sat	No sat	No sat	No sat	No sat	
	RUS		POTOK-3		No sat	No sat	No sat	No sat	No sat	
160.00 W	RUS		ESDRN		No sat	No sat	No sat	No sat	No sat	
159.00 W	RUS		PROGNOZ-7		No sat	No sat	No sat	No sat	No sat	
141.00 W	USA		P-197-3		No sat	No sat	No sat	No sat	No sat	
	USA		P-92-5		No sat	No sat	No sat	No sat	No sat	
	USA		USCID-W1		No sat	No sat	No sat	No sat	No sat	
	USA		USLL-PAC-2		No sat	No sat	No sat	No sat	No sat	
	USA		USTRO-3		---	No sat	No sat	No sat	No sat	
133.00 W	USA		USASAT-22A		Galaxy 15	Galaxy 15	Galaxy 15	Galaxy 12	No sat	
			USASAT-35Y		---	Galaxy 15	Galaxy 15	Galaxy 12	No sat	
			LM-RPS-133W		---	---	Galaxy 15	Galaxy 12	No sat	
	Remark: Satellite 2003-15B Galaxy 12 relocating to 129W,							Galaxy 15 librating around L2		
128.00 W	USA		ASC-1		No sat	No sat	No sat	No sat	No sat	
120.00 W	USA		MILSTAR-6		No sat	No sat	No sat	No sat	No sat	

114.90 W	CAN		ANIK D-2		No sat	Solid. 2	Solid.2	No sat	No sat
	Remark: Satellite 1994-065A Solidaridad 2 was at 114.79W in Dec 2011								
96.80 W	USA		USOBO-2		---	No sat	No sat	No sat	No sat
92.00 W	B		SBTS-B4		No sat	No sat	No sat	No sat	No sat
90.00 W	USA		MILSTAR-1		USA 169	No sat	No sat	No sat	No sat
	USA		USGAE-1		USA 169	No sat	No sat	No sat	No sat
81.00 W	USA		USASAT-9D		Galaxy 9	Galaxy 9	Galaxy 9	PAS 3R	PAS 3R
	ARG		P-P-SAT-1		---	Galaxy 9	Galaxy 9	PAS 3R	PAS 3R
	Remark: Satellite 1996-033A Galaxy9 and 1996-002PAS 3R are drifting								
79.00 W	USA		TDRS CENTRAL		Satcom C3	GE-5	GE-5	GE 2,GE 5	GE 2
	USA		TDRS-C2		Satcom C3	GE-5	GE-5	GE 2,GE 5	GE 2
	USA		USASAT-24W		Satcom C3	GE-5	GE-5	GE 2,GE 5	GE 2
	USA		USASAT-35T		Satcom C3	GE-5	GE-5	GE 2,GE 5	GE 2
	Remark: Satellite 1997-002A GE 2 drifting, GE-5 moved, Satcom C3 reorbited								
76.00 W	USA		USASAT-12C		No sat	No sat	No sat	No sat	No sat
62.00 W	USA		TDRS 62W		TDRS 9	TDRS 9	TDRS 9	TDRS 9	No sat
	Remark: Satellite 2002-011A TDRS 9 was at 40.92W in Dec 2011								
55.00 W	G		INMARSAT-2 AOR WEST		No sat	No sat	No sat	No sat	No sat
47.00 W	USA		USASAT-25E		No sat	No sat	No sat	No sat	No sat
42.50 W	USA		USGCSS PH3 MID ATL		No sat	No sat	No sat	No sat	No sat
	USA		USGCSS PH3B MID ATL		No sat	No sat	No sat	No sat	No sat
38.00 W	USA		USGON-5		No sat	No sat	No sat	No sat	No sat
33.50 W	G		UKDIGISAT-3		---	---	---	---	No sat
30.40 W	USA		USDKH2		---	No sat	No sat	No sat	No sat
26.50 W	RUS		GALS-1		No sat	No sat	No sat	No sat	No sat
	RUS		STATIONAR-17		No sat	No sat	No sat	No sat	No sat
	RUS		VOLNA-13		No sat	No sat	No sat	No sat	No sat
	RUS		TOR-1M		---	No sat	No sat	No sat	No sat
26.00 W	G		DJCF-2B		---	No sat	No sat	No sat	No sat
25.00 W	RUS		GALS-9		No sat	No sat	No sat	No sat	No sat
	RUS		STATIONAR-8		No sat	No sat	No sat	No sat	No sat
	RUS		VOLNA-1A		No sat	No sat	No sat	No sat	No sat
	RUS		TOR-9M		---	No sat	No sat	No sat	No sat
24.00 W	RUS		PROGNOZ-1		No sat	No sat	No sat	No sat	No sat
	USA		USCID-E3		No sat	No sat	No sat	No sat	No sat
22.50 W	USA		FLTSATCOM-C E ATL-1		No sat	No sat	No sat	No sat	No sat
	USA		KASATCOM-2		No sat	No sat	No sat	No sat	No sat
21.50 W	HOL		INTELSAT K 338.5E		No sat	No sat	No sat	No sat	No sat
	HOL		INTELSAT5A 338.5E		No sat	No sat	No sat	No sat	No sat
	HOL		INTELSAT7 338.5E		No sat	No sat	No sat	No sat	No sat
	HOL		INTELSAT8 330.5E		No sat	No sat	No sat	No sat	No sat
20.20 W	BEL		SATCOM-4 20.2W		---	No sat	No sat	No sat	No sat
17.00 W	G		INMARSAT-3 AOR East2		No sat	No sat	No sat	No sat	No sat
16.00 W	RUS		WSDRN		No sat	No sat	No sat	No sat	No sat

