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**Committee on the Peaceful
Uses of Outer Space**

**Information furnished in conformity with the Convention
on Registration of Objects Launched into Outer Space**

**Note verbale dated 11 February 2009 from the Permanent Mission
of France to the United Nations (Vienna) addressed to the
Secretary-General**

The Permanent Mission of France to the United Nations (Vienna) presents its compliments to the Secretary-General of the United Nations and, in accordance with article IV of the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex), has the honour to submit information on space objects launched by France during the period from 1 January to 31 December 2008 (annex I), information on space objects registered by France that have re-entered the Earth's atmosphere during that period (annex II) and supplementary information on France's previously launched space objects (annex III).



Annex I

Registration data on space objects launched by France between 1 January and 31 December 2008*

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched by launcher	State/organization
2008-008B	9 March 2008	Kourou, French Guiana	Ariane 5 ES	90	52	276	265	EPS upper stage (piloted re-entry at end of launcher mission on 10 March 2008)	V 181	ATV-1 "Jules Verne" (re-entry on 24 September 2008)	European Space Agency
2008-018C	18 April 2008	Kourou, French Guiana	Ariane 5	627	2	35 546	224	ESC-A cryogenic upper stage	V 182	STAR ONE C2	Brazil
2008-018D			ECA	601	2	34 238	211	SYLDA inter-satellite structure			
2008-030C	12 June 2008	Kourou, French Guiana	Ariane 5	628	2	35 577	270	ESC-A cryogenic upper stage	V 183	SKYNET 5C	United Kingdom
2008-030D			ECA	625	2	35 393	258	SYLDA inter-satellite structure		TURKSAT 3A	Turkey
2008-032A	20 June 2008	Vandenberg AFB, California, USA	Delta 2	112	66	1 344	1 332	JASON 2 satellite (Franco-American)		JASON 2	France
2008-034C	7 July 2008	Kourou, French Guiana	Ariane 5	629	2	35 595	281	SYLDA inter-satellite structure	V 184	PROTOSTAR 1	Bermuda/ United Kingdom
2008-034D			ECA	630	2	35 644	295	ESC-A cryogenic upper stage		BADR 6	Arabsat

* The registration data are reproduced in the form in which they were received.

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched by launcher	State/organization
2008-038C	14 August 2008	Kourou, French Guiana	Ariane 5	631	2	35 644	293	ESC-A cryogenic upper stage	V 185	SUPERBIRD 7	Japan
2008-038D			ECA	629	2	35 587	271			SYLDA inter-satellite structure	AMC 21
2008-065A				1 436	0	35 788	35 785	Hot Bird 9 satellite			
2008-065B	20 December 2008	Kourou, French Guiana	Ariane 5	1 436	0	35 807	35 768	W2M satellite	V 186	Hot Bird 9	France (EUTELSAT)
2008-065C			ECA	631	4	35 697	272	SYLDA inter-satellite structure		W2M	France (EUTELSAT)
2008-065D				629	4	35 621	258	ESC-A cryogenic upper stage			

Note: France registers European Telecommunications Satellite Organization (EUTELSAT) satellites.

Registration data on space objects previously launched by France

Registration number	Date of launch	Launch site	Type of launcher	Basic orbital characteristics				General function of space object	Ariane launch number	Remarks	
				Nodal period (minutes)	Inclination (degrees)	Apogee (km)	Perigee (km)			Satellite launched by launcher	State/organization
2001-055A	7 December 2001	Vandenberg Air Force Base, USA	Delta 2	112	66	1 343	1 332	JASON-1 satellite (Franco-American)		JASON 1	France

Annex II

Information provided by France in conformity with article IV, paragraph 3, of the Convention on Registration of Objects Launched into Outer Space on space objects registered by France that re-entered the Earth's atmosphere between 1 January and 31 December 2008*

<i>Registration number</i>	<i>Date of launch</i>	<i>General function of space object</i>	<i>Atmospheric re-entry</i>
1995-029B	10 June 1995	Non-functional launcher element (Ariane 4 V 74)	13 January 2008
2008-008B	9 March 2008	EPS upper stage (piloted re-entry at end of launcher mission Ariane 5 V 181)	10 March 2008
2006-043D	13 October 2006	Non-functional launcher element (SYLDA inter-satellite structure Ariane 5 V 173)	21 July 2008
1988-081C	8 September 1988	Non-functional launcher element (Ariane 3 V 25)	2 August 2008

* The data are reproduced in the form in which they were received.

Annex III

Additional information provided by France in conformity with article IV, paragraph 2, of the Convention on Registration of Objects Launched into Outer Space on space objects registered by France*

Table 1
French satellites in an inclined orbit and still operational

<i>Registration number</i>	<i>Satellite</i>	<i>Type of orbit</i>
1990-005A	SPOT 2 Earth observation satellite	820 km sun-synchronous
1995-033A	Helios 1A observation satellite	680 km polar orbit
1998-017A	SPOT 4 Earth observation satellite	820 km sun-synchronous
2001-055A	French-American Jason 1 oceanography satellite	1,330 km orbit inclined at 66°
2002-021A	SPOT 5 Earth observation satellite	820 km sun-synchronous
2004-025C	DEMETER scientific satellite	680 km polar orbit
2004-049A	Helios 2A observation satellite	660 km polar orbit
2004-049C	Essaim 1 satellite for characterization of Earth's electromagnetic environment	660 km polar orbit
2004-049D	Essaim 2 satellite for characterization of Earth's electromagnetic environment	660 km polar orbit
2004-049E	Essaim 3 satellite for characterization of Earth's electromagnetic environment	660 km polar orbit
2004-049F	Essaim 4 satellite for characterization of Earth's electromagnetic environment	660 km polar orbit
2004-049G	PARASOL satellite for characterization of the radiative and microphysical properties of clouds and aerosols	700 km polar orbit
2006-016B	CALIPSO satellite for three-dimensional characterization of clouds and aerosols	700 km polar orbit
2006-063A	COROT satellite for exoplanet detection	900 km polar orbit
2008-032A	French-American Jason 2 oceanography satellite	1,330 km orbit inclined at 66°

* The data are reproduced in the form in which they were received.

Table 2
French satellites in geostationary orbit and still operational, with approximate orbital positions

<i>Registration number</i>	<i>Satellite</i>	<i>Approximate orbital position as at 31 December 2008</i>
1995-067A	TC 2C telecommunications satellite	3.0° E
1996-044B	TC 2D telecommunications satellite	8.0° W
1996-067A	Eurobird™ 9 telecommunications satellite (formerly HotBird™ 2)	9.0° E
1997-049A	Eurobird™ 4 telecommunications satellite (formerly HotBird™ 3)	4.0° E
1998-013A	Atlantic Bird™ 4 telecommunications satellite (formerly HotBird™ 4)	7.0° W
1998-056A	W2 telecommunications satellite	16.0° E
1998-057A	Eurobird™ 2 telecommunications satellite (formerly HotBird™ 5)	25.5° E
1999-018A	W6 telecommunications satellite (formerly W3)	21.5° E
2000-019A	SESAT 1 telecommunications satellite	36.0° E
2000-028A	W4 telecommunications satellite	36.0° E
2000-052A	W1 telecommunications satellite	10.0° E
2001-011A	Eurobird™ 1 telecommunications satellite	28.5° E
2001-042A	Atlantic Bird™ 2 telecommunications satellite	8.0° W
2002-035A	Atlantic Bird™ 3 telecommunications satellite	5.0° W
2002-038A	HotBird™ 6 telecommunications satellite	13.0° E
2002-040A	Atlantic Bird™ 1 telecommunications satellite	12.5° W
2002-051A	W5 telecommunications satellite	70.5 E
2003-043A	Eurobird™ 3 telecommunications satellite (formerly E-Bird™)	33.0° E
2004-008A	W3A telecommunications satellite	7.0° E
2005-041B	Syracuse 3A telecommunications satellite	47.0° E
2006-007B	HotBird™ 7A telecommunications satellite	13.0° E
2006-032A	HotBird™ 8 telecommunications satellite	13.0° E
2006-033B	Syracuse 3B telecommunications satellite	5.0° W
2008-065A	HotBird™ 9 telecommunications satellite	13.0° E
2008-065B	W2M telecommunications satellite	16.0° E

Table 3
French satellites still in orbit but no longer operational

<i>Registration number</i>	<i>Satellite</i>
1965-096A	A1 experimental satellite
1965-101A	FR1 technological satellite
1966-013A	D1 experimental satellite
1967-011A	Diadème 1 experimental satellite
1967-014A	Diadème 2 experimental satellite
1971-071A	EOLE experimental data collection satellite
1974-101A	Symphonie 1 experimental telecommunications satellite
1975-010A	Starlette scientific satellite
1975-077A	Symphonie 2 experimental telecommunications satellite
1977-108A	Meteosat 1 meteorological satellite (European Space Agency (ESA))
1978-044A	OTS 2 experimental telecommunications satellite (ESA)
1978-071A	GEOS 2 scientific satellite (ESA)
1984-081B	TC 1A telecommunications satellite Two reorbiting manoeuvres effected on 7 and 8 September 1992 from orbital position 11° W Final orbit: apogee: 42,595 km, eccentricity: 1.3×10^{-3} , perigee: +375 km above the GSO orbit; drift 5.3°/day to west. Satellite finally ceased operation on 9 September 1992.
1985-035B	TC 1B telecommunications satellite Attitude and orbit control system supply breakdown on 15 January 1988 (last orbital position: 5° W); the satellite is rotating around its principal inertia axis Z; oscillation orbit about 75° W.
1986-019A	SPOT 1 Earth observation satellite In conformity with the Inter-Agency Space Debris Coordination Committee (IADC) recommendations, deorbiting manoeuvres were effected in November 2003 to lower the satellite's perigee from 800 to 594 km in order to restrict its life in space to approximately 18 years.
1987-078B	EUTELSAT I-F4 (ECS 4) telecommunications satellite (ESA)
1988-018B	TC 1C telecommunications satellite Two reorbiting manoeuvres 12 hours apart were effected on 9 February 1996 from orbital position 1° E. Final orbit: apogee: 42,830 km, eccentricity: 0.01; perigee: 42,400 km or +235 km above the GSO orbit; drift 6°/day to west. Satellite finally ceased operation on 13 February 1996.
1988-098A	TDF1 live television satellite Last orbital position: 19° W. Semi-major axis increased by 300 km. Satellite configured in solar pointing mode and ceased operation in September 1996.
1990-063A	TDF2 live television satellite Last orbital position: 36° E. Semi-major axis 42,440 km; drift 3.9° to West. Satellite ceased operation on 1 June 1999.

<i>Registration number</i>	<i>Satellite</i>
1990-079B	EUTELSAT II F1 telecommunications satellite
1991-003B	EUTELSAT II F2 telecommunications satellite
1991-050E	SARA experimental microsatellite
1991-083A	EUTELSAT II F3 telecommunications satellite
1991-084A	TC 2A telecommunications satellite Withdrawn from service in November 2005
1992-021A	TC 2B telecommunications satellite Satellite was reorbited 188 km above the GSO orbit from orbital position 47° E and finally ceased operation on 23 June 2003.
1992-041B	EUTELSAT II F4 telecommunications satellite
1992-052C	S80T technological satellite
1993-031B	ARSENE amateur radio satellite
1993-061A	SPOT 3 Earth observation satellite
1993-061B	Stella scientific satellite
1995-016B	HotBird™ 1 telecommunications satellite Satellite was placed in a graveyard orbit from orbital position 13° E at the beginning of 2007.
1995-033B	Cerise space-object technique and technology research satellite
1999-064A	Helios 1B space-object technique and technology research satellite Following a breakdown of its supply system, the satellite was withdrawn from its orbit on 21 October 2004. In conformity with IADC recommendations, deorbiting manoeuvres were effected with a view to maximum restriction of the satellite's life in Earth orbit.
1999-064B	Clémentine experimental satellite
2002-021B	Idefix amateur radio satellite (with third stage of Ariane launch vehicle)