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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 20 September 2006 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 July 2006 (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 July 2006*

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	State/organization
2006 007 B	11 March 2006	Kourou, French Guiana	Ariane 5 ECA	1 436	0	35 804	35 768	HotBird 7A telecommunications satellite	V170	HotBird 7A	France
2006 007 C	11 March 2006	Kourou, French Guiana	Ariane 5 ECA	629	4.91	35 574	303	SYLDA inter-satellite structure		SPAINSAT	Spain
2006 007 D	11 March 2006	Kourou, French Guiana	Ariane 5 ECA	623	5.04	35 285	304	ESC-A cryogenic upper stage			
2006 016 B	28 April 2006	Vandenberg Air Force Base, USA	Delta 2	98.83	98.24	703	702	Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observation (CALIPSO) meteorological satellite: CALIPSO is part of the A-Train formation, which also includes the National Aeronautics and Space Administration (NASA) Aqua and Aura satellites, the NASA/Canadian Space Agency CloudSat satellite and the Centre national d'études spatiales (CNES) Parasol satellite. CALIPSO's main instrument is a lidar, which makes it possible to profile the vertical structure of the atmosphere. The lidar operates at two wavelengths (532 nm and 1,064 nm). The payload also includes an infrared imager (supplied by CNES) and a wide-field visible imager, which allow, in particular, both daytime and night-time lidar measurement characterization. It has a nominal lifetime of 3 years. Additional information: Frequency plan: Earth-space: 2088.878 MHz (telecommand) Space-Earth: 2268.465 MHz (housekeeping telemetry) 8330 MHz (scientific telemetry)			

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

<i>Registration number</i>	<i>Date of launch</i>	<i>Launch site</i>	<i>Type of launcher</i>	<i>Basic orbital characteristics</i>				<i>General function of space object</i>	<i>Ariane launch number</i>	<i>Remarks</i>	
				<i>Nodal period (minutes)</i>	<i>Inclination (degrees)</i>	<i>Apogee (km)</i>	<i>Perigee (km)</i>			<i>Satellite launched</i>	<i>State/ organization</i>
2006 020 C	27 May 2006	Kourou, French Guiana	Ariane 5 ECA	628	7.14	35 610	250	SYLDA inter-satellite structure	V171	SATMEX 6	Mexico
2006 020 D	27 May 2006	Kourou, French Guiana	Ariane 5 ECA	628	7.69	35 603	246	ESC-A cryogenic upper stage		THAICOM 5	Thailand

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

4 **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 have re-entered the Earth's atmosphere between 1 January and 31 July 2006***

<i>Registration number</i>	<i>Date of launch</i>	<i>General function of space object</i>	<i>Atmospheric re-entry</i>
1988 098 G	28 October 1988	Non-functional launcher element	12 June 2006

* 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	800 km sun-synchronous
1995-033A	Helios 1A space-object technique and technology research satellite	625 km polar orbit
1998-017A	SPOT 4 Earth observation satellite	800 km sun-synchronous
2002-021A	SPOT 5 Earth observation satellite	800 km sun-synchronous
2004-025C	DEMETER scientific satellite	715 km polar orbit
2004-049A	Helios IIA observation satellite	670 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	705 km polar orbit
2006-016B	CALIPSO satellite for three-dimensional characterization of clouds and aerosols	705 km polar orbit

* 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 30 June 2004</i>
1991-003B	EUTELSAT II F2 telecommunications satellite	48° E
1991-083A	EUTELSAT II F3 telecommunications satellite	21.5° E
1995-016B	HotBird™ 1 telecommunications satellite	13° E
1995-067A	TC 2C telecommunications satellite	5.2° W
1996-044B	TC 2D telecommunications satellite	8° W
1996-067A	HotBird™ 2 telecommunications satellite	13° E
1997-049A	HotBird™ 3 telecommunications satellite	13° E
1998-013A	HotBird™ 4 telecommunications satellite	13° E
1998-056A	EUTELSAT W2 telecommunications satellite	16° E
1999-018A	EUTELSAT W3 telecommunications satellite	7° E
2000-019A	SESAT 1 telecommunications satellite	36° E
2000-028A	EUTELSAT W4 telecommunications satellite	36° E
2000-052A	EUTELSAT W1 telecommunications satellite	10° E
2001-011A	Eurobird™ 1 telecommunications satellite	28.5° E
2001-042A	Atlantic Bird™ 2 telecommunications satellite	8° W
2002-035A	Atlantic Bird™ 3 telecommunications satellite	5° W
2002-038A	HotBird™ 6 telecommunications satellite	13° E
2002-040A	Atlantic Bird™ 1 telecommunications satellite	12.5° W
2002-051A	EUTELSAT W5 telecommunications satellite	70.5° E
2003-043A	e-Bird™ telecommunications satellite	33° E
2004-008A	W3A telecommunications satellite	7° E
2005-041B	Syracuse 3A telecommunications satellite	not available
2006-007B	HotBird™ 7A telecommunications satellite	13° 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
1974-101A	Symphonie 1 experimental telecommunications satellite
1975-072A	COS B scientific satellite
1975-077A	Symphonie 2 experimental telecommunications satellite
1977-108A	Meteosat 1 meteorological satellite
1978-044A	OTS 2 experimental telecommunications satellite
1978-071A	GEOS 2 scientific satellite
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: $1.3 \cdot 10^{-3}$, perigee: +375 km GEO 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	ECS 4 telecommunications satellite
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 GEO orbit; drift 6°/day to west. Satellite finally ceased operation 13 February 1996.

<i>Registration number</i>	<i>Satellite</i>
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; shift 3.9° to west. Satellite ceased operation on 1 June 1999.
1990-079B	EUTELSAT II F1 telecommunications satellite
1991-050E	SARA experimental microsatellite
1991-084A	TC 2A telecommunications satellite Satellite was completely passivated and reorbited about 300 km above the GEO orbit in November 2005 and finally ceased operation.
1992-021A	TC 2B telecommunications satellite Satellite was reorbited 188 km above the GEO orbit from orbital position 47° E and finally ceased operation on 23 June 2003.
1992-052C	S80T technological satellite
1993-061A	SPOT 3 Earth observation satellite
1993-061B	Stella scientific satellite
1993-031B	ARSENE amateur radio satellite
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.
2002-021B	Idefix amateur radio satellite