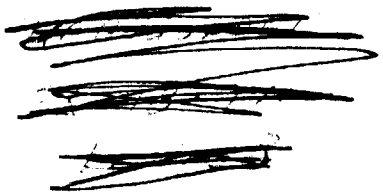

NASA

PROJECT OPERATIONS BRANCH, CODE 513
GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND, U.S.A. 20771

SATELLITE SITUATION REPORT

VOLUME 33. NUMBER 2 JUNE 30, 1993

SPACE OBJECTS BOX SCORE

SOURCE/ORGANIZATION		OBJECTS IN ORBIT			DECAYED OBJECTS		
		PAYLOAD	DEBRIS	TOTAL	PAYLOAD	DEBRIS	TOTAL
ARGNT	= ARGENTINA	1	0	1	0	0	0
ASCO	= ARAB SAT. COMM. ORG.	0	0	0	0	0	0
ASIASA	= ASIASAT CORP.	0	0	0	0	0	0
AUSTRL	= AUSTRALIA	6	1	7	1	0	1
BRAZIL	= BRAZIL	4	0	4	0	0	0
CANADA	= CANADA	16	0	16	1	0	1
CZECH	= CZECHOSLOVAKIA	1	0	1	1	0	1
ESA	= EUROPEAN SPACE AGENCY	23	134	157	3	446	449
ESRO	= EURO. SPACE RES. ORG.	0	0	0	7	3	10
FR/FRG	= FRANCE/FED. REP. GER.	2	0	2	0	0	0
FRANCE	= FRANCE	21	16	37	7	59	66
FRG	= FEDERAL REPUBLIC GER.	12	2	14	4	5	9
IMSO	= INT. MARIT. SAT. ORG.	3	0	3	0	0	0
INDIA	= INDIA	8	2	10	6	8	14
INDO	= INDONESIA	6	0	6	1	1	2
ISRAEL	= ISRAEL	0	0	0	2	2	4
ITALY	= ITALY	3	0	3	5	0	5
ITSO	= INT. TELEC. SAT. ORG.	43	0	43	1	0	1
JAPAN	= JAPAN	49	50	99	9	71	80
KOREA	= KOREA	1	0	1	0	0	0
LUXBRG	= LUXEMBOURG	3	2	5	0	0	0
MEXICO	= MEXICO	2	0	2	0	0	0
NATO	= NORTH AT. TREATY ORG.	7	2	9	0	0	0
NETH	= NETHERLANDS	0	0	0	1	3	4
PAKI	= PAKISTAN	0	0	0	1	0	1
PRC	= PEOPLES REP. OF CHINA	10	79	89	23	71	94
SAUDI	= SAUDI ARABIA	3	0	3	0	0	0
SPAIN	= SPAIN	2	2	4	0	0	0
SWEDEN	= SWEDEN	3	0	3	0	0	0
UK	= UNITED KINGDOM	16	2	18	8	3	11
US	= UNITED STATES	612	2628	3240	639	2850	3489
USSR	= RUSSIA	1269	2341	3610	1591	9498	11089
COLUMN		2126	5261	7387	2311	13020	15331
SUM TOTAL							22718

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1958 LAUNCHES									
BETA 1		16	US	17 MAR	137.7	34.3	4254	655	
BETA 2	VANGUARD 1	5	US	17 MAR	133.2	34.2	3869	653	
BETA 3		1576	US	17 MAR	126.7	34.2	3307	649	
1959 LAUNCHES									
ALPHA 1	VANGUARD 2	11	US	17 FEB	122.8	32.9	3050	557	
ALPHA 2		12	US	17 FEB	127.1	32.9	3432	559	
ALPHA4		14934	US	17 FEB	111.3	32.9	2041	529	
ETA 1	VANGUARD 3	20	US	18 SEP	126.4	33.3	3415	513	
IOTA 1	EXPLORER 7	22	US	13 OCT	98.6	50.3	858	524	
MU 1	LUNA 1	112	USSR	02 JAN	HELIOCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	03 MAR	HELIOCENTRIC ORBIT				
1960 LAUNCHES									
ALPHA 1	PIONEER 5	27	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 2	TIROS 1	29	US	01 APR	98.3	48.4	696	657	
BETA 4		115	US	01 APR	98.4	48.2	719	645	
ETA 1	TRANSIT 2A	45	US	22 JUN	100.8	66.7	997	596	
ETA 2	GREB	46	US	22 JUN	100.2	66.7	945	586	
ETA 3		47	US	22 JUN	100.4	66.7	959	591	
ETA 4		840	US	22 JUN	97.9	66.7	760	552	
ETA 5		841	US	22 JUN	97.7	66.7	746	548	
IOTA 2		50	US	12 AUG	118.1	47.2	1684	1503	
IOTA 3		51	US	12 AUG	118.2	47.2	1682	1522	
IOTA 4		52	US	12 AUG	NO CURRENT ELEMENTS				
IOTA 5		53	US	12 AUG	118.4	47.3	1687	1528	
NU 1	COURIER 1B	58	US	04 OCT	107.1	28.3	1213	967	
NU 2		59	US	04 OCT	106.6	28.2	1208	926	
PI 1	TIROS 2	63	US	23 NOV	96.3	48.5	611	548	
PI 5		5922	US	23 NOV	105.2	47.0	1035	975	
XI 1	EXPLORER 8	60	US	03 NOV	102.3	49.9	1343	393	
1961 LAUNCHES									
A DELTA 1	MIDAS 4	192	US	21 OCT	165.9	95.8	3762	3483	
A DELTA 3		194	US	21 OCT	165.5	95.8	3865	3347	
A DELTA 4		195	US	21 OCT	166.3	95.9	3861	3417	
A DELTA 5		2009	US	21 OCT	165.7	95.8	3733	3493	
A DELTA 6		2371	US	21 OCT	165.3	95.9	4647	2549	
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.7	32.4	1104	953	
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.4	1107	956	
A ETA 3		204	US	15 NOV	105.6	32.4	1096	950	
A ETA 4		10796	US	15 NOV	105.8	32.4	1106	955	
DELTA 2		82	US	16 FEB	117.8	38.9	2528	639	
DELTA 3		85	US	16 FEB	108.4	38.8	1728	579	
DELTA 6		3927	US	16 FEB	109.7	38.9	1830	593	
DELTA 7		4026	US	16 FEB	110.1	38.9	1877	589	
GAMMA 1	VENERA 1	80	USSR	12 FEB	HELIOCENTRIC ORBIT				
NU 1	EXPLORER 11	107	US	27 APR	104.5	28.8	1461	479	
NU 2		3739	US	27 APR	90.6	28.8	334	273	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.5	66.8	977	875	
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.6	66.8	983	878	
OMICRON 3 TO 297			US	29 JUN	SEE NOTE		5*		5*
RHO 1	TIROS 3	162	US	12 JUL	100.0	47.9	790	724	
RHO 2		165	US	12 JUL	98.1	47.9	685	646	
RHO 3		166	US	12 JUL	90.3	47.9	294	282	
RHO 4		167	US	12 JUL	101.5	47.9	900	758	
SIGMA 1	MIDAS 3	163	US	12 JUL	161.4	91.2	3541	3342	
SIGMA 3		188	US	12 JUL	161.1	91.2	3545	3310	
SIGMA 4		196	US	12 JUL	161.8	91.2	3558	3358	
1962 LAUNCHES									
A ALPHA 1	TIROS 5	309	US	19 JUN	99.4	58.1	889	572	
A ALPHA 3		312	US	19 JUN	100.0	58.3	941	579	
A ALPHA 4		313	US	19 JUN	90.1	58.0	291	269	
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.8	5642	946	
A EPSILON 2		341	US	10 JUL	157.6	44.8	5627	944	
A OMICRON 1		369	US	23 AUG	98.1	98.5	751	580	
A OMICRON 4		388	US	23 AUG	94.7	98.6	537	473	
A PSI 1	TIROS 6	397	US	18 SEP	97.6	58.3	647	639	
A PSI 3		399	US	18 SEP	97.4	58.4	660	603	
A PSI 5		19436	US	18 SEP	90.9	58.3	326	313	
A RHO 1	MARINER 2	374	US	27 AUG	HELIOCENTRIC ORBIT				
A RHO 2		375	US	27 AUG	HELIOCENTRIC ORBIT				
ALPHA 1	RANGER 3	221	US	26 JAN	HELIOCENTRIC ORBIT				
ALPHA 2		222	US	26 JAN	HELIOCENTRIC ORBIT				
B ALPHA 1	ALOUETTE 1	424	CANADA	29 SEP	105.2	80.5	1021	988	
B ALPHA 2		426	US	29 SEP	105.2	80.5	1017	993	
B ALPHA 3		510	US	29 SEP	105.2	80.5	1012	990	
B ALPHA 4		511	US	29 SEP	105.3	80.4	1030	983	
B CHI 1	EXPLORER 16	506	US	16 DEC	104.1	52.0	1159	745	
B ETA 1	RANGER 5	439	US	18 OCT	HELIOCENTRIC ORBIT				
B ETA 2		440	US	18 OCT	HELIOCENTRIC ORBIT				
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.1	1181	1076	
B MU 2		447	US	31 OCT	107.6	50.1	1164	1065	
B NU 3		450	USSR	01 NOV	HELIOCENTRIC ORBIT				
B UPSILON 1	RELAY 1	503	US	13 DEC	185.1	47.5	7439	1320	
B UPSILON 2		515	US	13 DEC	184.8	47.5	7421	1319	
BETA 1	TIROS 4	226	US	08 FEB	99.9	48.3	812	693	
BETA 2		227	US	08 FEB	100.6	48.2	888	682	
BETA 3		228	US	08 FEB	97.8	48.4	673	635	
BETA 4		229	US	08 FEB	97.3	48.3	660	602	
KAPPA 1		271	US	09 APR	152.9	86.7	3406	2783	
KAPPA 3		273	US	09 APR	152.5	86.7	3360	2796	
KAPPA 4		274	US	09 APR	153.3	86.6	3448	2768	
KAPPA 7		18603	US	26 OCT	153.0	86.6	3417	2778	
KAPPA 8		19981	US	26 OCT	152.7	86.7	3383	2789	
MU 2		282	US	23 APR	HELIOCENTRIC ORBIT				
1963 LAUNCHES									
1963-004A	SYNCOM 1	553	US	14 FEB	NO CURRENT ELEMENTS				
1963-008B	LUNA 4	566	USSR	02 APR	BARYOCENTRIC ORBIT				
1963-013A	TELSTAR 2	573	US	07 MAY	225.3	42.7	10808	966	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1963-013B		575	US	07 MAY	225.0	42.8	10789	963	
1963-014A		574	US	09 MAY	166.4	87.3	3679	3605	
1963-014B	ERS 5	579	US	09 MAY	165.0	87.2	4895	2277	
1963-014C	ERS 6	608	US	09 MAY	166.4	87.3	3705	3578	
1963-014D TO 014FH			US	09 MAY	SEE NOTE		6*		6*
1963-022B		603	US	16 JUN	95.8	89.9	560	551	
1963-024A	TIROS 7	604	US	19 JUN	92.1	58.2	384	368	
1963-025B		614	US	27 JUN	114.3	82.1	2523	323	
1963-030A	ERS 10	622	US	18 JUL	167.8	88.4	3724	3673	
1963-030B	ERS 9	635	US	18 JUL	167.8	88.4	3732	3665	
1963-030C		630	US	18 JUL	167.4	88.4	3756	3612	
1963-030E		631	US	18 JUL	168.2	88.4	3812	3618	
1963-030F		3121	US	18 JUL	167.8	88.4	3728	3669	
1963-030G		3132	US	18 JUL	167.8	88.5	3770	3629	
1963-030H		20153	US	18 JUL	162.1	88.7	5768	1168	
1963-031A	SYNCOM 2	634	US	26 JUL	NO CURRENT ELEMENTS				
1963-038A		669	US	28 SEP	107.0	90.0	1107	1064	
1963-038B		670	US	28 SEP	107.1	90.0	1124	1064	
1963-038C	SN 39	671	US	28 SEP	107.1	90.0	1121	1064	
1963-038D		672	US	28 SEP	106.2	90.0	1076	1019	
1963-038E		745	US	28 SEP	106.5	90.0	1084	1047	
1963-038F		2097	US	28 SEP	106.2	90.0	1085	1019	
1963-038G		3166	US	28 SEP	107.1	90.0	1123	1064	
1963-038J		12943	US	28 SEP	104.6	89.9	1073	877	
1963-038K		20470	US	28 SEP	105.8	90.0	1041	1025	
1963-039A		674	US	17 OCT	NO CURRENT ELEMENTS				
1963-039C		692	US	17 OCT	NO CURRENT ELEMENTS				
1963-047A	CENTAUR 2	694	US	27 NOV	104.6	30.4	1479	470	
1963-047D		698	US	27 NOV	106.2	29.9	1492	607	
1963-047F		700	US	27 NOV	108.0	30.5	1690	577	
1963-047G		701	US	27 NOV	105.8	30.0	1462	599	
1963-047H		739	US	27 NOV	104.8	30.4	1486	486	
1963-047K		2886	US	27 NOV	108.6	29.9	1653	667	
1963-047L		3741	US	27 NOV	104.8	29.9	1343	626	
1963-047Q		14528	US	27 NOV	105.9	29.6	1416	652	
1963-047T		19106	US	27 NOV	104.0	30.5	1258	638	
1963-049A		703	US	05 DEC	106.7	90.1	1084	1058	
1963-049B		704	US	05 DEC	106.9	90.1	1110	1058	
1963-049C		705	US	05 DEC	106.9	90.1	1107	1058	
1963-049D		706	US	05 DEC	106.5	90.1	1085	1042	
1963-049E		715	US	05 DEC	105.8	90.1	1048	1011	
1963-049F		753	US	05 DEC	106.6	90.1	1093	1043	
1963-049G		2432	US	05 DEC	106.9	90.1	1106	1057	
1963-049H		2620	US	05 DEC	106.2	90.1	1064	1040	
1963-053B		721	US	19 DEC	115.2	78.6	2330	596	
1963-053C		722	US	19 DEC	110.1	78.6	1824	633	
1963-053E		724	US	19 DEC	108.3	78.6	1686	605	
1963-053G		726	US	19 DEC	105.7	78.6	1467	587	
1963-053H		732	US	19 DEC	109.6	78.6	1792	627	
1963-053J		3750	US	19 DEC	107.8	78.6	1627	621	
1963-053K		17665	US	19 DEC	110.6	78.7	1869	641	
1963-054A	TIROS 8	716	US	21 DEC	98.5	58.5	702	671	
1963-054C		720	US	21 DEC	100.1	58.5	850	674	
1963-054E		19396	US	21 DEC	98.1	58.5	689	641	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1964 LAUNCHES									
1964-001A		727	US	11 JAN	103.2	69.9	921	902	
1964-001B	GRAVITY GRADIENT 1	728	US	11 JAN	103.2	69.9	917	898	
1964-001C	SECOR (EGRS) 1	729	US	11 JAN	103.3	69.9	922	903	
1964-001D	SOLRAD 7A	730	US	11 JAN	103.2	69.9	921	901	
1964-001E	GREB	731	US	11 JAN	103.2	69.9	920	901	
1964-002A		733	US	19 JAN	100.7	99.0	819	767	
1964-002B		734	US	19 JAN	100.9	99.1	811	789	
1964-002C		735	US	19 JAN	100.9	99.1	816	790	
1964-003A	RELAY 2	737	US	21 JAN	194.7	46.4	7538	1963	
1964-003B		738	US	21 JAN	194.8	46.4	7548	1957	
1964-004B		741	US	25 JAN	108.8	81.5	1300	1039	
1964-004C		742	US	25 JAN	108.6	81.5	1293	1033	
1964-004D		743	US	25 JAN	108.6	81.5	1293	1030	
1964-006A	ELEKTRON 1	746	USSR	30 JAN	162.7	60.8	6589	399	
1964-006B	ELEKTRON 2	748	USSR	30 JAN	1356.4	60.6	62072	6351	
1964-006C TO 006AE			USSR	30 JAN	SEE NOTE		7*		7*
1964-006N		18589	USSR	30 JAN	149.8	58.4	4202	1731	
1964-016D	ZOND 1	785	USSR	02 APR	HELIOCENTRIC ORBIT				
1964-026A		801	US	04 JUN	102.2	90.5	901	823	
1964-026B		805	US	04 JUN	102.1	89.9	884	827	
1964-026C		806	US	04 JUN	98.9	90.8	745	663	
1964-026D		809	US	04 JUN	102.5	90.5	911	841	
1964-026E		2986	US	04 JUN	102.6	90.5	922	840	
1964-031A		812	US	18 JUN	101.2	99.8	820	812	
1964-031B		813	US	18 JUN	101.3	99.8	822	814	
1964-031C		815	US	18 JUN	101.1	99.8	816	800	
1964-038A	ELEKTRON 3	829	USSR	10 JUL	161.1	60.8	6461	393	
1964-038C		831	USSR	10 JUL	137.6	60.7	4518	386	
1964-040A		836	US	17 JUL	NO CURRENT ELEMENTS				
1964-040B		837	US	17 JUL	NO CURRENT ELEMENTS				
1964-041B		843	US	28 JUL	BARYOCENTRIC ORBIT				
1964-047A	SYNCOM 3	858	US	19 AUG	NO CURRENT ELEMENTS				
1964-047B		862	US	19 AUG	702.4	15.6	38461	1130	
1964-049D	COSMOS 41	869	USSR	22 AUG	714.7	68.8	39003	1199	
1964-049E		898	USSR	22 AUG	716.6	68.9	39093	1201	
1964-049F		13091	USSR	22 AUG	715.9	69.3	39135	1127	
1964-051A	EXPLORER 20	870	US	25 AUG	103.6	79.9	1001	855	
1964-051B		871	US	25 AUG	103.2	79.9	977	842	
1964-053A	COSMOS 44	876	USSR	28 AUG	98.7	65.1	812	578	
1964-053B		877	USSR	28 AUG	99.0	65.1	770	647	
1964-053C		21126	USSR	28 AUG	98.9	65.1	765	644	
1964-054A	OGO 1	879	US	05 SEP	NO CURRENT ELEMENTS				
1964-063A	NNSS 30010	893	US	06 OCT	106.2	90.1	1069	1028	
1964-063B		897	US	06 OCT	106.4	90.1	1070	1048	
1964-063C		900	US	06 OCT	105.5	90.1	1034	998	
1964-063D		901	US	06 OCT	106.4	90.1	1067	1047	
1964-063E		902	US	06 OCT	106.4	90.1	1072	1050	
1964-063F		903	US	06 OCT	105.3	90.1	1025	996	
1964-063G		18496	US	06 OCT	104.2	90.1	993	918	
1964-064A	EXPLORER 22	899	US	10 OCT	104.3	79.7	1054	871	
1964-064B		907	US	10 OCT	104.4	79.7	1058	875	
1964-064C		976	US	10 OCT	103.0	79.3	996	806	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1964-064D		977	US	10 OCT	104.8	80.0	1084	888	
1964-073A	MARINER 3	923	US	05 NOV	HELIOCENTRIC ORBIT				
1964-076B	EXPLORER 25	932	US	21 NOV	114.6	81.3	2350	524	
1964-076C		933	US	21 NOV	113.9	81.3	2281	524	
1964-077A	MARINER 4	938	US	28 NOV	HELIOCENTRIC ORBIT				
1964-077B		942	US	28 NOV	HELIOCENTRIC ORBIT				
1964-078C	ZOND 2	945	USSR	30 NOV	HELIOCENTRIC ORBIT				
1964-083A	NNSS 30020	953	US	13 DEC	106.0	89.8	1065	1014	
1964-083B		956	US	13 DEC	105.7	89.8	1055	996	
1964-083C		959	US	13 DEC	105.9	89.8	1067	1005	
1964-083D		965	US	13 DEC	106.1	89.8	1077	1018	
1964-083F		967	US	13 DEC	105.7	89.8	1055	997	
1964-083G		1099	US	13 DEC	105.9	89.7	1066	1005	
1964-083J		1608	US	13 DEC	105.0	89.7	1020	971	
1964-086A	EXPLORER 26	963	US	21 DEC	206.8	19.7	10126	284	
1965 LAUNCHES									
1965-004A	TIROS 9	978	US	22 JAN	118.9	96.4	2564	701	
1965-004B		979	US	22 JAN	118.7	96.4	2546	700	
1965-004C		1312	US	22 JAN	117.5	96.3	2465	670	
1965-004D		1313	US	22 JAN	120.0	96.4	2634	730	
1965-008A		1001	US	11 FEB	145.4	32.1	2796	2766	
1965-008B		1000	US	11 FEB	145.7	32.1	2801	2784	
1965-008C		1002	US	11 FEB	145.8	32.1	2809	2783	
1965-010B		1087	US	17 FEB	BARYOCENTRIC ORBIT				
1965-016A	GREB	1271	US	09 MAR	103.2	70.1	924	896	
1965-016B	GRAVITY GRADIENT 2	1244	US	09 MAR	103.2	70.1	926	897	
1965-016C	GRAVITY GRADIENT 3	1292	US	09 MAR	103.0	70.1	915	887	
1965-016D	SOLRAD 7B	1291	US	09 MAR	103.3	70.1	928	900	
1965-016E	SECOR (EGRS) 3	1208	US	09 MAR	103.2	70.1	925	898	
1965-016F	OSCAR 3	1293	US	09 MAR	102.8	70.1	902	875	
1965-016H	SURCAL	1272	US	09 MAR	103.3	70.1	930	900	
1965-016J		1245	US	09 MAR	103.2	70.1	923	893	
1965-016K		12099	US	09 MAR	102.9	70.1	911	884	
1965-020E		1335	USSR	15 MAR	106.0	56.1	1496	587	
1965-020S		1347	USSR	15 MAR	101.4	56.0	1124	526	
1965-020AC		1370	USSR	15 MAR	101.9	56.1	1176	524	
1965-020AH		1392	USSR	15 MAR	104.2	55.9	1394	523	
1965-020BB		1477	USSR	15 MAR	111.8	55.5	1796	823	
1965-020BC		1478	USSR	15 MAR	109.5	56.1	1783	626	
1965-020BD		1479	USSR	15 MAR	114.8	56.0	2085	806	
1965-020BE		1480	USSR	15 MAR	114.5	56.1	2123	745	
1965-020BV		1495	USSR	15 MAR	102.9	55.6	1185	606	
1965-020CV		1549	USSR	15 MAR	114.4	56.2	2099	757	
1965-020ED		1634	USSR	15 MAR	115.7	56.2	2181	796	
1965-020EH		2334	USSR	15 MAR	110.6	55.7	1725	786	
1965-020EM		2934	USSR	15 MAR	115.4	55.6	1760	1183	
1965-020EN		3038	USSR	15 MAR	107.7	56.3	1659	585	
1965-020ER		3708	USSR	15 MAR	102.5	56.3	1152	599	
1965-020ES		3743	USSR	15 MAR	118.1	56.7	1803	1387	
1965-020ET		3745	USSR	15 MAR	115.3	56.0	1591	1343	
1965-020EU		3749	USSR	15 MAR	107.2	56.1	1577	613	
1965-020EV		3931	USSR	15 MAR	116.6	56.1	1696	1359	
1965-020EY		3965	USSR	15 MAR	117.7	56.3	1789	1369	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1965-020FD		6252	USSR	15 MAR	117.1	56.1	1698	1403	
1965-020FF		13517	USSR	15 MAR	109.2	55.6	1656	723	
1965-023B		1298	US	21 MAR	HELIOCENTRIC ORBIT				
1965-027A		1314	US	03 APR	111.4	90.3	1315	1269	
1965-027B	SECOR (EGRS) 4	1315	US	03 APR	111.4	90.3	1312	1265	
1965-027C TO 027BD			US	03 APR	SEE NOTE		8*		8*
1965-028A	EARLY BIRD	1317	ITSO	06 APR	1437.3	14.6	35842	35775	
1965-028B		1318	US	06 APR	680.0	18.1	37039	1434	
1965-032A	EXPLORER 27	1328	US	29 APR	107.7	41.2	1309	932	
1965-032B		1358	US	29 APR	107.7	41.2	1311	933	
1965-032D		2011	US	29 APR	108.3	41.2	1280	1012	
1965-034A		1359	US	06 MAY	157.1	32.1	3746	2784	
1965-034B		1360	US	06 MAY	309.9	32.1	14810	2770	
1965-034C		1361	US	06 MAY	145.6	32.1	2798	2783	
1965-034D		2529	US	06 MAY	309.9	32.1	14809	2771	
1965-038A		1377	US	20 MAY	97.1	98.1	733	504	
1965-038B		1378	US	20 MAY	93.2	97.9	468	398	
1965-044A	LUNA 6	1393	USSR	08 JUN	HELIOCENTRIC ORBIT				
1965-048A	NNSS 30040	1420	US	24 JUN	106.6	90.1	1126	1014	
1965-048B		1428	US	24 JUN	106.4	90.1	1103	1020	
1965-048C		1425	US	24 JUN	106.7	90.1	1131	1019	
1965-048D		1435	US	24 JUN	105.8	90.1	1082	978	
1965-048E		2701	US	24 JUN	106.0	90.1	1085	993	
1965-048F		3592	US	24 JUN	106.0	90.1	1087	997	
1965-048G		21945	US	24 JUN	105.4	90.1	1079	943	
1965-051A	TIROS 10	1430	US	02 JUL	100.1	98.8	806	722	
1965-051B		1433	US	02 JUL	99.5	98.7	772	698	
1965-051C		1440	US	02 JUL	93.2	98.6	451	411	
1965-051D		1529	US	02 JUL	101.4	99.0	854	798	
1965-056A	ZOND 3	1454	USSR	18 JUL	HELIOCENTRIC ORBIT				
1965-058A		1458	US	20 JUL	NO CURRENT ELEMENTS				
1965-058B		1459	US	20 JUL	NO CURRENT ELEMENTS				
1965-063A	SECOR (EGRS) 5	1506	US	10 AUG	122.2	69.2	2419	1134	
1965-063B		1502	US	10 AUG	122.2	69.2	2417	1137	
1965-064A	CENTAUR 6	1503	US	11 AUG	BARYOCENTRIC ORBIT				
1965-065A	NNSS 30050	1504	US	13 AUG	107.7	90.0	1170	1067	
1965-065B		1508	US	13 AUG	107.5	89.8	1143	1079	
1965-065C		1510	US	13 AUG	105.5	90.0	1051	981	
1965-065D		1511	US	13 AUG	107.9	90.0	1182	1080	
1965-065E		1512	US	13 AUG	108.0	90.0	1184	1081	
1965-065F		1514	US	13 AUG	107.9	90.0	1182	1077	
1965-065G		1515	US	13 AUG	107.2	90.0	1145	1047	
1965-065H		1520	US	13 AUG	107.9	90.1	1179	1075	
1965-065J		1521	US	13 AUG	108.0	89.9	1184	1082	
1965-065K		1577	US	13 AUG	107.9	90.0	1179	1075	
1965-065L		1522	US	13 AUG	108.0	90.0	1185	1080	
1965-065P		3810	US	13 AUG	107.2	90.0	1144	1047	
1965-065Q		5265	US	13 AUG	107.8	89.8	1155	1090	
1965-070A	COSMOS 80	1570	USSR	03 SEP	115.0	56.1	1539	1367	
1965-070B	COSMOS 81	1571	USSR	03 SEP	115.3	56.1	1545	1393	
1965-070C	COSMOS 82	1572	USSR	03 SEP	115.7	56.1	1551	1419	
1965-070D	COSMOS 83	1573	USSR	03 SEP	116.0	56.1	1559	1445	
1965-070E	COSMOS 84	1574	USSR	03 SEP	116.4	56.0	1570	1468	
1965-070F		1575	USSR	03 SEP	114.6	56.1	1515	1356	
1965-070G		3045	USSR	03 SEP	115.9	55.5	1725	1263	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1965-072A		1580	US	10 SEP	101.2	98.5	993	636	
1965-072D		1583	US	10 SEP	100.1	98.5	909	615	
1965-072E		1931	US	10 SEP	101.6	99.0	1046	625	
1965-072F		1932	US	10 SEP	97.8	98.2	732	576	
1965-073A	COSMOS 86	1584	USSR	18 SEP	115.0	56.1	1626	1288	
1965-073B	COSMOS 87	1585	USSR	18 SEP	115.4	56.1	1636	1314	
1965-073C	COSMOS 88	1586	USSR	18 SEP	115.8	56.1	1645	1340	
1965-073D	COSMOS 89	1587	USSR	18 SEP	116.2	56.1	1656	1366	
1965-073E	COSMOS 90	1588	USSR	18 SEP	116.6	56.1	1670	1389	
1965-073F		1589	USSR	18 SEP	116.8	56.0	1680	1392	
1965-073G		1590	USSR	18 SEP	115.9	56.1	1622	1366	
1965-073H		1591	USSR	18 SEP	116.2	56.1	1651	1369	
1965-073J		1617	USSR	18 SEP	117.0	56.1	1737	1355	
1965-073K		1618	USSR	18 SEP	117.3	56.2	1741	1379	
1965-073L		2647	USSR	18 SEP	115.9	56.1	1641	1355	
1965-078A		1613	US	05 OCT	117.6	144.3	2741	407	
1965-078B		1616	US	05 OCT	116.2	144.2	2608	407	
1965-082B TO 082UQ			US	15 OCT	SEE NOTE		9*		9*
1965-089A	EXPLORER 29	1726	US	06 NOV	120.3	59.4	2268	1119	
1965-089B		1729	US	06 NOV	120.3	59.4	2265	1118	
1965-089C		2700	US	06 NOV	119.1	59.6	2222	1061	
1965-089D		2888	US	06 NOV	121.3	59.2	2326	1150	
1965-091A	VENERA 2	1730	USSR	12 NOV	HELIOCENTRIC ORBIT				
1965-092D		1736	USSR	16 NOV	HELIOCENTRIC ORBIT				
1965-093A	EXPLORER 30	1738	US	19 NOV	100.2	59.7	865	673	
1965-093B		1739	US	19 NOV	99.8	59.7	811	685	
1965-093C		2013	US	19 NOV	97.7	59.7	689	610	
1965-093D		2088	US	19 NOV	100.0	59.7	839	674	
1965-096A	A-1	1778	FRANCE	26 NOV	107.6	34.3	1698	528	
1965-096B		1805	FRANCE	26 NOV	106.1	34.3	1567	522	
1965-096D		1996	FRANCE	26 NOV	101.0	34.2	1111	498	
1965-098A	ALOUETTE 2	1804	CANADA	29 NOV	118.3	79.8	2707	501	
1965-098B	EXPLORER 31	1806	US	29 NOV	120.0	79.8	2858	502	
1965-098C		1807	US	29 NOV	118.8	79.8	2754	501	
1965-098D		1808	US	29 NOV	105.0	79.8	1520	472	
1965-098E		1944	US	29 NOV	103.7	79.7	1401	464	
1965-098F		1948	US	29 NOV	113.0	79.9	2236	496	
1965-098G		1951	US	29 NOV	113.2	79.7	2250	492	
1965-098H		2092	US	29 NOV	118.5	79.9	2724	502	
1965-098J		2153	US	29 NOV	118.2	79.7	2697	501	
1965-101A	FR-1	1814	FRANCE	06 DEC	98.8	75.9	707	696	
1965-101B		1815	US	06 DEC	98.5	75.9	693	682	
1965-105A	PIONEER 6	1841	US	16 DEC	HELIOCENTRIC ORBIT				
1965-106A	COSMOS 100	1843	USSR	17 DEC	95.0	65.0	564	471	
1965-106B		1844	USSR	17 DEC	94.0	65.0	483	453	
1965-109A	NNSS 30060	1864	US	22 DEC	104.6	89.1	1058	894	
1965-109B		1865	US	22 DEC	104.7	89.1	1063	897	
1965-109C		2086	US	22 DEC	100.3	89.1	791	749	
1965-109D		2226	US	22 DEC	106.8	89.1	1265	890	
1965-109E		2353	US	22 DEC	104.9	89.4	1106	872	
1965-112Q		1937	USSR	28 DEC	94.0	55.9	483	453	
1966 LAUNCHES									
1966-005A	NNSS 30070	1952	US	28 JAN	105.5	89.9	1182	851	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1966-005B		1953	US	28 JAN	105.6	89.9	1191	854	
1966-005C		2140	US	28 JAN	107.2	90.1	1339	849	
1966-005D		2141	US	28 JAN	103.3	89.9	1017	810	
1966-005E		2889	US	28 JAN	109.4	89.5	1324	1070	
1966-005F		2989	US	28 JAN	103.5	89.9	1015	832	
1966-005J		11991	US	28 JAN	105.0	89.9	1147	840	
1966-006D		2001	USSR	31 JAN	BARYOCENTRIC ORBIT				
1966-008A	ESSA 1	1982	US	03 FEB	99.7	97.8	807	683	
1966-008B		1983	US	03 FEB	99.3	97.8	785	660	
1966-008C		2085	US	03 FEB	96.5	97.6	607	574	
1966-008D		2118	US	03 FEB	100.3	98.0	881	666	
1966-008E		2154	US	03 FEB	99.1	97.8	760	669	
1966-013A	D-1A	2016	FRANCE	17 FEB	115.9	34.1	2486	502	
1966-013B		2017	FRANCE	17 FEB	114.5	34.1	2361	501	
1966-013G		2161	FRANCE	17 FEB	107.5	34.1	1724	497	
1966-016A	ESSA 2	2091	US	28 FEB	113.4	101.0	1412	1352	
1966-016B		2096	US	28 FEB	113.4	101.1	1412	1350	
1966-016C		2223	US	28 FEB	111.8	101.0	1381	1238	
1966-016D		2224	US	28 FEB	115.0	101.0	1563	1345	
1966-016E		6214	US	28 FEB	114.2	101.7	1508	1329	
1966-024A	NNSS 30080	2119	US	26 MAR	104.9	89.7	1098	880	
1966-024B		2120	US	26 MAR	105.0	89.8	1106	883	
1966-025A	OV1-4	2121	US	30 MAR	104.0	144.5	1008	884	
1966-025B	OV1-5	2122	US	30 MAR	105.6	144.6	1056	985	
1966-025C		2123	US	30 MAR	105.6	144.6	1056	986	
1966-025D		2124	US	30 MAR	104.0	144.5	1005	885	
1966-025E		3611	US	30 MAR	102.1	144.6	902	808	
1966-025G		5361	US	30 MAR	103.6	144.6	965	889	
1966-025H		5599	US	30 MAR	102.2	144.6	903	819	
1966-026A		2125	US	31 MAR	99.4	98.3	856	604	
1966-026B		2129	US	31 MAR	97.0	98.1	686	542	
1966-026D		2177	US	31 MAR	100.0	99.0	922	591	
1966-027A	LUNA 10	2126	USSR	31 MAR	SELENOCENTRIC ORBIT				
1966-027D		2130	USSR	31 MAR	HELIOCENTRIC ORBIT				
1966-027E		2131	USSR	31 MAR	BARYOCENTRIC ORBIT				
1966-027F		2132	USSR	31 MAR	BARYOCENTRIC ORBIT				
1966-031A	OAO 1	2142	US	08 APR	100.6	35.0	794	782	
1966-031B		2144	US	08 APR	100.2	35.0	776	763	
1966-034A	OV3-1	2150	US	22 APR	132.2	82.4	4093	339	
1966-034B		2167	US	22 APR	109.7	82.3	2102	320	
1966-034E		9998	US	22 APR	118.7	82.3	2902	345	
1966-040A	NIMBUS 2	2173	US	15 MAY	108.0	100.6	1174	1090	
1966-040B		2174	US	15 MAY	107.8	100.4	1167	1079	
1966-041A	NNSS 30090	2176	US	19 MAY	102.8	90.1	948	837	
1966-041B		2180	US	19 MAY	103.0	90.1	958	841	
1966-041C		2225	US	19 MAY	98.6	90.0	711	670	
1966-041D		2644	US	19 MAY	105.0	90.1	1154	830	
1966-041E		3591	US	19 MAY	102.8	90.1	949	837	
1966-041F		4555	US	19 MAY	101.6	90.1	883	783	
1966-045B		2187	US	30 MAY	BARYOCENTRIC ORBIT				
1966-049A	OGO 3	2195	US	07 JUN	NO CURRENT ELEMENTS				
1966-052A		2201	US	10 JUN	142.8	40.9	4705	642	
1966-052B		2206	US	10 JUN	142.5	40.9	4672	643	
1966-052C		2498	US	10 JUN	138.3	40.6	4377	586	
1966-052D		2516	US	10 JUN	144.5	41.0	4787	696	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1966-053A		2207	US	16 JUN	NO CURRENT ELEMENTS				
1966-053B		2215	US	16 JUN	1334.5	11.6	33902	33645	
1966-053C		2216	US	16 JUN	NO CURRENT ELEMENTS				
1966-053D		2217	US	16 JUN	NO CURRENT ELEMENTS				
1966-053E		2218	US	16 JUN	NO CURRENT ELEMENTS				
1966-053F		2219	US	16 JUN	NO CURRENT ELEMENTS				
1966-053G		2220	US	16 JUN	NO CURRENT ELEMENTS				
1966-053H		2221	US	16 JUN	NO CURRENT ELEMENTS				
1966-053J		2222	US	16 JUN	1349.4	12.2	34729	33414	
1966-056A	PAGEOS 1	2253	US	24 JUN	177.1	84.3	5532	2605	
1966-056B		2255	US	24 JUN	181.1	87.0	4279	4173	
1966-056C		2256	US	24 JUN	181.3	86.9	4270	4196	
1966-056D		2511	US	24 JUN	181.5	87.0	4252	4225	
1966-056G		8066	US	24 JUN	160.7	81.9	6372	450	
1966-056H		8074	US	24 JUN	173.9	88.0	5718	2162	
1966-056AH		9468	US	24 JUN	180.1	85.5	4768	3607	
1966-058A	EXPLORER 33	2258	US	01 JUL	NO CURRENT ELEMENTS				
1966-058C		2260	US	01 JUL	NO CURRENT ELEMENTS				
1966-063B		2327	US	14 JUL	103.9	144.2	959	927	
1966-063C		2328	US	14 JUL	105.2	144.2	1012	998	
1966-063D		2329	US	14 JUL	104.5	144.2	970	967	
1966-063E		2337	US	14 JUL	105.2	144.2	1005	997	
1966-070A	OV3-3	2389	US	04 AUG	121.6	81.4	3155	349	
1966-070D		2800	US	04 AUG	126.1	81.5	3490	412	
1966-073B		2395	US	10 AUG	BARYOCENTRIC ORBIT				
1966-075A	PIONEER 7	2398	US	17 AUG	HELIOCENTRIC ORBIT				
1966-075C		2402	US	17 AUG	HELIOCENTRIC ORBIT				
1966-076A	NNSS 30100	2401	US	18 AUG	106.5	88.9	1086	1040	
1966-076B		2413	US	18 AUG	106.6	88.9	1091	1044	
1966-076C		2580	US	18 AUG	104.8	89.1	1057	912	
1966-076D		2702	US	18 AUG	107.9	88.6	1195	1066	
1966-077A		2403	US	19 AUG	167.4	89.7	3709	3658	
1966-077B	SECOR (EGRS) 7	2411	US	19 AUG	167.5	89.7	3700	3671	
1966-077C	ERS 15	2412	US	19 AUG	167.6	89.7	3700	3680	
1966-078A	LUNA 11	2406	USSR	24 AUG	SELENOCENTRIC ORBIT				
1966-082A		2418	US	16 SEP	100.2	98.3	857	675	
1966-082B		2422	US	16 SEP	100.1	98.3	850	672	
1966-084B		2426	US	20 SEP	BARYOCENTRIC ORBIT				
1966-087A	ESSA 3	2435	US	02 OCT	114.5	100.9	1484	1383	
1966-087B		2436	US	02 OCT	114.5	100.9	1482	1380	
1966-087C		2518	US	02 OCT	115.8	100.8	1557	1429	
1966-087D		2775	US	02 OCT	113.2	100.9	1470	1277	
1966-087E		6213	US	02 OCT	112.5	102.0	1348	1331	
1966-087F		8791	US	02 OCT	114.3	101.8	1532	1310	
1966-089A		2481	US	05 OCT	167.5	90.0	3722	3655	
1966-089B	SECOR (EGRS) 8	2520	US	05 OCT	167.6	90.0	3709	3673	
1966-094A	LUNA 12	2508	USSR	22 OCT	SELENOCENTRIC ORBIT				
1966-095B		2513	US	25 OCT	BARYOCENTRIC ORBIT				
1966-096A	INTELSAT 2 F-1	2514	ITSO	26 OCT	718.3	17.0	37148	3230	
1966-096C		11792	US	26 OCT	454.8	17.9	25985	436	
1966-110A	ATS 1	2608	US	07 DEC	1435.6	14.4	35815	35739	
1966-111A	OV1-9	2610	US	11 DEC	139.9	99.1	4625	475	
1966-111B	OV1-10	2611	US	11 DEC	96.1	93.4	607	540	
1966-111C		2621	US	11 DEC	97.8	93.4	705	601	
1966-111D		2622	US	11 DEC	139.2	99.1	4559	474	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1967 LAUNCHES									
1967-001A	INTELSAT 2 F-2	2639	ITSO	11 JAN	NO CURRENT ELEMENTS				
1967-001B TO 001AU			US	11 JAN	SEE NOTE	36*			36*
1967-003A		2645	US	18 JAN	NO CURRENT ELEMENTS				
1967-003B		2649	US	18 JAN	NO CURRENT ELEMENTS				
1967-003C		2650	US	18 JAN	NO CURRENT ELEMENTS				
1967-003D		2651	US	18 JAN	NO CURRENT ELEMENTS				
1967-003E		2652	US	18 JAN	NO CURRENT ELEMENTS				
1967-003F		2653	US	18 JAN	1336.4	9.0	34029	33594	
1967-003G		2654	US	18 JAN	NO CURRENT ELEMENTS				
1967-003H		2655	US	18 JAN	NO CURRENT ELEMENTS				
1967-003J		2660	US	18 JAN	NO CURRENT ELEMENTS				
1967-006A	ESSA 4	2657	US	26 JAN	113.4	102.0	1437	1324	
1967-006B		2661	US	26 JAN	113.5	102.1	1438	1339	
1967-006C		2706	US	26 JAN	114.2	102.2	1446	1390	
1967-006D		2707	US	26 JAN	112.5	101.8	1457	1228	
1967-006E		5971	US	26 JAN	113.1	101.9	1454	1279	
1967-010A		2669	US	08 FEB	101.1	99.1	846	771	
1967-010B		2741	US	08 FEB	101.0	99.1	848	766	
1967-011A	DIADEME 1	2674	FRANCE	08 FEB	101.2	40.0	1086	544	
1967-011B		2671	FRANCE	08 FEB	102.3	40.0	1174	557	
1967-014A	DIADEME 2	2680	FRANCE	15 FEB	108.5	39.5	1735	583	
1967-014B		2682	FRANCE	15 FEB	109.0	39.5	1782	582	
1967-014C		2684	FRANCE	15 FEB	106.2	40.0	1532	567	
1967-014F		2685	FRANCE	15 FEB	105.3	39.0	1450	563	
1967-014J		14505	FRANCE	15 FEB	104.2	38.8	1354	555	
1967-014M		18911	FRANCE	15 FEB	108.2	38.8	1715	571	
1967-014N		18928	FRANCE	15 FEB	93.9	39.4	533	392	
1967-026A	INTELSAT 2 F-3	2717	ITSO	23 MAR	NO CURRENT ELEMENTS				
1967-027Z		18270	US	03 APR	111.3	90.3	1310	1261	
1967-034A	NNSS 30120	2754	US	14 APR	106.2	90.1	1066	1034	
1967-034B		2755	US	14 APR	106.4	90.1	1075	1040	
1967-034C		2777	US	14 APR	103.2	90.3	1012	809	
1967-034D		2778	US	14 APR	108.1	90.1	1235	1046	
1967-034E		4843	US	14 APR	106.6	90.4	1094	1044	
1967-034H		22172	US	14 APR	105.9	90.1	1074	1001	
1967-035B		2764	US	17 APR	BARYOCENTRIC ORBIT				
1967-036A	ESSA 5	2757	US	20 APR	113.5	102.0	1419	1352	
1967-036B		2758	US	20 APR	113.5	101.9	1415	1355	
1967-036C		2976	US	20 APR	112.3	102.1	1408	1256	
1967-036D		2977	US	20 APR	114.5	101.4	1481	1388	
1967-040A		2765	US	28 APR	NO CURRENT ELEMENTS				
1967-040B		2766	US	28 APR	NO CURRENT ELEMENTS				
1967-040C	ERS 18	2767	US	28 APR	NO CURRENT ELEMENTS				
1967-040D	ERS 20	2768	US	28 APR	NO CURRENT ELEMENTS				
1967-040E	ERS 27	2769	US	28 APR	NO CURRENT ELEMENTS				
1967-040F		2770	US	28 APR	NO CURRENT ELEMENTS				
1967-045A	COSMOS 158	2801	USSR	15 MAY	100.3	74.0	811	729	
1967-045B		2802	USSR	15 MAY	100.0	74.0	810	707	
1967-048A	NNSS 30130	2807	US	18 MAY	106.7	89.6	1090	1058	
1967-048B		2811	US	18 MAY	106.8	89.6	1091	1061	
1967-053A		2826	US	31 MAY	101.4	69.9	833	818	
1967-053B		2825	US	31 MAY	103.1	70.0	913	901	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1967-053C	GRAVITY GRADIENT 4	2828	US	31 MAY	103.1	70.0	913	900	
1967-053D	GRAVITY GRADIENT 5	2834	US	31 MAY	103.2	70.0	916	903	
1967-053E		2847	US	31 MAY	102.9	70.0	903	891	
1967-053F		2872	US	31 MAY	103.1	70.0	909	897	
1967-053G		2873	US	31 MAY	103.1	70.0	912	899	
1967-053H		2874	US	31 MAY	103.2	70.0	915	903	
1967-053J		2909	US	31 MAY	101.1	70.0	813	810	
1967-053K		19245	US	31 MAY	102.6	70.0	884	873	
1967-060A	MARINER 5	2845	US	14 JUN	HELIOCENTRIC ORBIT				
1967-060B		2846	US	14 JUN	HELIOCENTRIC ORBIT				
1967-065A	SECOR (EGRS) 9	2861	US	29 JUN	172.1	90.1	3946	3792	
1967-065B	AURORA 1	2876	US	29 JUN	172.1	90.1	3947	3792	
1967-065C		2877	US	29 JUN	172.1	90.1	3948	3790	
1967-066A	TITAN 3 C-14	2862	US	01 JUL	1309.7	11.3	33542	33005	
1967-066B		2863	US	01 JUL	NO CURRENT ELEMENTS				
1967-066C		2864	US	01 JUL	1311.7	11.3	33566	33063	
1967-066D		2865	US	01 JUL	1313.6	11.4	33588	33119	
1967-066E		2866	US	01 JUL	1316.2	11.4	33640	33170	
1967-066F	DODGE	2867	US	01 JUL	1319.1	11.4	33685	33244	
1967-066G		2868	US	01 JUL	1319.1	11.4	33676	33252	
1967-068B		2883	US	14 JUL	BARYOCENTRIC ORBIT				
1967-070A	EXPLORER 35	2884	US	19 JUL	SELENOCENTRIC ORBIT				
1967-075B		2908	US	01 AUG	BARYOCENTRIC ORBIT				
1967-080A		2920	US	23 AUG	101.9	99.0	875	817	
1967-080B		2940	US	23 AUG	101.8	98.9	871	814	
1967-084B		2938	US	08 SEP	BARYOCENTRIC ORBIT				
1967-092A	NNSS 30140	2965	US	25 SEP	106.5	89.3	1101	1027	
1967-092B		2967	US	25 SEP	106.5	89.3	1102	1029	
1967-092C		2994	US	25 SEP	103.7	89.4	1004	858	
1967-092D		3122	US	25 SEP	108.8	89.1	1316	1029	
1967-094A	INTELSAT 2 F-4	2969	ITSO	28 SEP	1434.6	14.4	35832	35681	
1967-094C		2971	US	28 SEP	NO CURRENT ELEMENTS				
1967-096A		2980	US	11 OCT	99.2	99.2	797	638	
1967-096B		2985	US	11 OCT	99.0	99.2	783	634	
1967-104B		3019	USSR	27 OCT	95.4	64.1	658	420	
1967-111A	ATS 3	3029	US	05 NOV	1436.2	14.3	35832	35744	
1967-112B		3034	US	07 NOV	BARYOCENTRIC ORBIT				
1967-114A	ESSA 6	3035	US	10 NOV	114.8	102.2	1482	1406	
1967-114B		3036	US	10 NOV	114.8	102.2	1483	1407	
1967-114C		3051	US	10 NOV	114.1	101.5	1482	1342	
1967-114D		3123	US	10 NOV	115.4	102.6	1493	1449	
1967-114E		5443	US	10 NOV	114.6	101.7	1483	1386	
1967-116A	COSMOS 192	3047	USSR	23 NOV	99.2	74.0	724	717	
1967-116B		3048	USSR	23 NOV	99.1	74.0	719	707	
1967-123A	PIONEER 8	3066	US	13 DEC	HELIOCENTRIC ORBIT				
1967-127A	COSMOS 198	3081	USSR	27 DEC	103.4	65.1	937	896	
1968 LAUNCHES									
1968-001B		3092	US	07 JAN	BARYOCENTRIC ORBIT				
1968-002A	EXPLORER 36	3093	US	11 JAN	112.2	105.8	1571	1080	
1968-002B		3094	US	11 JAN	112.1	105.8	1563	1078	
1968-002C		3126	US	11 JAN	112.3	106.0	1580	1082	
1968-002D		3127	US	11 JAN	112.1	105.3	1569	1074	
1968-011A	COSMOS 203	3129	USSR	20 FEB	109.2	74.0	1200	1180	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1968-011B		3131	USSR	20 FEB	109.2	74.0	1204	1177	
1968-012A	NNSS 30180	3133	US	02 MAR	106.7	90.0	1127	1016	
1968-012B		3137	US	02 MAR	106.7	90.0	1131	1018	
1968-012C		3213	US	02 MAR	104.6	90.0	1080	872	
1968-012D		3214	US	02 MAR	108.6	90.1	1301	1018	
1968-013A	ZOND 4	3134	USSR	02 MAR	HELIOCENTRIC ORBIT				
1968-014A	OGO 5	3138	US	04 MAR	NO CURRENT ELEMENTS				
1968-014B		3145	US	04 MAR	NO CURRENT ELEMENTS				
1968-023A	COSMOS 209	3158	USSR	22 MAR	103.0	65.3	921	882	
1968-026A	OV1-13	3173	US	06 APR	198.7	100.0	9234	572	
1968-026B	OV1-14	3174	US	06 APR	207.1	100.0	9886	546	
1968-026C		3177	US	06 APR	206.9	100.0	9878	544	
1968-026D		3212	US	06 APR	198.3	100.0	9192	581	
1968-027A	LUNA 14	3178	USSR	07 APR	SELENOCENTRIC ORBIT				
1968-040A	COSMOS 220	3229	USSR	07 MAY	98.1	74.0	700	637	
1968-040B		3230	USSR	07 MAY	97.8	74.0	683	621	
1968-042A		3266	US	23 MAY	101.8	98.9	884	805	
1968-042B		3271	US	23 MAY	101.8	98.8	881	802	
1968-050A		3284	US	13 JUN	1335.2	11.8	33845	33730	
1968-050B		3285	US	13 JUN	NO CURRENT ELEMENTS				
1968-050C		3286	US	13 JUN	NO CURRENT ELEMENTS				
1968-050D		3287	US	13 JUN	NO CURRENT ELEMENTS				
1968-050E		3288	US	13 JUN	NO CURRENT ELEMENTS				
1968-050F		3289	US	13 JUN	NO CURRENT ELEMENTS				
1968-050G		3290	US	13 JUN	NO CURRENT ELEMENTS				
1968-050H		3291	US	13 JUN	NO CURRENT ELEMENTS				
1968-050J		3292	US	13 JUN	1363.7	12.5	35024	33691	
1968-055A	EXPLORER 38	3307	US	04 JUL	224.3	120.9	5866	5831	
1968-055B		3315	US	04 JUL	155.7	120.6	5729	687	
1968-055C		3848	US	04 JUL	224.1	120.9	5861	5825	
1968-055D		4841	US	04 JUL	155.3	120.8	5748	632	
1968-063A		3334	US	06 AUG	NO ELEMENTS AVAILABLE				
1968-066B	EXPLORER 40	3338	US	08 AUG	117.9	80.7	2493	677	
1968-066C		3341	US	08 AUG	117.7	80.7	2479	679	
1968-066D		3342	US	08 AUG	106.8	80.6	1531	626	
1968-066E		3343	US	08 AUG	102.2	80.5	1157	569	
1968-066F		3390	US	08 AUG	107.9	80.6	1610	645	
1968-066G		3391	US	08 AUG	106.7	80.7	1543	606	
1968-066H		3392	US	08 AUG	110.7	80.7	1865	655	
1968-066J		3393	US	08 AUG	108.5	80.6	1666	646	
1968-069A	ESSA 7	3345	US	16 AUG	114.9	101.4	1471	1428	
1968-069B		3346	US	16 AUG	114.8	101.4	1463	1426	
1968-069C		3416	US	16 AUG	113.6	101.9	1485	1299	
1968-069D		3417	US	16 AUG	116.1	102.2	1557	1454	
1968-069E		3974	US	16 AUG	114.9	102.1	1477	1421	
1968-069F		3975	US	16 AUG	114.8	101.5	1482	1414	
1968-069G		4499	US	16 AUG	115.1	101.4	1480	1434	
1968-081A	OV2-5	3428	US	26 SEP	1418.0	12.4	35782	35080	
1968-081C	ERS 21	3430	US	26 SEP	NO CURRENT ELEMENTS				
1968-081D	LES 6	3431	US	26 SEP	1436.7	12.8	35841	35757	
1968-081E		3432	US	26 SEP	1418.5	12.5	35846	35035	
1968-091A	COSMOS 249	3504	USSR	20 OCT	111.5	62.3	2097	488	
1968-091B TO 091DQ			USSR	20 OCT	SEE NOTE	10*			10*
1968-092A		3510	US	23 OCT	101.0	98.7	828	784	
1968-092B		3522	US	23 OCT	100.9	98.8	823	778	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1968-097A	COSMOS 252	3530	USSR	01 NOV	112.0	62.3	2111	528	
1968-097B TO 097EU			USSR	01 NOV	SEE NOTE		11*		11*
1968-097BH		3896	USSR	01 NOV	104.3	62.6	1397	525	
1968-100A	PIONEER 9	3533	US	08 NOV	HELIOCENTRIC ORBIT				
1968-106A	COSMOS 256	3576	USSR	30 NOV	109.3	74.0	1220	1170	
1968-106B		3577	USSR	30 NOV	109.2	74.0	1214	1162	
1968-110A	OAO-A2	3597	US	07 DEC	99.9	35.0	759	749	
1968-110B		3598	US	07 DEC	99.6	35.0	776	697	
1968-112B		3605	US	12 DEC	114.3	80.4	1465	1378	
1968-112C		3617	US	12 DEC	114.0	80.2	1445	1371	
1968-112D		3618	US	12 DEC	114.7	80.5	1507	1372	
1968-112E		3840	US	12 DEC	114.4	80.6	1453	1403	
1968-114A	ESSA 8	3615	US	15 DEC	114.6	101.8	1461	1411	
1968-114B		3616	US	15 DEC	115.0	101.8	1467	1445	
1968-114C		3811	US	15 DEC	112.8	101.9	1462	1248	
1968-114D		3812	US	15 DEC	116.3	102.4	1571	1458	
1968-116A	INTELSAT 3 F-2	3623	ITSO	19 DEC	1475.2	14.9	37110	35985	
1968-118B		3627	US	21 DEC	HELIOCENTRIC ORBIT				
1969 LAUNCHES									
1969-009A	ISIS 1	3669	CANADA	30 JAN	127.7	88.4	3470	574	
1969-009B		3670	US	30 JAN	126.6	88.4	3376	573	
1969-010B		3673	US	05 FEB	114.0	80.4	1429	1390	
1969-010C		3841	US	05 FEB	113.7	80.2	1420	1369	
1969-011A	INTELSAT 3 F-3	3674	ITSO	06 FEB	NO CURRENT ELEMENTS				
1969-011B		5977	US	06 FEB	461.9	29.4	26532	296	
1969-013A		3691	US	09 FEB	NO CURRENT ELEMENTS				
1969-013B		3692	US	09 FEB	NO CURRENT ELEMENTS				
1969-014A	MARINER 6	3759	US	25 FEB	HELIOCENTRIC ORBIT				
1969-014B		3760	US	25 FEB	HELIOCENTRIC ORBIT				
1969-016A	ESSA 9	3764	US	26 FEB	115.2	101.4	1503	1422	
1969-016B		3767	US	26 FEB	115.1	101.4	1498	1417	
1969-018B		3770	US	03 MAR	HELIOCENTRIC ORBIT				
1969-024A	COSMOS 272	3818	USSR	17 MAR	109.2	74.0	1205	1177	
1969-024B		3819	USSR	17 MAR	109.1	74.0	1193	1178	
1969-024C		6289	USSR	17 MAR	108.8	74.0	1176	1164	
1969-025C	OV1-19	3825	US	18 MAR	151.4	104.8	5589	477	
1969-025E		3827	US	18 MAR	150.3	104.7	5485	486	
1969-029A	METEOR	3835	USSR	26 MAR	95.9	81.2	578	548	
1969-030A	MARINER 7	3837	US	27 MAR	HELIOCENTRIC ORBIT				
1969-030B		3845	US	27 MAR	HELIOCENTRIC ORBIT				
1969-036A		3889	US	13 APR	NO ELEMENTS AVAILABLE				
1969-037A	NIMBUS 3	3890	US	14 APR	107.2	100.0	1128	1069	
1969-037B	SECOR (EGRS) 13	3891	US	14 APR	107.2	100.0	1126	1068	
1969-037C		3892	US	14 APR	107.3	100.0	1131	1072	
1969-043B		3943	US	18 MAY	HELIOCENTRIC ORBIT				
1969-043C	LM/DESCENT	3948	US	18 MAY	SELENOCENTRIC ORBIT				
1969-043D	LM/ASCENT	3949	US	18 MAY	HELIOCENTRIC ORBIT				
1969-045A	INTELSAT 3 F-4	3947	ITSO	22 MAY	NO CURRENT ELEMENTS				
1969-046A	OV5-5/ERS-29	3950	US	23 MAY	NO CURRENT ELEMENTS				
1969-046B	OV5-6	3951	US	23 MAY	NO CURRENT ELEMENTS				
1969-046C	OV5-9	3952	US	23 MAY	NO CURRENT ELEMENTS				
1969-046F		3956	US	23 MAY	NO CURRENT ELEMENTS				
1969-053B		3993	US	21 JUN	NO CURRENT ELEMENTS				

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1969-059B		4040	US	16 JUL	HELIOCENTRIC ORBIT				
1969-059C	LUNAR MODULE	4041	US	16 JUL	SELENOCENTRIC ORBIT				
1969-062A		4047	US	23 JUL	100.9	98.8	834	768	
1969-062B		4048	US	23 JUL	100.8	98.7	828	765	
1969-064C		4053	US	26 JUL	122.1	30.3	3289	263	
1969-069A	ATS 5	4068	US	12 AUG	1447.4	14.0	36043	35972	
1969-069B		4069	US	12 AUG	703.3	16.8	37273	2364	
1969-069D		21052	US	12 AUG	1466.7	14.3	36946	35822	
1969-070A	COSMOS 292	4070	USSR	13 AUG	99.3	74.0	734	718	
1969-070B		4071	USSR	13 AUG	99.0	74.0	720	696	
1969-070C		4084	USSR	13 AUG	99.7	74.1	760	727	
1969-070D		18912	USSR	13 AUG	98.2	74.0	704	643	
1969-082B		4256	US	30 SEP	103.1	70.0	921	890	
1969-082C		4257	US	30 SEP	103.2	70.0	927	896	
1969-082D		4259	US	30 SEP	103.3	70.0	929	898	
1969-082E		4237	US	30 SEP	103.3	70.0	928	896	
1969-082F		4247	US	30 SEP	103.2	70.0	928	896	
1969-082G		4295	US	30 SEP	103.3	70.0	928	896	
1969-082H		4168	US	30 SEP	103.2	70.0	927	896	
1969-082J		4166	US	30 SEP	100.9	70.0	810	796	
1969-082K		4132	US	30 SEP	102.1	70.0	871	844	
1969-082L TO 082LF			US	30 SEP	SEE NOTE		12*		12*
1969-084A	METEOR	4119	USSR	06 OCT	95.3	81.2	554	514	
1969-084B		4120	USSR	06 OCT	93.8	81.2	497	427	
1969-091A	COSMOS 304	4138	USSR	21 OCT	99.6	74.0	748	731	
1969-091B		4139	USSR	21 OCT	98.9	74.0	710	702	
1969-097A	GRS-A/AZUR	4221	FRG	08 NOV	110.6	102.7	2138	372	
1969-097B		4222	US	08 NOV	100.2	102.8	1188	348	
1969-099B		4226	US	14 NOV	NO CURRENT ELEMENTS				
1969-101A	SKYNET A	4250	UK	22 NOV	1436.1	13.7	35901	35671	
1969-101B		4251	US	22 NOV	NO CURRENT ELEMENTS				
1969-103A	COSMOS 312	4254	USSR	24 NOV	108.5	74.0	1174	1138	
1969-103B		4255	USSR	24 NOV	108.3	74.0	1156	1139	
1970 LAUNCHES									
1970-003A	INTELSAT 3 F-6	4297	ITSO	15 JAN	NO CURRENT ELEMENTS				
1970-003B		4298	US	15 JAN	520.7	27.8	29789	334	
1970-008A	ITOS 1	4320	US	23 JAN	115.0	101.3	1477	1430	
1970-008B	OSCAR 5	4321	AUSTRL	23 JAN	115.0	101.4	1476	1431	
1970-008C		4322	US	23 JAN	115.0	101.4	1477	1431	
1970-009A	SERT 2	4327	US	04 FEB	106.0	99.2	1045	1036	
1970-011A	OHSUMI	4330	JAPAN	11 FEB	113.9	31.1	2482	324	
1970-012A		4331	US	11 FEB	100.8	98.9	840	749	
1970-012B		4332	US	11 FEB	100.8	98.9	842	752	
1970-021A	NATO 1	4353	NATO	20 MAR	1436.0	13.1	35805	35764	
1970-021B		4354	US	20 MAR	518.0	25.1	29704	268	
1970-021C		5975	US	20 MAR	537.0	25.6	30716	297	
1970-025A	NIMBUS 4	4362	US	08 APR	107.1	99.9	1097	1085	
1970-025B	TOPO 1	4363	US	08 APR	106.9	99.8	1084	1082	
1970-025C TO 025QP			US	08 APR	SEE NOTE		13*		13*
1970-028A	COSMOS 332	4369	USSR	11 APR	99.4	74.0	736	727	
1970-028B		4370	USSR	11 APR	99.1	74.0	726	703	
1970-028C		14814	USSR	11 APR	98.3	74.0	686	671	
1970-032A	INTELSAT 3 F-7	4376	ITSO	23 APR	NO CURRENT ELEMENTS				

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1970-032B		4377	US	23 APR	NO CURRENT ELEMENTS				
1970-034A	MAO 1	4382	PRC	24 APR	111.6	68.4	2166	432	
1970-034B		4392	PRC	24 APR	100.1	68.4	1127	400	
1970-036A	COSMOS 336	4383	USSR	25 APR	115.4	74.0	1484	1461	
1970-036B	COSMOS 337	4384	USSR	25 APR	116.2	74.0	1550	1466	
1970-036C	COSMOS 338	4385	USSR	25 APR	115.8	74.0	1516	1465	
1970-036D	COSMOS 339	4386	USSR	25 APR	115.0	74.0	1467	1443	
1970-036E	COSMOS 340	4387	USSR	25 APR	114.6	74.0	1467	1405	
1970-036F	COSMOS 341	4388	USSR	25 APR	113.9	74.0	1466	1340	
1970-036G	COSMOS 342	4389	USSR	25 APR	113.5	74.0	1466	1308	
1970-036H	COSMOS 343	4390	USSR	25 APR	114.2	74.0	1465	1373	
1970-036J		4391	USSR	25 APR	116.6	74.0	1586	1466	
1970-037A	METEOR	4393	USSR	28 APR	95.8	81.2	578	537	
1970-037B		4394	USSR	28 APR	96.6	81.2	661	525	
1970-046A		4418	US	19 JUN	NO ELEMENTS AVAILABLE				
1970-046B		4511	US	19 JUN	NO ELEMENTS AVAILABLE				
1970-047A	METEOR	4419	USSR	23 JUN	101.8	81.2	873	814	
1970-047B		4420	USSR	23 JUN	102.0	81.2	918	790	
1970-055A	INTELSAT 3 F-8	4478	ITSO	23 JUL	1408.2	14.0	36625	33850	
1970-055B		4486	US	23 JUL	NO CURRENT ELEMENTS				
1970-062A	SKYNET B	4493	UK	19 AUG	NO CURRENT ELEMENTS				
1970-067A	NNSS 30190	4507	US	27 AUG	106.7	90.0	1204	942	
1970-067B		4515	US	27 AUG	106.8	90.0	1209	944	
1970-067C		5036	US	27 AUG	102.8	90.1	906	871	
1970-067D		5447	US	27 AUG	109.1	90.0	1427	943	
1970-069A		4510	US	01 SEP	NO ELEMENTS AVAILABLE				
1970-070A		4512	US	03 SEP	100.6	98.9	838	738	
1970-070B		4513	US	03 SEP	100.7	99.0	844	740	
1970-079A	COSMOS 367	4564	USSR	03 OCT	104.5	65.3	1012	925	
1970-083A	COSMOS 371	4578	USSR	12 OCT	99.3	74.0	728	723	
1970-083B		4579	USSR	12 OCT	99.0	74.0	720	703	
1970-085A	METEOR	4583	USSR	15 OCT	93.6	81.2	451	449	
1970-085B		4584	USSR	15 OCT	94.5	81.2	538	451	
1970-086A	COSMOS 372	4588	USSR	16 OCT	100.4	74.1	787	767	
1970-086B		4589	USSR	16 OCT	100.1	74.1	781	749	
1970-086C		5357	USSR	16 OCT	98.2	74.0	676	667	
1970-086D		5358	USSR	16 OCT	99.1	74.0	719	709	
1970-089A	COSMOS 374	4594	USSR	23 OCT	106.7	63.0	1647	503	
1970-089B TO 089DG			USSR	23 OCT	SEE NOTE		14*		14*
1970-091A	COSMOS 375	4598	USSR	30 OCT	111.3	62.8	1995	577	
1970-091B TO 091AX			USSR	30 OCT	SEE NOTE		15*		15*
1970-093A		4630	US	06 NOV	1197.9	16.4	36130	25838	
1970-093B		4632	US	06 NOV	1197.7	16.4	36155	25807	
1970-102A	COSMOS 381	4783	USSR	02 DEC	104.8	74.0	1006	959	
1970-102B		4784	USSR	02 DEC	104.6	74.0	997	956	
1970-102D		5225	USSR	02 DEC	104.0	74.0	960	933	
1970-102E		8764	USSR	02 DEC	104.2	74.0	972	937	
1970-102F		9794	USSR	02 DEC	98.2	74.0	682	662	
1970-103A	COSMOS 382	4786	USSR	02 DEC	171.0	55.9	5268	2385	
1970-103B		4789	USSR	02 DEC	158.8	51.6	5083	1588	
1970-103C		4790	USSR	02 DEC	159.1	51.6	5085	1612	
1970-103G		12854	USSR	02 DEC	144.0	50.9	4073	1374	
1970-106A	NOAA 1	4793	US	11 DEC	114.8	101.3	1470	1422	
1970-106B		4794	US	11 DEC	114.9	101.3	1477	1420	
1970-106C		8828	US	11 DEC	116.4	102.4	1540	1492	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1970-108A	COSMOS 385	4799	USSR	12 DEC	104.6	74.0	978	972	
1970-108B		4800	USSR	12 DEC	104.5	74.0	975	962	
1970-109B		4802	FRANCE	12 DEC	96.1	15.0	596	545	
1970-113A	COSMOS 389	4813	USSR	18 DEC	95.8	81.2	570	543	
1970-113B		4814	USSR	18 DEC	96.4	81.2	630	545	
1971 LAUNCHES									
1971-003A	METEOR	4849	USSR	20 JAN	95.6	81.2	553	537	
1971-003B		4850	USSR	20 JAN	95.3	81.2	578	486	
1971-003C		18277	USSR	20 JAN	93.3	81.2	458	409	
1971-006A	INTELSAT 4 F-2	4881	ITSO	26 JAN	1457.0	12.9	36250	36138	
1971-006B		4882	US	26 JAN	653.3	27.6	36394	730	
1971-009A	NATO 2	4902	NATO	03 FEB	1436.1	13.7	35803	35769	
1971-009B		4903	US	03 FEB	NO CURRENT ELEMENTS				
1971-009D		5986	US	03 FEB	NO CURRENT ELEMENTS				
1971-010A	COSMOS 394	4922	USSR	09 FEB	95.4	65.8	548	527	
1971-011A	TANSEI 1	4952	JAPAN	16 FEB	106.1	29.7	1106	987	
1971-011B		5126	JAPAN	16 FEB	104.8	29.7	993	975	
1971-012A		4953	US	17 FEB	100.2	98.7	800	740	
1971-012B		4954	US	17 FEB	100.3	98.7	803	746	
1971-015A	COSMOS 397	4964	USSR	25 FEB	113.2	65.7	2171	571	
1971-015B TO 015DV			USSR	25 FEB	SEE NOTE		16*		16*
1971-016A	COSMOS 398	4966	USSR	26 FEB	109.5	51.5	2219	188	
1971-020A	COSMOS 400	5050	USSR	18 MAR	104.9	65.8	1002	979	
1971-020B		5051	USSR	18 MAR	104.7	65.8	1024	937	
1971-020C		5052	USSR	18 MAR	104.9	65.8	999	977	
1971-021A		5053	US	21 MAR	NO ELEMENTS AVAILABLE				
1971-021B		5054	US	21 MAR	NO ELEMENTS AVAILABLE				
1971-024A	ISIS 2	5104	CANADA	01 APR	113.5	88.2	1422	1354	
1971-024B		5106	US	01 APR	113.5	88.2	1420	1350	
1971-024C		5360	US	01 APR	113.5	88.3	1421	1355	
1971-025A	COSMOS 402	5105	USSR	01 APR	104.9	65.0	1023	953	
1971-028A	COSMOS 405	5117	USSR	07 APR	96.7	81.2	601	597	
1971-028B		5118	USSR	07 APR	96.9	81.2	658	562	
1971-028D		5724	USSR	07 APR	95.8	81.2	559	554	
1971-031B		5143	USSR	17 APR	94.5	81.2	524	460	
1971-035A	COSMOS 407	5174	USSR	23 APR	100.6	74.0	800	773	
1971-035B		5175	USSR	23 APR	100.4	74.0	799	752	
1971-035C		5300	USSR	23 APR	99.3	74.0	735	718	
1971-035D		5301	USSR	23 APR	99.8	74.0	759	737	
1971-038A	COSMOS 409	5180	USSR	28 APR	109.2	74.0	1208	1175	
1971-038B		5181	USSR	28 APR	109.0	74.0	1223	1139	
1971-039A		5204	US	05 MAY	NO ELEMENTS AVAILABLE				
1971-039B		5205	US	05 MAY	NO ELEMENTS AVAILABLE				
1971-041A	COSMOS 411	5210	USSR	07 MAY	113.8	74.0	1488	1313	
1971-041B	COSMOS 412	5211	USSR	07 MAY	116.1	74.0	1533	1477	
1971-041C	COSMOS 413	5212	USSR	07 MAY	115.7	74.0	1505	1472	
1971-041D	COSMOS 414	5213	USSR	07 MAY	115.1	74.0	1491	1424	
1971-041E	COSMOS 415	5214	USSR	07 MAY	115.4	74.0	1498	1448	
1971-041F	COSMOS 416	5215	USSR	07 MAY	114.4	74.0	1489	1369	
1971-041G	COSMOS 417	5216	USSR	07 MAY	114.1	74.0	1490	1340	
1971-041H	COSMOS 418	5217	USSR	07 MAY	114.7	74.0	1490	1397	
1971-041J		5218	USSR	07 MAY	116.8	74.0	1591	1484	
1971-045A	MARS 2	5234	USSR	19 MAY	MARS ORBIT				

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1971-046A	COSMOS 422	5238	USSR	22 MAY	104.9	74.0	1002	980	
1971-046B		5239	USSR	22 MAY	104.8	74.0	994	977	
1971-049A	MARS 3	5252	USSR	28 MAY	MARS ORBIT				
1971-051A	MARINER 9	5261	US	30 MAY	MARS ORBIT				
1971-051B		5267	US	30 MAY	HELIOCENTRIC ORBIT				
1971-052A	COSMOS 426	5281	USSR	04 JUN	99.6	74.0	1122	354	
1971-052B		5282	USSR	04 JUN	100.6	74.0	1219	357	
1971-059B		5328	USSR	16 JUL	94.7	81.2	540	472	
1971-063D	APOLLO 15 SUBSATELLITE	5377	US	26 JUL	SELENOCENTRIC ORBIT				
1971-067B	OV1-21	5397	US	07 AUG	101.7	87.6	896	778	
1971-067E		5398	US	07 AUG	101.0	87.6	860	752	
1971-067J		5405	US	07 AUG	96.0	87.6	582	547	
1971-067K		5395	US	07 AUG	100.9	87.6	852	750	
1971-067L		5399	US	07 AUG	96.5	87.6	606	572	
1971-067M		5400	US	07 AUG	96.1	87.6	588	555	
1971-067N		5384	US	07 AUG	101.4	87.6	884	761	
1971-069C		5426	USSR	12 AUG	99.5	49.5	815	655	
1971-071A	EOLE 1	5435	FRANCE	16 AUG	99.7	50.2	836	652	
1971-071B		5438	US	16 AUG	99.6	50.2	830	648	
1971-071C		5440	US	16 AUG	96.4	50.7	629	541	
1971-073B		5449	USSR	02 SEP	SELENOCENTRIC ORBIT				
1971-080A	SHINSEI	5485	JAPAN	28 SEP	113.1	32.1	1866	873	
1971-080B		5498	JAPAN	28 SEP	111.9	32.0	1755	870	
1971-082A	LUNA 19	5488	USSR	28 SEP	SELENOCENTRIC ORBIT				
1971-082C		5490	USSR	28 SEP	SELENOCENTRIC ORBIT				
1971-086A	COSMOS 444	5547	USSR	13 OCT	114.1	74.0	1505	1319	
1971-086B	COSMOS 445	5548	USSR	13 OCT	114.4	74.0	1509	1348	
1971-086C	COSMOS 446	5549	USSR	13 OCT	114.8	74.0	1510	1378	
1971-086D	COSMOS 447	5550	USSR	13 OCT	115.1	74.0	1511	1409	
1971-086E	COSMOS 448	5551	USSR	13 OCT	115.5	74.0	1515	1438	
1971-086F	COSMOS 449	5552	USSR	13 OCT	116.2	74.0	1539	1481	
1971-086G	COSMOS 450	5553	USSR	13 OCT	115.8	74.0	1527	1459	
1971-086H	COSMOS 451	5554	USSR	13 OCT	116.6	74.0	1571	1487	
1971-086J		5555	USSR	13 OCT	117.3	74.0	1620	1501	
1971-087A		5557	US	14 OCT	101.1	99.2	850	773	
1971-087B		5556	US	14 OCT	101.3	99.2	868	774	
1971-089A		5560	US	17 OCT	99.8	92.7	763	736	
1971-093A	PROSPERO	5580	UK	28 OCT	104.4	82.0	1403	533	
1971-093B		5581	UK	28 OCT	104.5	82.0	1411	533	
1971-095A		5587	US	03 NOV	1436.1	13.5	35820	35752	
1971-095B		5588	US	03 NOV	1437.0	13.4	35821	35787	
1971-095C		5589	US	03 NOV	1481.7	14.2	37357	35991	
1971-099A	COSMOS 457	5614	USSR	20 NOV	109.4	74.0	1215	1181	
1971-099B		5615	USSR	20 NOV	109.3	74.0	1210	1174	
1971-110A		5678	US	14 DEC	NO ELEMENTS AVAILABLE				
1971-110B		5679	US	14 DEC	NO ELEMENTS AVAILABLE				
1971-110C		5680	US	14 DEC	NO ELEMENTS AVAILABLE				
1971-110D		5681	US	14 DEC	NO ELEMENTS AVAILABLE				
1971-110E		5682	US	14 DEC	NO ELEMENTS AVAILABLE				
1971-111A	COSMOS 465	5683	USSR	15 DEC	104.8	74.0	1004	963	
1971-111B		5685	USSR	15 DEC	104.6	74.0	993	958	
1971-114A	COSMOS 468	5705	USSR	17 DEC	100.4	74.0	789	768	
1971-114B		5707	USSR	17 DEC	100.3	74.0	790	755	
1971-114C		5778	USSR	17 DEC	99.6	74.0	750	732	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1971-114D		5858	USSR	17 DEC	99.5	74.0	743	728	
1971-116A	INTELSAT 4 F-3	5709	ITSO	20 DEC	1445.5	10.7	36045	35895	
1971-117A	COSMOS 469	5721	USSR	25 DEC	104.6	64.5	994	961	
1971-119A	OREOL 1	5729	USSR	27 DEC	108.9	74.0	1960	389	
1971-119B		5730	USSR	27 DEC	108.1	73.9	1891	386	
1971-120A	METEOR	5731	USSR	29 DEC	102.5	81.3	912	836	
1971-120B		5732	USSR	29 DEC	102.0	81.3	872	838	
1971-120C		8826	USSR	29 DEC	100.8	81.2	807	783	
1971-120D		8827	USSR	29 DEC	101.9	81.3	858	838	
1971-120F		15344	USSR	29 DEC	97.0	81.2	624	603	
1972 LAUNCHES									
1972-003A	INTELSAT 4 F-4	5775	ITSO	23 JAN	1442.6	10.1	35917	35908	
1972-003B		5816	US	23 JAN	652.9	28.2	36506	599	
1972-007B		5836	USSR	14 FEB	SELENOCENTRIC ORBIT				
1972-009A	COSMOS 475	5846	USSR	25 FEB	104.6	74.0	994	961	
1972-009B		5847	USSR	25 FEB	104.4	74.0	990	943	
1972-010A		5851	US	01 MAR	NO ELEMENTS AVAILABLE				
1972-010B		5854	US	01 MAR	NO ELEMENTS AVAILABLE				
1972-011B		5853	USSR	01 MAR	92.8	81.2	426	392	
1972-012A	PIONEER 10	5860	US	03 MAR	HELIOCENTRIC ORBIT				
1972-012B		5861	US	03 MAR	HELIOCENTRIC ORBIT				
1972-018A		5903	US	24 MAR	101.3	98.9	859	780	
1972-018B		5904	US	24 MAR	101.3	98.9	854	783	
1972-019A	COSMOS 480	5905	USSR	25 MAR	109.1	83.0	1198	1168	
1972-019B		5907	USSR	25 MAR	108.9	83.0	1190	1161	
1972-022A	METEOR	5917	USSR	30 MAR	102.3	81.2	879	853	
1972-022B		5918	USSR	30 MAR	102.5	81.2	919	830	
1972-023E		6073	USSR	31 MAR	156.0	52.1	6227	219	
1972-029A	PROGNOZ	5941	USSR	14 APR	NO CURRENT ELEMENTS				
1972-031C	LUNAR MODULE	6005	US	16 APR	SELENOCENTRIC ORBIT				
1972-035A	COSMOS 489	6019	USSR	06 MAY	104.7	74.0	996	960	
1972-035B		6020	USSR	06 MAY	104.5	74.0	985	953	
1972-041A	INTELSAT 4 F-5	6052	ITSO	13 JUN	1438.5	11.0	35857	35809	
1972-041B		6058	US	13 JUN	650.0	27.0	36413	544	
1972-043A	COSMOS 494	6059	USSR	23 JUN	100.4	74.1	786	772	
1972-043B		6061	USSR	23 JUN	100.2	74.1	783	750	
1972-043C		6063	USSR	23 JUN	99.3	74.1	732	719	
1972-043D		6065	USSR	23 JUN	99.6	74.1	753	728	
1972-049A	METEOR	6079	USSR	30 JUN	102.7	81.2	891	877	
1972-049B		6080	USSR	30 JUN	102.8	81.2	928	854	
1972-049C		20348	USSR	30 JUN	102.8	81.2	927	854	
1972-057A	COSMOS 504	6117	USSR	20 JUL	113.9	74.0	1493	1319	
1972-057B	COSMOS 505	6118	USSR	20 JUL	114.3	74.0	1494	1349	
1972-057C	COSMOS 506	6119	USSR	20 JUL	114.6	74.0	1493	1380	
1972-057D	COSMOS 507	6120	USSR	20 JUL	114.9	74.0	1493	1410	
1972-057E	COSMOS 508	6121	USSR	20 JUL	115.3	74.0	1494	1441	
1972-057F	COSMOS 509	6122	USSR	20 JUL	115.6	74.0	1496	1471	
1972-057G	COSMOS 510	6123	USSR	20 JUL	116.0	74.0	1507	1493	
1972-057H	COSMOS 511	6124	USSR	20 JUL	116.4	74.0	1543	1493	
1972-057J		6125	USSR	20 JUL	117.0	74.0	1598	1490	
1972-058A	LANDSAT 1	6126	US	23 JUL	103.0	99.4	908	895	
1972-058B TO 058JL			US	23 JUL	SEE NOTE		17*		17*
1972-062A	COSMOS 514	6148	USSR	16 AUG	104.2	83.0	963	952	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1972-062B		6149	USSR	16 AUG	104.1	83.0	959	948	
1972-062C		6277	USSR	16 AUG	104.1	82.9	955	946	
1972-062D		7560	USSR	16 AUG	102.7	83.0	939	834	
1972-065A	COPERNICUS	6153	US	21 AUG	99.2	35.0	724	713	
1972-065B		6155	US	21 AUG	98.7	35.0	729	664	
1972-066A	COSMOS 516	6154	USSR	21 AUG	104.5	64.8	1032	911	
1972-069A	TRIAD OI-1X	6173	US	02 SEP	99.9	90.0	792	710	
1972-069B		6180	US	02 SEP	99.4	90.0	766	689	
1972-069C		6250	US	02 SEP	97.7	89.7	685	613	
1972-072A	COSMOS 520	6192	USSR	19 SEP	715.1	68.6	36182	4041	
1972-072E		6302	USSR	19 SEP	706.7	68.3	35898	3908	
1972-073A	EXPLORER 47	6197	US	23 SEP	NO CURRENT ELEMENTS				
1972-074A	COSMOS 521	6206	USSR	29 SEP	104.9	65.8	1002	977	
1972-074B		6207	USSR	29 SEP	104.7	65.8	990	972	
1972-074C		6210	USSR	29 SEP	104.9	65.8	1003	973	
1972-076A		6212	US	02 OCT	97.4	98.6	640	627	
1972-076B		6217	US	02 OCT	98.7	98.7	704	690	
1972-076C		6218	US	02 OCT	99.1	98.5	724	707	
1972-076D		6221	US	02 OCT	96.8	98.6	607	598	
1972-079C		6822	US	10 OCT	114.7	95.6	1463	1416	
1972-079D		6823	US	10 OCT	114.7	95.8	1484	1402	
1972-079E		6824	US	10 OCT	114.6	95.5	1442	1431	
1972-082A	NOAA 2	6235	US	15 OCT	114.9	102.0	1453	1446	
1972-082B	AMSAT-OSCAR 6	6236	US	15 OCT	114.9	102.0	1452	1446	
1972-082C		6237	US	15 OCT	109.2	102.8	1464	914	
1972-085A	METEOR	6256	USSR	26 OCT	102.3	81.2	877	854	
1972-085B		6257	USSR	26 OCT	102.4	81.3	913	832	
1972-087A	COSMOS 528	6262	USSR	01 NOV	114.1	74.0	1465	1364	
1972-087B	COSMOS 529	6264	USSR	01 NOV	114.5	74.0	1466	1400	
1972-087C	COSMOS 530	6265	USSR	01 NOV	113.7	74.0	1466	1330	
1972-087D	COSMOS 531	6266	USSR	01 NOV	114.7	74.0	1467	1418	
1972-087E	COSMOS 532	6267	USSR	01 NOV	113.4	74.0	1465	1297	
1972-087F	COSMOS 533	6268	USSR	01 NOV	113.6	74.0	1466	1314	
1972-087G	COSMOS 534	6269	USSR	01 NOV	113.9	74.0	1466	1346	
1972-087H	COSMOS 535	6270	USSR	01 NOV	114.3	74.0	1466	1381	
1972-087J		6271	USSR	01 NOV	116.6	74.0	1591	1465	
1972-089A		6275	US	09 NOV	101.2	98.7	839	786	
1972-089B		6276	US	09 NOV	101.4	98.7	852	800	
1972-090A	ANIK A1	6278	CANADA	10 NOV	1457.1	11.0	36244	36149	
1972-097A	NIMBUS 5	6305	US	11 DEC	107.1	99.8	1098	1087	
1972-097B		6306	US	11 DEC	111.7	99.8	1514	1098	
1972-101A		6317	US	20 DEC	NO CURRENT ELEMENTS				
1972-101B		6318	US	20 DEC	NO CURRENT ELEMENTS				
1972-102A	COSMOS 539	6319	USSR	21 DEC	112.9	74.0	1378	1339	
1972-102B		6320	USSR	21 DEC	112.7	74.0	1371	1333	
1972-104A	COSMOS 540	6323	USSR	25 DEC	100.4	74.1	790	763	
1972-104B		6324	USSR	25 DEC	100.0	74.1	767	752	
1972-104C		6391	USSR	25 DEC	98.7	74.1	703	688	
1972-104D		6396	USSR	25 DEC	98.6	74.0	699	681	
1973 LAUNCHES									
1973-005A	COSMOS 546	6350	USSR	26 JAN	95.7	50.7	564	538	
1973-009A	PROGNOZ 3	6364	USSR	15 FEB	NO CURRENT ELEMENTS				
1973-013A		6380	US	06 MAR	NO ELEMENTS AVAILABLE				

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1973-015A	METEOR	6392	USSR	20 MAR	102.4	81.2	879	860	
1973-015B		6393	USSR	20 MAR	102.5	81.3	920	834	
1973-019A	PIONEER 11	6421	US	06 APR	HELIOCENTRIC ORBIT				
1973-019B		6425	US	06 APR	HELIOCENTRIC ORBIT				
1973-023A	ANIK A2	6437	CANADA	20 APR	1443.1	9.9	35961	35884	
1973-034A	METEOR	6659	USSR	29 MAY	102.2	81.2	881	841	
1973-034B		6660	USSR	29 MAY	102.5	81.2	909	840	
1973-037A	COSMOS 564	6675	USSR	08 JUN	114.6	74.0	1478	1392	
1973-037B	COSMOS 565	6676	USSR	08 JUN	115.3	74.0	1487	1446	
1973-037C	COSMOS 566	6677	USSR	08 JUN	115.0	74.0	1480	1430	
1973-037D	COSMOS 567	6678	USSR	08 JUN	114.8	74.0	1481	1410	
1973-037E	COSMOS 568	6679	USSR	08 JUN	114.4	74.0	1478	1373	
1973-037F	COSMOS 569	6680	USSR	08 JUN	114.1	74.0	1478	1355	
1973-037G	COSMOS 570	6681	USSR	08 JUN	113.9	74.0	1478	1335	
1973-037H	COSMOS 571	6682	USSR	08 JUN	113.7	74.0	1477	1316	
1973-037J		6683	USSR	08 JUN	116.8	74.0	1594	1481	
1973-039A	EXPLORER 49	6686	US	10 JUN	SELENOCENTRIC ORBIT				
1973-039D		6689	US	10 JUN	NO CURRENT ELEMENTS				
1973-039F		6725	US	10 JUN	SELENOCENTRIC ORBIT				
1973-039G		6726	US	10 JUN	SELENOCENTRIC ORBIT				
1973-040A		6691	US	12 JUN	NO ELEMENTS AVAILABLE				
1973-040B		11940	US	12 JUN	NO ELEMENTS AVAILABLE				
1973-042A	COSMOS 574	6707	USSR	20 JUN	104.9	82.9	1007	976	
1973-042B		6708	USSR	20 JUN	104.8	82.9	996	975	
1973-047A	MARS 4	6742	USSR	21 JUL	HELIOCENTRIC ORBIT				
1973-049A	MARS 5	6754	USSR	25 JUL	MARS ORBIT				
1973-052A	MARS 6	6768	USSR	05 AUG	MARS ORBIT				
1973-053A	MARS 7	6776	USSR	09 AUG	MARS ORBIT				
1973-053D	CAPSULE	7224	USSR	09 AUG	HELIOCENTRIC ORBIT				
1973-054A		6787	US	17 AUG	100.9	98.9	820	778	
1973-054B		6788	US	17 AUG	101.1	98.9	831	789	
1973-056A		6791	US	21 AUG	NO ELEMENTS AVAILABLE				
1973-056B		6792	US	21 AUG	NO ELEMENTS AVAILABLE				
1973-058A	INTELSAT 4 F-7	6796	ITSO	23 AUG	1452.4	10.1	36142	36069	
1973-058B		6797	US	23 AUG	651.9	27.6	36477	574	
1973-064A	COSMOS 585	6825	USSR	08 SEP	113.5	74.0	1402	1373	
1973-064B		6826	USSR	08 SEP	113.4	74.0	1402	1359	
1973-065A	COSMOS 586	6828	USSR	14 SEP	104.7	82.9	1000	960	
1973-065B		6829	USSR	14 SEP	104.6	82.9	990	958	
1973-069A	COSMOS 588	6845	USSR	02 OCT	115.3	74.0	1491	1445	
1973-069B	COSMOS 589	6846	USSR	02 OCT	114.9	74.0	1485	1413	
1973-069C	COSMOS 590	6847	USSR	02 OCT	115.1	74.0	1484	1432	
1973-069D	COSMOS 591	6848	USSR	02 OCT	114.1	74.0	1484	1344	
1973-069E	COSMOS 592	6849	USSR	02 OCT	113.9	74.0	1482	1328	
1973-069F	COSMOS 593	6850	USSR	02 OCT	114.3	74.0	1483	1361	
1973-069G	COSMOS 594	6851	USSR	02 OCT	114.5	74.0	1483	1378	
1973-069H	COSMOS 595	6852	USSR	02 OCT	114.7	74.0	1483	1397	
1973-069J		6853	USSR	02 OCT	117.1	74.0	1620	1483	
1973-078A	EXPLORER 50	6893	US	26 OCT	NO CURRENT ELEMENTS				
1973-078C		6895	US	26 OCT	95.7	28.8	789	319	
1973-078D		6896	US	26 OCT	NO CURRENT ELEMENTS				
1973-081A	NNSS 30200	6909	US	30 OCT	105.2	89.8	1121	887	
1973-081B		6910	US	30 OCT	105.3	89.8	1124	888	
1973-081C		15764	US	30 OCT	105.7	90.5	1169	889	
1973-084A	COSMOS 606	6916	USSR	02 NOV	716.9	69.0	36919	3392	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1973-084D		6939	USSR	02 NOV	706.6	67.3	37156	2644	
1973-085A	MARINER 10	6919	US	03 NOV	HELIOCENTRIC ORBIT				
1973-086A	NOAA 3	6920	US	06 NOV	116.1	102.2	1508	1498	
1973-086B TO 086HF			US	06 NOV	SEE NOTE		18*		18*
1973-088D		6938	US	10 NOV	114.5	96.9	1454	1412	
1973-088E		7559	US	10 NOV	114.6	96.8	1476	1400	
1973-098A	COSMOS 614	6965	USSR	04 DEC	100.2	74.1	787	751	
1973-098B		6966	USSR	04 DEC	100.1	74.1	777	744	
1973-098C		6967	USSR	04 DEC	98.3	74.1	688	666	
1973-098D		9569	USSR	04 DEC	99.4	74.1	741	716	
1973-100A		6973	US	13 DEC	1474.6	13.6	36657	36416	
1973-100B		6974	US	13 DEC	1462.3	13.2	36310	36283	
1973-100D		6976	US	13 DEC	1515.0	14.3	38516	36118	
1973-104A	COSMOS 617	6985	USSR	19 DEC	113.9	74.0	1482	1331	
1973-104B	COSMOS 618	6986	USSR	19 DEC	115.2	74.0	1485	1441	
1973-104C	COSMOS 619	6987	USSR	19 DEC	115.0	74.0	1485	1421	
1973-104D	COSMOS 620	6988	USSR	19 DEC	115.4	74.0	1492	1456	
1973-104E	COSMOS 621	6989	USSR	19 DEC	114.7	74.0	1482	1404	
1973-104F	COSMOS 622	6990	USSR	19 DEC	114.3	74.0	1482	1367	
1973-104G	COSMOS 623	6991	USSR	19 DEC	114.5	74.0	1483	1385	
1973-104H	COSMOS 624	6992	USSR	19 DEC	114.1	74.0	1483	1348	
1973-104J		6993	USSR	19 DEC	117.0	74.0	1619	1474	
1973-107A	OREOL 2	7003	USSR	26 DEC	103.4	74.0	1448	387	
1973-107B		7004	USSR	26 DEC	102.7	74.0	1393	377	
1973-108A	COSMOS 626	7005	USSR	27 DEC	103.9	65.4	975	914	
1973-109A	COSMOS 627	7008	USSR	29 DEC	104.9	83.0	1012	965	
1973-109B		7009	USSR	29 DEC	104.6	82.9	988	961	
1974 LAUNCHES									
1974-001A	COSMOS 628	7094	USSR	17 JAN	104.7	83.0	1006	951	
1974-001B		7095	USSR	17 JAN	104.5	82.9	997	943	
1974-011A	METEOR	7209	USSR	05 MAR	101.9	81.2	879	819	
1974-011B		7210	USSR	05 MAR	102.0	81.2	911	791	
1974-013A	UK-X4	7213	UK	09 MAR	100.3	97.9	866	677	
1974-013B		7228	US	09 MAR	100.4	97.9	862	687	
1974-015A		7218	US	16 MAR	100.9	99.1	845	758	
1974-015B		7219	US	16 MAR	101.2	99.1	862	766	
1974-017A	COSMOS 637	7229	USSR	26 MAR	1429.0	13.3	35811	35483	
1974-017F		11567	USSR	26 MAR	1425.7	13.2	35777	35389	
1974-020B		7244	US	10 APR	NO ELEMENTS AVAILABLE				
1974-022A	WESTAR 1	7250	US	13 APR	1441.4	9.5	35922	35856	
1974-024A	COSMOS 641	7265	USSR	23 APR	114.5	74.0	1479	1385	
1974-024B	COSMOS 642	7266	USSR	23 APR	113.7	74.0	1477	1317	
1974-024C	COSMOS 643	7267	USSR	23 APR	114.1	74.0	1479	1350	
1974-024D	COSMOS 644	7268	USSR	23 APR	113.9	74.0	1479	1333	
1974-024E	COSMOS 645	7269	USSR	23 APR	114.3	74.0	1479	1366	
1974-024F	COSMOS 646	7270	USSR	23 APR	114.7	74.0	1482	1401	
1974-024G	COSMOS 647	7271	USSR	23 APR	114.9	74.0	1481	1420	
1974-024H	COSMOS 648	7272	USSR	23 APR	115.1	74.0	1486	1436	
1974-024J		7273	USSR	23 APR	117.0	74.0	1605	1485	
1974-025A	METEOR	7274	USSR	24 APR	102.3	81.2	883	850	
1974-025B		7275	USSR	24 APR	102.4	81.2	914	830	
1974-026A	MOLNIYA 2-9	7276	USSR	26 APR	640.6	62.4	35656	817	
1974-026E		7373	USSR	26 APR	699.2	62.4	38514	919	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1974-028A	COSMOS 650	7281	USSR	29 APR	113.4	74.0	1397	1366	
1974-028B		7284	USSR	29 APR	113.2	74.0	1386	1361	
1974-029A	COSMOS 651	7291	USSR	15 MAY	103.4	65.0	935	901	
1974-032A	COSMOS 654	7297	USSR	17 MAY	104.4	64.9	1018	913	
1974-033A	SMS 1	7298	US	17 MAY	1460.3	15.2	36309	36209	
1974-037A	LUNA 22	7315	USSR	29 MAY	SELENOCENTRIC ORBIT				
1974-039A	ATS 6	7318	US	30 MAY	1412.0	12.9	35450	35177	
1974-039C		7324	US	30 MAY	1430.4	13.1	35790	35557	
1974-044A	COSMOS 660	7337	USSR	18 JUN	104.3	83.0	1543	380	
1974-044B		7338	USSR	18 JUN	101.5	83.0	1275	383	
1974-048A	COSMOS 663	7349	USSR	27 JUN	104.7	82.9	999	960	
1974-048B		7350	USSR	27 JUN	104.5	82.9	984	960	
1974-050C		7354	USSR	29 JUN	682.6	62.5	38557	46	
1974-052A	METEOR	7363	USSR	09 JUL	102.9	81.2	909	881	
1974-052B		7364	USSR	09 JUL	102.5	81.2	906	845	
1974-054A		7369	US	14 JUL	468.7	125.1	13778	13442	
1974-054C		8599	US	14 JUL	NO CURRENT ELEMENTS				
1974-056A	MOLNIYA 2-10	7376	USSR	23 JUL	718.1	62.2	39993	375	
1974-056D		7382	USSR	23 JUL	731.9	61.9	40559	488	
1974-060A	MOLNIYA 1-S	7392	USSR	29 JUL	1436.0	13.6	35867	35700	
1974-060F		20836	USSR	29 JUL	1437.4	13.6	35913	35710	
1974-063A		7411	US	09 AUG	101.1	98.8	844	780	
1974-063B		7412	US	09 AUG	101.3	98.8	853	787	
1974-066B		7418	USSR	16 AUG	93.6	81.2	468	435	
1974-066C		8424	USSR	16 AUG	91.2	81.2	337	325	
1974-069A	COSMOS 675	7424	USSR	29 AUG	113.6	74.1	1422	1361	
1974-069B		7426	USSR	29 AUG	113.5	74.1	1420	1351	
1974-071A	COSMOS 676	7433	USSR	11 SEP	100.6	74.0	798	779	
1974-071B		7434	USSR	11 SEP	100.5	74.0	795	764	
1974-071C		8756	USSR	11 SEP	99.5	74.1	739	731	
1974-071D		8829	USSR	11 SEP	100.1	74.1	779	750	
1974-072A	COSMOS 677	7435	USSR	19 SEP	114.4	74.0	1464	1394	
1974-072B	COSMOS 678	7436	USSR	19 SEP	115.9	74.0	1530	1464	
1974-072C	COSMOS 679	7437	USSR	19 SEP	115.7	74.0	1508	1464	
1974-072D	COSMOS 680	7438	USSR	19 SEP	115.5	74.0	1489	1464	
1974-072E	COSMOS 681	7439	USSR	19 SEP	115.3	74.0	1469	1464	
1974-072F	COSMOS 682	7440	USSR	19 SEP	115.0	74.0	1465	1450	
1974-072G	COSMOS 683	7441	USSR	19 SEP	114.8	74.0	1464	1432	
1974-072H	COSMOS 684	7442	USSR	19 SEP	114.6	74.0	1464	1413	
1974-072J		7443	USSR	19 SEP	117.7	74.0	1682	1472	
1974-075A	WESTAR 2	7466	US	10 OCT	1442.2	9.4	35923	35886	
1974-075C		7468	US	10 OCT	137.4	24.3	4698	188	
1974-079A	COSMOS 689	7476	USSR	18 OCT	104.9	82.9	1014	968	
1974-079B		7477	USSR	18 OCT	104.8	82.9	1009	959	
1974-083A	METEOR	7490	USSR	28 OCT	102.2	81.2	888	835	
1974-083B		7493	USSR	28 OCT	102.3	81.2	901	835	
1974-083C		15521	USSR	28 OCT	102.3	81.2	901	832	
1974-089A	NOAA 4	7529	US	15 NOV	114.9	101.9	1456	1442	
1974-089B	AMSAT-OSCAR 7	7530	US	15 NOV	114.8	101.9	1456	1438	
1974-089C	INTASAT	7531	SPAIN	15 NOV	114.8	101.9	1457	1439	
1974-089D TO 089FG			US	15 NOV	SEE NOTE 19*				19*
1974-093A	INTELSAT 4 F-8	7544	ITSO	21 NOV	1443.1	8.5	35936	35910	
1974-093B		7545	US	21 NOV	652.4	25.8	36440	639	
1974-094A	SKYNET 2B	7547	UK	23 NOV	1437.8	12.0	35832	35808	
1974-097A	HELIOS 1	7567	FRG	10 DEC	HELIOCENTRIC ORBIT				

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1974-097B		7568	US	10 DEC	NO CURRENT ELEMENTS				
1974-097C		7569	US	10 DEC	HELIOCENTRIC ORBIT				
1974-097D		7570	FRG	10 DEC	HELIOCENTRIC ORBIT				
1974-099A	METEOR	7574	USSR	17 DEC	102.1	81.2	868	845	
1974-099B		7575	USSR	17 DEC	102.1	81.2	894	820	
1974-101A	SYMPHONIE-A	7578	FR/FRG	19 DEC	1440.7	12.1	35902	35851	
1974-101G		9330	US	19 DEC	652.1	13.4	36689	375	
1974-105A	COSMOS 700	7593	USSR	26 DEC	104.6	82.9	993	956	
1974-105B		7594	USSR	26 DEC	104.5	82.9	982	955	
1975 LAUNCHES									
1975-004A	LANDSAT 2	7615	US	22 JAN	103.1	98.8	911	899	
1975-004B TO 004HR			US	22 JAN	SEE NOTE		20*		20*
1975-007A	COSMOS 706	7625	USSR	30 JAN	716.9	67.6	35064	5246	
1975-007D		7629	USSR	30 JAN	716.6	67.6	35868	4430	
1975-010A	STARLETTE	7646	FRANCE	06 FEB	104.2	49.8	1107	806	
1975-010B		7647	FRANCE	06 FEB	104.3	49.8	1126	800	
1975-010C		7654	FRANCE	06 FEB	103.6	49.9	1063	796	
1975-010D		7655	FRANCE	06 FEB	103.7	49.8	1070	794	
1975-010E		7659	FRANCE	06 FEB	103.8	49.8	1083	793	
1975-011A	SMS 2	7648	US	06 FEB	1447.1	11.7	36062	35941	
1975-011F		20835	US	06 FEB	1460.6	13.3	36656	35874	
1975-012A	COSMOS 708	7663	USSR	12 FEB	113.5	69.2	1406	1368	
1975-012B		7665	USSR	12 FEB	113.3	69.2	1395	1364	
1975-016A	COSMOS 711	7678	USSR	28 FEB	115.4	74.0	1491	1459	
1975-016B	COSMOS 712	7679	USSR	28 FEB	114.8	74.0	1487	1409	
1975-016C	COSMOS 713	7680	USSR	28 FEB	114.6	74.0	1485	1393	
1975-016D	COSMOS 714	7681	USSR	28 FEB	115.2	74.0	1489	1442	
1975-016E	COSMOS 715	7682	USSR	28 FEB	115.7	74.0	1502	1467	
1975-016F	COSMOS 716	7683	USSR	28 FEB	115.9	74.0	1511	1477	
1975-016G	COSMOS 717	7684	USSR	28 FEB	116.1	74.0	1533	1478	
1975-016H	COSMOS 718	7685	USSR	28 FEB	115.0	74.0	1487	1427	
1975-016J		7686	USSR	28 FEB	117.9	74.0	1718	1457	
1975-017A		7687	US	10 MAR	NO ELEMENTS AVAILABLE				
1975-017B		7688	US	10 MAR	NO ELEMENTS AVAILABLE				
1975-023A	METEOR	7714	USSR	01 APR	102.3	81.2	882	854	
1975-023B		7715	USSR	01 APR	102.4	81.2	908	835	
1975-024A	COSMOS 723	7718	USSR	02 APR	103.6	64.7	950	910	
1975-025A	COSMOS 724	7727	USSR	07 APR	102.9	65.6	947	848	
1975-027A	GEOS 3	7734	US	09 APR	101.6	115.0	854	812	
1975-027B		7735	US	09 APR	101.3	115.0	858	776	
1975-027C		10728	US	09 APR	101.4	115.2	876	774	
1975-027E		10730	US	09 APR	103.5	115.0	992	855	
1975-028A	COSMOS 726	7736	USSR	11 APR	104.5	83.0	989	949	
1975-028B		7737	USSR	11 APR	104.4	83.0	977	950	
1975-029D		7741	USSR	14 APR	726.6	62.3	40651	139	
1975-034A	COSMOS 729	7768	USSR	22 APR	104.8	83.0	1004	970	
1975-034B		7769	USSR	22 APR	104.7	83.0	996	967	
1975-036A	MOLNIYA 1-29	7780	USSR	29 APR	717.8	61.6	39380	975	
1975-036D		7800	USSR	29 APR	732.4	61.9	40351	720	
1975-038A	ANIK A3	7790	CANADA	07 MAY	1439.5	8.7	35870	35837	
1975-038D		7794	US	07 MAY	382.7	24.5	21901	264	
1975-042A	INTELSAT 4 F-1	7815	ITSO	22 MAY	1450.8	8.5	36137	36009	
1975-042B		7902	US	22 MAY	653.0	26.2	36538	568	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1975-043A		7816	US	24 MAY	NO ELEMENTS AVAILABLE				
1975-043B		7817	US	24 MAY	NO ELEMENTS AVAILABLE				
1975-045A	COSMOS 732	7820	USSR	28 MAY	114.6	74.0	1468	1401	
1975-045B	COSMOS 733	7822	USSR	28 MAY	116.2	74.0	1552	1467	
1975-045C	COSMOS 734	7823	USSR	28 MAY	115.0	74.0	1469	1441	
1975-045D	COSMOS 735	7824	USSR	28 MAY	115.2	74.0	1472	1459	
1975-045E	COSMOS 736	7825	USSR	28 MAY	115.5	74.0	1483	1468	
1975-045F	COSMOS 737	7826	USSR	28 MAY	115.9	74.0	1527	1468	
1975-045G	COSMOS 738	7827	USSR	28 MAY	115.7	74.0	1506	1467	
1975-045H	COSMOS 739	7828	USSR	28 MAY	114.8	74.0	1470	1420	
1975-045J		7831	USSR	28 MAY	117.9	74.0	1693	1483	
1975-049B	SRET 2	7910	FRANCE	05 JUN	NO CURRENT ELEMENTS				
1975-050A	VENERA 9	7915	USSR	08 JUN	VENUS ORBIT				
1975-051C	SSU 1	7937	US	08 JUN	113.5	95.1	1393	1382	
1975-051D		7938	US	08 JUN	113.2	95.0	1401	1343	
1975-051E		7939	US	08 JUN	113.9	95.2	1424	1381	
1975-052A	NIMBUS 6	7924	US	12 JUN	107.4	99.8	1111	1098	
1975-052B TO 052JX			US	12 JUN	SEE NOTE		34*		34*
1975-054A	VENERA 10	7947	USSR	14 JUN	VENUS ORBIT				
1975-055A		7963	US	18 JUN	NO ELEMENTS AVAILABLE				
1975-055B		7964	US	18 JUN	NO ELEMENTS AVAILABLE				
1975-056B		7969	USSR	20 JUN	94.0	81.2	485	455	
1975-063A	MOLNIYA 2-13	8015	USSR	08 JUL	718.2	61.9	39444	932	
1975-063D		8018	USSR	08 JUL	732.5	61.8	40378	700	
1975-064A	METEOR 2	8026	USSR	11 JUL	102.2	81.3	879	842	
1975-064B		8027	USSR	11 JUL	102.3	81.3	910	828	
1975-064C		8039	USSR	11 JUL	102.2	81.3	878	849	
1975-064D		8110	USSR	11 JUL	102.1	81.3	881	832	
1975-072A	COS-B	8062	ESA	09 AUG	NO CURRENT ELEMENTS				
1975-072B		8063	US	09 AUG	119.6	89.2	3008	318	
1975-074A	COSMOS 755	8072	USSR	14 AUG	104.8	82.9	1006	964	
1975-074B		8073	USSR	14 AUG	104.7	82.9	995	961	
1975-075A	VIKING ORBITER 1	8108	US	20 AUG	MARS ORBIT				
1975-075B		8111	US	20 AUG	HELIOCENTRIC ORBIT				
1975-076B		8128	USSR	22 AUG	94.7	81.2	529	482	
1975-077A	SYMPHONIE-B	8132	FR/FRG	27 AUG	1440.3	12.5	35891	35847	
1975-077B		8133	US	27 AUG	102.5	25.3	1354	397	
1975-077C		8134	US	27 AUG	636.4	13.3	35908	351	
1975-081A	MOLNIYA 2-14	8195	USSR	09 SEP	717.7	61.7	39419	930	
1975-081D		8418	USSR	09 SEP	732.4	61.9	40329	746	
1975-082A	KIKU	8197	JAPAN	09 SEP	106.0	47.0	1103	975	
1975-082B		8352	JAPAN	09 SEP	105.9	47.0	1099	973	
1975-083A	VIKING ORBITER 2	8199	US	09 SEP	MARS ORBIT				
1975-083B		8272	US	09 SEP	HELIOCENTRIC ORBIT				
1975-086A	COSMOS 761	8285	USSR	17 SEP	114.6	74.0	1479	1397	
1975-086B	COSMOS 762	8286	USSR	17 SEP	115.1	74.0	1482	1436	
1975-086C	COSMOS 763	8287	USSR	17 SEP	115.8	74.0	1508	1471	
1975-086D	COSMOS 764	8288	USSR	17 SEP	116.0	74.0	1524	1476	
1975-086E	COSMOS 765	8289	USSR	17 SEP	116.3	74.0	1548	1476	
1975-086F	COSMOS 766	8290	USSR	17 SEP	114.9	74.0	1482	1416	
1975-086G	COSMOS 767	8291	USSR	17 SEP	115.3	74.0	1484	1453	
1975-086H	COSMOS 768	8292	USSR	17 SEP	115.5	74.0	1489	1468	
1975-086J		8295	USSR	17 SEP	117.8	74.0	1682	1480	
1975-087A	METEOR	8293	USSR	18 SEP	102.0	81.3	909	800	
1975-087B		8294	USSR	18 SEP	102.2	81.3	916	813	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1975-089A	COSMOS 770	8325	USSR	24 SEP	109.1	83.0	1206	1160	
1975-089B		8326	USSR	24 SEP	108.9	83.0	1196	1158	
1975-091A	INTELSAT 4A F-1	8330	ITSO	26 SEP	1441.2	8.4	35907	35865	
1975-091B		8331	US	26 SEP	652.0	22.0	36517	542	
1975-094A	COSMOS 773	8343	USSR	30 SEP	100.5	74.1	789	772	
1975-094B		8344	USSR	30 SEP	100.3	74.1	787	754	
1975-094C		8346	USSR	30 SEP	98.2	74.0	680	664	
1975-094D		14865	USSR	30 SEP	99.8	74.0	755	747	
1975-097A	COSMOS 775	8357	USSR	08 OCT	1435.4	13.3	35799	35744	
1975-097F		11676	USSR	08 OCT	1438.6	13.3	35921	35748	
1975-100A	GOES 1	8366	US	16 OCT	1435.5	12.2	35840	35710	
1975-100C		8368	US	16 OCT	134.8	23.4	4411	250	
1975-100F		20962	US	16 OCT	1412.7	12.7	36509	34144	
1975-103A	COSMOS 778	8419	USSR	04 NOV	104.7	83.0	998	967	
1975-103B		8421	USSR	04 NOV	104.6	83.0	991	960	
1975-105A	MOLNIYA 3-3	8425	USSR	14 NOV	718.0	61.7	39469	895	
1975-105D		8462	USSR	14 NOV	733.3	61.8	40383	734	
1975-112A	COSMOS 783	8458	USSR	28 NOV	100.6	74.1	797	779	
1975-112B		8459	USSR	28 NOV	100.4	74.1	790	766	
1975-112C		8757	USSR	28 NOV	99.3	74.0	726	721	
1975-112D		14801	USSR	28 NOV	100.2	74.1	774	761	
1975-112E		18500	USSR	28 NOV	100.4	74.1	788	764	
1975-116A	COSMOS 785	8473	USSR	12 DEC	104.2	65.1	1008	903	
1975-117A	RCA SATCOM I	8476	US	13 DEC	1446.0	8.6	36103	35856	
1975-118A		8482	US	14 DEC	NO ELEMENTS AVAILABLE				
1975-118C		8516	US	14 DEC	NO ELEMENTS AVAILABLE				
1975-118D		8517	US	14 DEC	NO CURRENT ELEMENTS				
1975-121A	MOLNIYA 2-15	8492	USSR	17 DEC	416.9	62.8	24113	103	
1975-122A	PROGNOZ 4	8510	USSR	22 DEC	NO CURRENT ELEMENTS				
1975-123A	RADUGA 1	8513	USSR	22 DEC	1436.3	13.0	35810	35771	
1975-123D		8546	USSR	22 DEC	380.1	46.2	21547	457	
1975-123E		8547	USSR	22 DEC	264.6	46.6	14370	177	
1975-123F		11568	USSR	22 DEC	1432.8	13.0	35777	35666	
1975-124A	METEOR	8519	USSR	25 DEC	102.1	81.2	872	845	
1975-124B		8520	USSR	25 DEC	102.2	81.3	888	840	
1976 LAUNCHES									
1976-003A	HELIOS 2	8582	FRG	15 JAN	HELIOCENTRIC ORBIT				
1976-003B		8583	US	15 JAN	HELIOCENTRIC ORBIT				
1976-003C		8584	US	15 JAN	HELIOCENTRIC ORBIT				
1976-004A	CTS	8585	CANADA	17 JAN	1436.3	12.5	35847	35734	
1976-005A	COSMOS 789	8591	USSR	20 JAN	104.9	83.0	1009	966	
1976-005B		8597	USSR	20 JAN	104.7	83.0	999	963	
1976-006A	MOLNIYA 1-32	8601	USSR	22 JAN	720.2	62.4	39620	852	
1976-006D		8701	USSR	22 JAN	695.2	62.1	38317	914	
1976-008A	COSMOS 791	8607	USSR	28 JAN	114.7	74.1	1484	1399	
1976-008B	COSMOS 792	8608	USSR	28 JAN	115.1	74.1	1488	1433	
1976-008C	COSMOS 793	8609	USSR	28 JAN	114.9	74.1	1488	1415	
1976-008D	COSMOS 794	8610	USSR	28 JAN	115.3	74.0	1491	1449	
1976-008E	COSMOS 795	8611	USSR	28 JAN	115.6	74.1	1496	1465	
1976-008F	COSMOS 796	8612	USSR	28 JAN	115.8	74.0	1513	1470	
1976-008G	COSMOS 797	8613	USSR	28 JAN	116.0	74.0	1527	1476	
1976-008H	COSMOS 798	8614	USSR	28 JAN	116.3	74.0	1552	1476	
1976-008J		8615	USSR	28 JAN	117.9	74.1	1693	1480	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1976-010A	INTELSAT 4A F-2	8620	ITSO	29 JAN	1444.5	8.6	35997	35905	
1976-010B		8621	US	29 JAN	653.7	21.6	36497	647	
1976-011A	COSMOS 800	8645	USSR	03 FEB	104.9	83.0	1006	976	
1976-011B		8646	USSR	03 FEB	104.8	83.0	989	981	
1976-014A	COSMOS 803	8688	USSR	12 FEB	95.3	65.8	547	514	
1976-017A	MARISAT 1	8697	US	19 FEB	1436.1	10.8	35809	35765	
1976-017C		8702	US	19 FEB	147.3	24.4	5474	246	
1976-019A	UME	8709	JAPAN	29 FEB	105.0	69.7	1006	985	
1976-019B		8710	JAPAN	29 FEB	105.1	69.7	1011	988	
1976-022A	COSMOS 807	8744	USSR	12 MAR	104.7	82.9	1571	384	
1976-022B		8745	USSR	12 MAR	101.0	82.9	1248	366	
1976-023A	LES 8	8746	US	15 MAR	1436.2	17.4	35885	35691	
1976-023B	LES 9	8747	US	15 MAR	1436.1	17.4	35888	35686	
1976-023C	SOLRAD 11A	8748	US	15 MAR	NO CURRENT ELEMENTS				
1976-023D	SOLRAD 11B	8749	US	15 MAR	NO CURRENT ELEMENTS				
1976-023F		8751	US	15 MAR	1465.5	17.8	36989	35731	
1976-023G		8752	US	15 MAR	NO CURRENT ELEMENTS				
1976-023H		8753	US	15 MAR	NO CURRENT ELEMENTS				
1976-023J		8832	US	15 MAR	1465.5	17.8	36998	35723	
1976-023K		13753	US	15 MAR	1420.9	11.0	35508	35469	
1976-024A	COSMOS 808	8754	USSR	16 MAR	91.3	81.2	344	336	
1976-024B		8755	USSR	16 MAR	93.6	81.2	467	431	
1976-029A	RCA SATCOM II	8774	US	26 MAR	1460.1	8.3	36491	36019	
1976-032A	METEOR	8799	USSR	07 APR	102.0	81.3	881	829	
1976-032B		8800	USSR	07 APR	102.2	81.3	932	789	
1976-035A	NATO III-A	8808	NATO	22 APR	1442.4	10.4	36025	35792	
1976-038A		8818	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038B		8819	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038C	SSU-1	8835	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038D	SSU-2	8836	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038E		8839	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038F		8842	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038G		8843	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038H		8859	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038J	SSU-3	8884	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038K		9796	US	30 APR	NO ELEMENTS AVAILABLE				
1976-038L		9996	US	30 APR	NO ELEMENTS AVAILABLE				
1976-039A	LAGEOS	8820	US	04 MAY	225.4	109.9	5946	5837	
1976-039C		8822	US	04 MAY	225.4	109.8	5944	5834	
1976-039D		14514	US	04 MAY	95.2	109.9	803	248	
1976-041A	MOLNIYA 3-5	8833	USSR	12 MAY	664.3	62.0	37590	93	
1976-041D		8844	USSR	12 MAY	710.5	61.9	39885	111	
1976-042A	COMSTAR 1	8838	US	13 MAY	1442.5	8.4	35936	35887	
1976-042B		8840	US	13 MAY	648.2	21.8	36235	626	
1976-043A	METEOR	8845	USSR	15 MAY	102.0	81.3	883	827	
1976-043B		8846	USSR	15 MAY	102.2	81.2	898	831	
1976-047A	P 76-5	8860	US	22 MAY	105.4	99.6	1045	980	
1976-047B		8861	US	22 MAY	105.5	99.5	1047	983	
1976-047C		8867	US	22 MAY	106.3	99.3	1109	998	
1976-047D		8868	US	22 MAY	104.5	100.1	1011	934	
1976-050A		8871	US	02 JUN	NO ELEMENTS AVAILABLE				
1976-050B		8872	US	02 JUN	NO ELEMENTS AVAILABLE				
1976-051A	COSMOS 823	8873	USSR	02 JUN	104.8	83.0	1003	971	
1976-051B		8874	USSR	02 JUN	104.7	83.0	999	965	
1976-053A	MARISAT 2	8882	US	10 JUN	1436.1	9.9	35800	35773	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1976-053F		8910	US	10 JUN	464.2	25.4	26693	266	
1976-054A	COSMOS 825	8889	USSR	15 JUN	114.6	74.0	1484	1393	
1976-054B	COSMOS 826	8890	USSR	15 JUN	116.2	74.0	1542	1480	
1976-054C	COSMOS 827	8891	USSR	15 JUN	114.9	74.0	1486	1411	
1976-054D	COSMOS 828	8892	USSR	15 JUN	115.1	74.0	1486	1430	
1976-054E	COSMOS 829	8893	USSR	15 JUN	115.3	74.0	1489	1448	
1976-054F	COSMOS 830	8894	USSR	15 JUN	115.5	74.0	1491	1465	
1976-054G	COSMOS 831	8895	USSR	15 JUN	115.7	74.0	1505	1472	
1976-054H	COSMOS 832	8896	USSR	15 JUN	116.0	74.0	1518	1480	
1976-054J		8897	USSR	15 JUN	117.9	74.0	1685	1486	
1976-059A		8916	US	26 JUN	NO ELEMENTS AVAILABLE				
1976-059C		8918	US	26 JUN	NO ELEMENTS AVAILABLE				
1976-059D		8919	US	26 JUN	NO CURRENT ELEMENTS				
1976-061A	COSMOS 836	8923	USSR	29 JUN	100.6	74.1	801	773	
1976-061B		8924	USSR	29 JUN	100.4	74.1	789	767	
1976-061C		9572	USSR	29 JUN	99.1	74.1	719	710	
1976-061D		14815	USSR	29 JUN	99.3	74.1	735	714	
1976-065C		9008	US	08 JUL	NO ELEMENTS AVAILABLE				
1976-066A	PALAPA 1	9009	INDNSA	08 JUL	1438.6	8.2	35864	35807	
1976-066C		9017	US	08 JUL	299.2	24.5	16634	244	
1976-067A	COSMOS 839	9011	USSR	08 JUL	115.6	65.9	2059	909	
1976-067B TO 067BZ			USSR	08 JUL	SEE NOTE		21*		21*
1976-067BH		15523	USSR	08 JUL	115.4	65.9	2058	891	
1976-069A	COSMOS 841	9022	USSR	15 JUL	100.4	74.0	789	768	
1976-069B		9023	USSR	15 JUL	100.3	74.0	784	756	
1976-069C		9704	USSR	15 JUL	99.3	74.1	728	720	
1976-069D		13499	USSR	15 JUL	100.3	74.1	788	756	
1976-070A	COSMOS 842	9025	USSR	21 JUL	104.8	83.0	1004	964	
1976-070B		9044	USSR	21 JUL	104.6	83.0	986	967	
1976-073A	COMSTAR 2	9047	US	22 JUL	1436.2	8.3	35791	35785	
1976-073B		9329	US	22 JUL	645.6	21.7	36132	600	
1976-077A	NOAA 5	9057	US	29 JUL	116.2	102.1	1518	1505	
1976-077B TO 077FR			US	29 JUL	SEE NOTE		22*		22*
1976-078A	COSMOS 846	9061	USSR	29 JUL	104.6	82.9	1006	946	
1976-078B		9062	USSR	29 JUL	104.5	82.9	989	949	
1976-080A		9270	US	06 AUG	NO ELEMENTS AVAILABLE				
1976-080B		9271	US	06 AUG	NO ELEMENTS AVAILABLE				
1976-091A	DMSP-F1	9415	US	11 SEP	NO ELEMENTS AVAILABLE				
1976-091B		9419	US	11 SEP	NO ELEMENTS AVAILABLE				
1976-091C		9420	US	11 SEP	NO ELEMENTS AVAILABLE				
1976-091F		9484	US	11 SEP	NO ELEMENTS AVAILABLE				
1976-091G		9518	US	11 SEP	NO ELEMENTS AVAILABLE				
1976-092A	RADUGA 2	9416	USSR	11 SEP	1435.8	12.8	35897	35661	
1976-092F		17872	USSR	11 SEP	1436.1	12.8	35843	35731	
1976-098A	COSMOS 858	9443	USSR	29 SEP	100.5	74.0	794	774	
1976-098B		9444	USSR	29 SEP	100.4	74.0	786	765	
1976-098C		14816	USSR	29 SEP	100.2	74.0	784	755	
1976-098D		14817	USSR	29 SEP	99.3	74.1	736	711	
1976-098E		18504	USSR	29 SEP	99.6	74.1	756	723	
1976-101A	MARISAT 3	9478	US	14 OCT	1436.1	11.3	35791	35782	
1976-102A	METEOR	9481	USSR	15 OCT	102.2	81.3	887	836	
1976-102B		9482	USSR	15 OCT	102.3	81.3	911	826	
1976-103A	COSMOS 860	9486	USSR	17 OCT	104.3	64.7	1008	910	
1976-103F		19297	USSR	17 OCT	98.5	64.7	704	666	
1976-104A	COSMOS 861	9494	USSR	21 OCT	104.2	64.9	999	917	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1976-105A	COSMOS 862	9495	USSR	22 OCT	718.7	64.4	39704	694	
1976-105D		9506	USSR	22 OCT	711.7	62.8	39688	366	
1976-105E		9888	USSR	22 OCT	NO CURRENT ELEMENTS				
1976-105F		9889	USSR	22 OCT	718.6	64.3	39707	687	
1976-105G		9890	USSR	22 OCT	NO CURRENT ELEMENTS				
1976-105H		9891	USSR	22 OCT	718.7	64.3	39640	762	
1976-105J		9892	USSR	22 OCT	718.5	64.3	39763	624	
1976-105K		9893	USSR	22 OCT	NO CURRENT ELEMENTS				
1976-105L		9894	USSR	22 OCT	702.5	63.9	39040	558	
1976-105M		9895	USSR	22 OCT	718.7	65.9	38931	1468	
1976-105N		9896	USSR	22 OCT	725.5	64.8	39894	839	
1976-105P		9902	USSR	22 OCT	727.1	64.6	39702	1111	
1976-107A	EKRAN	9503	USSR	26 OCT	1435.9	12.7	36050	35513	
1976-107F		11569	USSR	26 OCT	1419.3	12.6	35486	35427	
1976-108A	COSMOS 864	9509	USSR	29 OCT	104.7	82.9	1001	959	
1976-108B		9510	USSR	29 OCT	104.5	82.9	992	954	
1976-112A	PROGNOZ 5	9557	USSR	25 NOV	NO CURRENT ELEMENTS				
1976-118A	COSMOS 871	9588	USSR	07 DEC	114.6	74.0	1462	1415	
1976-118B	COSMOS 872	9589	USSR	07 DEC	114.4	74.0	1461	1396	
1976-118C	COSMOS 873	9590	USSR	07 DEC	115.5	74.0	1494	1461	
1976-118D	COSMOS 874	9591	USSR	07 DEC	115.7	74.0	1514	1461	
1976-118E	COSMOS 875	9592	USSR	07 DEC	114.8	74.0	1462	1434	
1976-118F	COSMOS 876	9593	USSR	07 DEC	116.0	74.0	1537	1461	
1976-118G	COSMOS 877	9594	USSR	07 DEC	115.0	74.0	1462	1452	
1976-118H	COSMOS 878	9595	USSR	07 DEC	115.3	74.0	1473	1461	
1976-118J		9598	USSR	07 DEC	117.6	74.0	1682	1463	
1976-120AT		11216	USSR	09 DEC	94.9	65.8	555	469	
1976-120AU		11217	USSR	09 DEC	89.7	65.8	264	253	
1976-120AY		11221	USSR	09 DEC	94.4	65.8	525	451	
1976-122A	COSMOS 883	9610	USSR	15 DEC	104.7	83.0	1005	951	
1976-122B		9613	USSR	15 DEC	104.5	83.0	995	951	
1976-126A	COSMOS 886	9634	USSR	27 DEC	114.7	65.8	2291	593	
1976-126B TO 126CG			USSR	27 DEC	SEE NOTE		23*		23*
1976-126CB		19221	USSR	27 DEC	113.9	65.9	2103	709	
1976-128A	COSMOS 887	9637	USSR	28 DEC	104.6	82.9	1011	942	
1976-128B		9638	USSR	28 DEC	104.5	82.9	994	947	
1977 LAUNCHES									
1977-002A	METEOR 2-2	9661	USSR	06 JAN	102.7	81.3	891	877	
1977-002B		9662	USSR	06 JAN	102.8	81.3	930	852	
1977-002C		9663	USSR	06 JAN	102.7	81.3	890	881	
1977-002D		9664	USSR	06 JAN	102.7	81.3	892	881	
1977-004A	COSMOS 890	9737	USSR	20 JAN	105.0	83.0	1012	974	
1977-004B		9738	USSR	20 JAN	104.8	83.0	999	973	
1977-005A	NATO III-B	9785	NATO	28 JAN	1436.3	10.2	35803	35778	
1977-005B		9786	US	28 JAN	103.7	28.0	1252	617	
1977-005D		9809	US	28 JAN	NO CURRENT ELEMENTS				
1977-005E		9810	US	28 JAN	NO CURRENT ELEMENTS				
1977-005F		9811	US	28 JAN	NO CURRENT ELEMENTS				
1977-007A		9803	US	06 FEB	NO ELEMENTS AVAILABLE				
1977-007C		9855	US	06 FEB	NO ELEMENTS AVAILABLE				
1977-007D		9856	US	06 FEB	NO CURRENT ELEMENTS				
1977-010A	MOLNIYA 2-17	9829	USSR	11 FEB	717.9	62.1	39845	513	
1977-010E		9850	USSR	11 FEB	730.8	62.8	40583	412	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1977-012A	TANSEI 3	9841	JAPAN	19 FEB	134.1	65.8	3796	804	
1977-012C		9843	JAPAN	19 FEB	134.0	65.8	3792	803	
1977-012E		9981	JAPAN	19 FEB	133.3	65.2	3728	799	
1977-012F		9982	JAPAN	19 FEB	133.5	65.9	3768	780	
1977-012G		9983	JAPAN	19 FEB	134.1	65.6	3792	808	
1977-012H		12857	JAPAN	19 FEB	133.9	66.3	3770	816	
1977-012J		13133	JAPAN	19 FEB	133.0	65.8	3708	795	
1977-012K		14512	JAPAN	19 FEB	133.8	65.7	3769	801	
1977-012L		19314	JAPAN	19 FEB	133.3	65.4	3889	639	
1977-013A	COSMOS 894	9846	USSR	21 FEB	104.8	82.9	1005	964	
1977-013B		9848	USSR	21 FEB	104.7	82.9	991	967	
1977-014A	KIKU 2	9852	JAPAN	23 FEB	1439.8	11.5	35869	35847	
1977-015B		9854	USSR	26 FEB	94.0	81.2	492	445	
1977-018A	PALAPA 2	9862	INDNSA	10 MAR	1439.6	7.3	35865	35844	
1977-021A	MOLNIYA 1-36	9880	USSR	24 MAR	717.4	62.0	39772	561	
1977-021D		9927	USSR	24 MAR	732.4	62.6	40696	378	
1977-024A	METEOR	9903	USSR	05 APR	102.3	81.3	887	844	
1977-024B		9904	USSR	05 APR	102.4	81.3	912	830	
1977-024C		9907	USSR	05 APR	102.5	82.9	891	858	
1977-027A	COSMOS 903	9911	USSR	11 APR	717.5	67.5	37617	2721	
1977-027D		9921	USSR	11 APR	723.9	68.1	37858	2800	
1977-027E		10946	USSR	11 APR	NO CURRENT ELEMENTS				
1977-029A	ESA-GEOS	9931	ESA	20 APR	734.1	26.7	38277	2880	
1977-032A	MOLNIYA 3-7	9941	USSR	28 APR	717.8	61.9	39829	527	
1977-034A		10000	US	12 MAY	1489.6	12.0	36919	36734	
1977-034B		10001	US	12 MAY	1509.1	11.6	37345	37060	
1977-034C		10002	US	12 MAY	1506.9	12.3	38445	35879	
1977-036A	COSMOS 909	10010	USSR	19 MAY	117.0	65.9	2101	991	
1977-036B		10011	USSR	19 MAY	116.9	65.9	2090	988	
1977-036C		10013	USSR	19 MAY	117.0	65.9	2100	991	
1977-038A		10016	US	23 MAY	NO ELEMENTS AVAILABLE				
1977-038B		10017	US	23 MAY	NO ELEMENTS AVAILABLE				
1977-038C		15422	US	23 MAY	NO ELEMENTS AVAILABLE				
1977-039A	COSMOS 911	10019	USSR	25 MAY	104.7	82.9	999	960	
1977-039B		10020	USSR	25 MAY	104.5	82.9	994	948	
1977-041A	INTELSAT 4A F-4	10024	ITSO	26 MAY	1448.1	7.4	36090	35952	
1977-041B		10025	US	26 MAY	647.8	21.3	36211	634	
1977-044A	DMSP-F2	10033	US	05 JUN	NO ELEMENTS AVAILABLE				
1977-044B		10034	US	05 JUN	NO ELEMENTS AVAILABLE				
1977-044C		10037	US	05 JUN	NO ELEMENTS AVAILABLE				
1977-044D		10085	US	05 JUN	NO ELEMENTS AVAILABLE				
1977-047A	COSMOS 917	10059	USSR	16 JUN	716.7	67.6	35829	4474	
1977-047D		10089	USSR	16 JUN	722.4	67.4	36860	3722	
1977-048A	GOES 2	10061	US	16 JUN	1436.1	10.5	35797	35775	
1977-048B		10062	US	16 JUN	108.3	28.4	1721	574	
1977-048F		10409	US	16 JUN	NO CURRENT ELEMENTS				
1977-048G		20799	US	16 JUN	1431.7	12.0	36593	34806	
1977-053A		10091	US	23 JUN	718.1	64.0	20268	20101	
1977-053B		10960	US	23 JUN	314.4	64.1	17071	802	
1977-054D		10155	USSR	24 JUN	689.7	62.7	38666	293	
1977-055A	COSMOS 921	10095	USSR	24 JUN	97.1	75.8	651	587	
1977-055B		10096	USSR	24 JUN	97.2	75.8	657	588	
1977-057A	METEOR	10113	USSR	29 JUN	90.1	97.3	280	276	
1977-057B		10114	USSR	29 JUN	96.3	97.9	590	568	
1977-059A	COSMOS 923	10120	USSR	01 JUL	100.7	74.0	800	781	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1977-059B		10121	USSR	01 JUL	100.5	74.0	796	766	
1977-059C		14802	USSR	01 JUL	99.9	74.1	766	745	
1977-059D		14818	USSR	01 JUL	99.5	74.1	745	728	
1977-061B		10135	USSR	07 JUL	94.1	81.2	494	460	
1977-062A	COSMOS 926	10137	USSR	08 JUL	104.9	82.9	1014	967	
1977-062B		10138	USSR	08 JUL	104.8	82.9	1000	971	
1977-064A	COSMOS 928	10141	USSR	13 JUL	104.6	83.0	1002	948	
1977-064B		10142	USSR	13 JUL	104.5	83.0	1000	937	
1977-065A	HIMAWARI	10143	JAPAN	14 JUL	1450.9	10.7	36144	36007	
1977-065B TO 65GC			US	14 JUL	SEE NOTE		24*		24*
1977-068A	COSMOS 931	10150	USSR	20 JUL	718.1	66.5	36303	4067	
1977-068D		10167	USSR	20 JUL	720.7	66.9	35728	4771	
1977-068E		12906	USSR	20 JUL	715.5	67.0	35568	4672	
1977-068F		12996	USSR	20 JUL	704.4	61.8	38095	1596	
1977-068G		14000	USSR	20 JUL	718.2	65.1	36876	3500	
1977-068J		19881	USSR	20 JUL	666.3	59.9	37436	346	
1977-071A	RADUGA 3	10159	USSR	23 JUL	1436.1	12.4	35831	35741	
1977-071F		11570	USSR	23 JUL	1473.4	12.8	36540	36485	
1977-076A	VOYAGER 2	10271	US	20 AUG	HELIOCENTRIC ORBIT				
1977-076B		10272	US	20 AUG	HELIOCENTRIC ORBIT				
1977-076C		10273	US	20 AUG	HELIOCENTRIC ORBIT				
1977-079A	COSMOS 939	10282	USSR	24 AUG	114.8	74.0	1460	1429	
1977-079B	COSMOS 940	10286	USSR	24 AUG	114.4	74.0	1460	1392	
1977-079C	COSMOS 941	10287	USSR	24 AUG	114.6	74.0	1460	1411	
1977-079D	COSMOS 942	10288	USSR	24 AUG	115.9	74.0	1531	1460	
1977-079E	COSMOS 943	10289	USSR	24 AUG	115.0	74.0	1460	1448	
1977-079F	COSMOS 944	10290	USSR	24 AUG	115.2	74.0	1469	1459	
1977-079G	COSMOS 945	10291	USSR	24 AUG	115.4	74.0	1489	1460	
1977-079H	COSMOS 946	10292	USSR	24 AUG	115.6	74.0	1508	1459	
1977-079J		10293	USSR	24 AUG	117.5	74.0	1675	1459	
1977-080A	SIRIO	10294	ITALY	25 AUG	1438.7	8.3	35925	35750	
1977-080B		10295	US	25 AUG	115.5	27.1	2081	875	
1977-082A	MOLNIYA 1-38	10315	USSR	30 AUG	652.2	62.6	36945	123	
1977-082E		10369	USSR	30 AUG	634.4	63.9	35919	238	
1977-084A	VOYAGER 1	10321	US	05 SEP	HELIOCENTRIC ORBIT				
1977-084B		10322	US	05 SEP	HELIOCENTRIC ORBIT				
1977-084C		10323	US	05 SEP	HELIOCENTRIC ORBIT				
1977-087A	COSMOS 951	10352	USSR	13 SEP	104.8	83.0	1011	957	
1977-087B		10355	USSR	13 SEP	104.7	83.0	1004	953	
1977-088A	COSMOS 952	10358	USSR	16 SEP	104.1	64.9	998	904	
1977-091A	COSMOS 955	10362	USSR	20 SEP	94.6	81.2	506	494	
1977-091B		10363	USSR	20 SEP	94.9	81.2	536	492	
1977-092A	EKRAN	10365	USSR	20 SEP	1435.9	12.3	35973	35591	
1977-092G		11571	USSR	20 SEP	1421.7	12.2	35532	35477	
1977-093A	PROGNOZ 6	10370	USSR	22 SEP	NO CURRENT ELEMENTS				
1977-102D		10425	US	22 OCT	NO CURRENT ELEMENTS				
1977-105A	MOLNIYA 3-8	10455	USSR	28 OCT	717.9	62.8	40037	322	
1977-105E		10485	USSR	28 OCT	731.5	63.2	40466	564	
1977-106A	NNSS 30110	10457	US	28 OCT	106.8	89.7	1098	1058	
1977-106B		10462	US	28 OCT	106.8	89.7	1098	1061	
1977-106C		12858	US	28 OCT	106.9	89.5	1093	1068	
1977-107A	COSMOS 962	10459	USSR	28 OCT	104.7	82.9	1002	962	
1977-107B		10461	USSR	28 OCT	104.6	82.9	999	951	
1977-108A	METEOSAT 1	10489	ESA	23 NOV	1437.1	11.6	35840	35771	
1977-108B		10490	US	23 NOV	115.1	28.3	2429	491	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1977-109A	COSMOS 963	10491	USSR	24 NOV	109.2	82.9	1204	1176	
1977-109B		10492	USSR	24 NOV	109.1	82.9	1198	1170	
1977-112A		10502	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112B		10504	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112C		10528	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112D		10529	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112E		10544	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112F		10594	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112G		10595	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-112H		12859	US	08 DEC	NO ELEMENTS AVAILABLE				
1977-114A		10508	US	11 DEC	NO ELEMENTS AVAILABLE				
1977-114B		10509	US	11 DEC	NO ELEMENTS AVAILABLE				
1977-116A	COSMOS 967	10512	USSR	13 DEC	104.7	65.8	990	970	
1977-116B		10513	USSR	13 DEC	104.5	65.8	985	955	
1977-116C		10518	USSR	13 DEC	104.6	65.8	985	967	
1977-116D		10526	USSR	13 DEC	104.7	65.8	1000	962	
1977-117A	METEOR 2-3	10514	USSR	14 DEC	102.2	81.2	876	845	
1977-117B		10515	USSR	14 DEC	102.3	81.2	897	833	
1977-117C		14950	USSR	14 DEC	102.3	81.2	897	832	
1977-118A	SAKURA	10516	JAPAN	15 DEC	1455.9	10.1	36186	36159	
1977-118B		10517	US	15 DEC	109.2	28.7	1891	483	
1977-118C		10519	US	15 DEC	109.7	29.1	1879	541	
1977-119A	COSMOS 968	10520	USSR	16 DEC	100.4	74.0	791	765	
1977-119B		10521	USSR	16 DEC	100.2	74.0	783	750	
1977-119C		10524	USSR	16 DEC	99.8	74.0	762	737	
1977-119D		10525	USSR	16 DEC	99.9	74.0	765	739	
1977-119E		18512	USSR	16 DEC	99.6	74.0	749	733	
1977-121A	COSMOS 970	10531	USSR	21 DEC	105.9	65.9	1149	921	
1977-121B TO 121BY			USSR	21 DEC	SEE NOTE		25*		25*
1977-122A	COSMOS 971	10536	USSR	23 DEC	104.9	82.9	1004	970	
1977-122B		10537	USSR	23 DEC	104.7	82.9	994	965	
1977-123A	COSMOS 972	10539	USSR	27 DEC	103.7	75.8	1157	710	
1977-123B		10541	USSR	27 DEC	103.7	75.8	1153	712	
1978 LAUNCHES									
1978-002A	INTELSAT 4A F-3	10557	ITSO	07 JAN	1441.3	6.9	35916	35859	
1978-002B		10722	US	17 JAN	650.1	21.1	36264	698	
1978-004A	COSMOS 975	10561	USSR	10 JAN	95.0	81.2	525	514	
1978-004B		10582	USSR	10 JAN	95.7	81.2	583	523	
1978-005A	COSMOS 976	10581	USSR	10 JAN	115.0	74.0	1462	1453	
1978-005B	COSMOS 977	10584	USSR	10 JAN	114.4	74.0	1461	1397	
1978-005C	COSMOS 978	10585	USSR	10 JAN	114.6	74.0	1461	1416	
1978-005D	COSMOS 979	10586	USSR	10 JAN	114.8	74.0	1461	1434	
1978-005E	COSMOS 980	10587	USSR	10 JAN	115.3	74.0	1472	1461	
1978-005F	COSMOS 981	10588	USSR	10 JAN	115.5	74.0	1493	1462	
1978-005G	COSMOS 982	10589	USSR	10 JAN	115.7	74.0	1513	1461	
1978-005H	COSMOS 983	10590	USSR	10 JAN	116.0	74.0	1535	1461	
1978-005J		10591	USSR	10 JAN	117.7	74.0	1691	1461	
1978-007A	COSMOS 985	10599	USSR	17 JAN	104.6	82.9	1015	935	
1978-007B		10600	USSR	17 JAN	104.5	82.9	1006	934	
1978-012A	IUE	10637	US	26 JAN	1436.3	34.0	41339	30243	
1978-012C		10723	US	26 JAN	529.6	29.3	30316	295	
1978-014A	KYOKKO	10664	JAPAN	04 FEB	134.0	65.4	3945	646	
1978-014C		12329	JAPAN	04 FEB	133.7	65.3	3919	648	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1978-014D		12330	JAPAN	04 FEB	133.9	65.4	3944	641	
1978-014E		12331	JAPAN	04 FEB	132.4	64.8	3812	641	
1978-014F		12406	JAPAN	04 FEB	133.0	65.9	3855	649	
1978-016A	FLTSATCOM 1	10669	US	09 FEB	1436.1	10.9	35812	35761	
1978-016C		12908	US	09 FEB	190.4	26.3	8915	257	
1978-018A	UME 2	10674	JAPAN	16 FEB	107.2	69.4	1219	970	
1978-018B		10675	JAPAN	16 FEB	107.1	69.4	1214	970	
1978-018C		13132	JAPAN	16 FEB	107.9	69.2	1285	971	
1978-019A	COSMOS 990	10676	USSR	17 FEB	100.4	74.0	790	765	
1978-019B		10677	USSR	17 FEB	100.2	74.0	780	756	
1978-019C		14803	USSR	17 FEB	99.1	74.0	721	713	
1978-019D		13500	USSR	17 FEB	99.9	74.1	762	742	
1978-019E		18501	USSR	17 FEB	99.9	74.1	766	744	
1978-020A		10684	US	22 FEB	727.0	64.4	20577	20231	
1978-020B		10801	US	22 FEB	268.4	64.1	13880	926	
1978-021A		10688	US	25 FEB	NO ELEMENTS AVAILABLE				
1978-021B		10689	US	25 FEB	NO ELEMENTS AVAILABLE				
1978-022A	COSMOS 991	10692	USSR	28 FEB	104.6	83.0	1004	949	
1978-022B		10693	USSR	28 FEB	104.5	83.0	989	956	
1978-026A	LANDSAT 3	10702	US	05 MAR	103.1	98.9	917	893	
1978-026B	AMSAT-OSCAR-8	10703	US	05 MAR	103.0	99.2	903	893	
1978-026C TO 026HT			US	05 MAR	SEE NOTE		26*		26*
1978-028A	COSMOS 994	10731	USSR	15 MAR	104.9	82.9	1003	971	
1978-028B		10732	USSR	15 MAR	104.7	82.9	994	966	
1978-029B		10734	US	16 MAR	NO ELEMENTS AVAILABLE				
1978-031A	COSMOS 996	10744	USSR	28 MAR	104.6	82.9	1002	949	
1978-031B		10745	USSR	28 MAR	104.5	82.9	995	943	
1978-034A	COSMOS 1000	10776	USSR	31 MAR	104.7	82.9	1004	955	
1978-034B		10777	USSR	31 MAR	104.6	82.9	992	955	
1978-035A	INTELSAT 4A F-6	10778	ITSO	31 MAR	1434.5	6.9	35826	35686	
1978-035B		10779	US	31 MAR	647.8	21.4	36234	610	
1978-038A		10787	US	07 APR	NO ELEMENTS AVAILABLE				
1978-038B		10788	US	07 APR	NO ELEMENTS AVAILABLE				
1978-039A	YURI	10792	JAPAN	07 APR	1436.4	11.3	35864	35719	
1978-039B		10793	US	07 APR	110.9	28.2	1962	573	
1978-039C		10794	US	07 APR	160.6	26.9	6594	223	
1978-042A		10820	US	01 MAY	100.7	98.7	799	786	
1978-044A	OTS-2	10855	ESA	11 MAY	1452.4	8.9	36177	36031	
1978-044B		10856	US	11 MAY	139.9	27.9	3527	1572	
1978-044C		10857	US	11 MAY	NO CURRENT ELEMENTS				
1978-045A	COSMOS 1005	10860	USSR	12 MAY	94.5	81.2	499	486	
1978-045B		10861	USSR	12 MAY	95.9	81.2	590	532	
1978-047A		10893	US	13 MAY	714.2	63.7	20637	19538	
1978-047B		10894	US	13 MAY	286.6	64.5	15042	999	
1978-051A	PIONEER VENUS ORBITER	10911	US	20 MAY	VENUS IMPACT				
1978-051B		10912	US	20 MAY	HELIOCENTRIC ORBIT				
1978-053A	COSMOS 1011	10917	USSR	23 MAY	104.7	82.9	1008	952	
1978-053B		10918	USSR	23 MAY	104.6	82.9	997	951	
1978-055A	MOLNIYA 1-40	10925	USSR	02 JUN	717.4	63.0	39956	378	
1978-055E		10949	USSR	02 JUN	732.5	63.3	40333	745	
1978-056A	COSMOS 1013	10930	USSR	07 JUN	116.3	74.0	1552	1476	
1978-056B	COSMOS 1014	10931	USSR	07 JUN	116.0	74.0	1529	1476	
1978-056C	COSMOS 1015	10932	USSR	07 JUN	115.8	74.0	1514	1471	
1978-056D	COSMOS 1016	10933	USSR	07 JUN	115.6	74.0	1496	1468	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1978-056E	COSMOS 1017	10934	USSR	07 JUN	115.4	74.0	1490	1455	
1978-056F	COSMOS 1018	10935	USSR	07 JUN	115.2	74.0	1486	1440	
1978-056G	COSMOS 1019	10936	USSR	07 JUN	115.0	74.0	1485	1422	
1978-056H	COSMOS 1020	10937	USSR	07 JUN	114.8	74.0	1482	1405	
1978-056J		10938	USSR	07 JUN	117.8	74.0	1691	1477	
1978-058A		10941	US	10 JUN	NO ELEMENTS AVAILABLE				
1978-058B		10942	US	10 JUN	NO ELEMENTS AVAILABLE				
1978-062A	GOES 3	10953	US	16 JUN	1436.4	9.5	35820	35764	
1978-062B		10954	US	16 JUN	107.3	28.4	1650	554	
1978-062D		20801	US	16 JUN	1451.1	11.6	39935	32225	
1978-063A	COSMOS 1023	10961	USSR	21 JUN	100.4	74.1	787	766	
1978-063B		10962	USSR	21 JUN	100.2	74.1	784	748	
1978-063C		13497	USSR	21 JUN	100.2	74.1	780	754	
1978-063D		14804	USSR	21 JUN	98.4	74.0	690	672	
1978-064A	SEASAT 1	10967	US	27 JUN	100.1	108.0	764	762	
1978-066A	COSMOS 1024	10970	USSR	28 JUN	718.3	67.3	35121	5256	
1978-066D		10998	USSR	28 JUN	720.3	67.4	35454	5023	
1978-067A	COSMOS 1025	10973	USSR	28 JUN	95.9	82.5	569	551	
1978-067B		10974	USSR	28 JUN	97.2	82.5	637	607	
1978-068A	COMSTAR 3	10975	US	29 JUN	1451.8	6.7	36193	35991	
1978-068B		10976	US	29 JUN	648.7	22.1	36283	607	
1978-071A	ESA GEOS 2	10981	ESA	14 JUL	1449.1	11.5	36052	36030	
1978-071C		10983	US	14 JUL	406.4	25.7	23327	268	
1978-073A	RADUGA 4	10987	USSR	18 JUL	1436.9	11.9	35855	35748	
1978-073D		11074	USSR	18 JUL	565.5	45.8	31955	593	
1978-073E		11941	USSR	18 JUL	1475.9	12.3	36615	36509	
1978-074A	COSMOS 1027	10991	USSR	27 JUL	104.6	82.9	995	957	
1978-074B		10992	USSR	27 JUL	104.5	82.9	986	958	
1978-075A		10993	US	05 AUG	NO ELEMENTS AVAILABLE				
1978-075B		10994	US	05 AUG	NO ELEMENTS AVAILABLE				
1978-078C		11003	US	08 AUG	HELIOCENTRIC ORBIT				
1978-079A	ICE	11004	US	12 AUG	HELIOCENTRIC ORBIT				
1978-079C		11006	US	12 AUG	118.5	28.2	2639	587	
1978-079D		13413	US	12 AUG	NO ELEMENTS AVAILABLE				
1978-080A	MOLNIYA 1-42	11007	USSR	22 AUG	709.2	62.2	39562	369	
1978-080D		11075	USSR	22 AUG	728.9	62.8	40657	245	
1978-083A	COSMOS 1030	11015	USSR	06 SEP	718.0	66.9	36088	4278	
1978-083D		11076	USSR	06 SEP	723.3	67.2	35520	5105	
1978-083E		12907	USSR	06 SEP	711.4	64.0	36813	3227	
1978-083F		12919	USSR	06 SEP	719.5	64.0	37421	3020	
1978-083G		13959	USSR	06 SEP	721.7	63.7	37601	2948	
1978-084A	VENERA 11	11020	USSR	09 SEP	HELIOCENTRIC ORBIT				
1978-086A	VENERA 12	11025	USSR	14 SEP	HELIOCENTRIC ORBIT				
1978-087A	JIKI'KEN	11027	JAPAN	16 SEP	373.3	31.3	21337	255	
1978-087B		11028	JAPAN	16 SEP	313.2	31.3	17557	242	
1978-091A	COSMOS 1034	11042	USSR	04 OCT	114.9	74.0	1479	1420	
1978-091B	COSMOS 1035	11044	USSR	04 OCT	114.6	74.0	1477	1400	
1978-091C	COSMOS 1036	11045	USSR	04 OCT	115.1	74.0	1478	1440	
1978-091D	COSMOS 1037	11046	USSR	04 OCT	115.3	74.0	1479	1459	
1978-091E	COSMOS 1038	11047	USSR	04 OCT	115.5	74.0	1484	1475	
1978-091F	COSMOS 1039	11048	USSR	04 OCT	116.3	74.0	1550	1476	
1978-091G	COSMOS 1040	11049	USSR	04 OCT	116.0	74.0	1525	1477	
1978-091H	COSMOS 1041	11050	USSR	04 OCT	115.8	74.0	1506	1475	
1978-091J		11051	USSR	04 OCT	117.9	74.0	1698	1478	
1978-093A		11054	US	07 OCT	744.2	63.4	20942	20704	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1978-094A	COSMOS 1043	11055	USSR	10 OCT	93.3	81.2	441	433	
1978-094B		11056	USSR	10 OCT	94.9	81.2	542	485	
1978-095A	MOLNIYA 3-10	11057	USSR	13 OCT	717.5	62.9	39973	369	
1978-095E		11079	USSR	13 OCT	734.3	63.0	40584	579	
1978-096A	TIROS-N	11060	US	13 OCT	101.7	98.7	845	829	
1978-096B		11061	US	13 OCT	100.0	98.9	761	757	
1978-096C		11062	US	13 OCT	100.0	98.9	759	756	
1978-098A	NIMBUS 7	11080	US	24 OCT	104.0	99.0	963	933	
1978-098B	CAMEO	11081	US	24 OCT	104.0	99.6	967	922	
1978-100A	COSMOS 1045	11084	USSR	26 OCT	120.3	82.5	1702	1683	
1978-100B	RADIO 1	11085	USSR	26 OCT	120.3	82.5	1704	1683	
1978-100C	RADIO 2	11086	USSR	26 OCT	120.3	82.5	1702	1683	
1978-100D TO 100AZ			USSR	26 OCT	SEE NOTE		27*		27*
1978-105A	COSMOS 1048	11111	USSR	16 NOV	100.5	74.0	797	768	
1978-105B		11112	USSR	16 NOV	100.4	74.0	802	751	
1978-105C		11113	USSR	16 NOV	99.8	74.0	756	740	
1978-105D		11114	USSR	16 NOV	99.5	74.0	747	726	
1978-106A	NATO III-C	11115	NATO	19 NOV	1462.2	7.2	36322	36268	
1978-109A	COSMOS 1051	11128	USSR	05 DEC	114.6	74.0	1483	1392	
1978-109B	COSMOS 1052	11129	USSR	05 DEC	114.8	74.0	1486	1408	
1978-109C	COSMOS 1053	11130	USSR	05 DEC	115.0	74.0	1485	1427	
1978-109D	COSMOS 1054	11131	USSR	05 DEC	115.2	74.0	1486	1444	
1978-109E	COSMOS 1055	11132	USSR	05 DEC	115.4	74.0	1488	1462	
1978-109F	COSMOS 1056	11133	USSR	05 DEC	115.7	74.0	1501	1470	
1978-109G	COSMOS 1057	11134	USSR	05 DEC	115.9	74.0	1513	1478	
1978-109H	COSMOS 1058	11135	USSR	05 DEC	116.1	74.0	1536	1478	
1978-109J		11136	USSR	05 DEC	118.1	74.0	1698	1489	
1978-112A		11141	US	11 DEC	746.5	64.4	21014	20748	
1978-112B		11142	US	11 DEC	269.4	63.8	14238	643	
1978-113A		11144	US	14 DEC	1462.3	9.4	36305	36290	
1978-113B		11145	US	14 DEC	1451.8	9.4	36121	36063	
1978-113D		11147	US	14 DEC	1533.4	11.3	38853	36488	
1978-116A	ANIK B1	11153	CANADA	16 DEC	1442.8	6.2	35926	35908	
1978-117A	COSMOS 1063	11155	USSR	19 DEC	95.1	81.2	526	520	
1978-117B		11156	USSR	19 DEC	95.2	81.3	552	505	
1978-118A	GORIZONT 1	11158	USSR	19 DEC	1435.6	22.0	49337	22216	
1978-118C		11926	USSR	19 DEC	1417.4	21.8	48728	22110	
1978-121A	COSMOS 1066	11165	USSR	23 DEC	102.0	81.2	892	818	
1978-121B		11166	USSR	23 DEC	101.9	81.2	896	800	
1978-121C		19643	USSR	23 DEC	101.9	81.2	894	798	
1978-122A	COSMOS 1067	11168	USSR	26 DEC	109.0	83.0	1209	1154	
1978-122B		11170	USSR	26 DEC	108.9	83.0	1196	1155	
1979 LAUNCHES									
1979-003A	COSMOS 1072	11238	USSR	16 JAN	104.8	82.9	1013	955	
1979-003B		11239	USSR	16 JAN	104.7	82.9	1010	948	
1979-004A	MOLNIYA 3-11	11240	USSR	18 JAN	717.7	63.2	39923	429	
1979-004D		11553	USSR	18 JAN	733.0	63.6	40406	693	
1979-005A	METEOR 1-29	11251	USSR	25 JAN	96.1	97.7	596	547	
1979-005B		11252	USSR	25 JAN	94.6	97.4	504	492	
1979-007A	SCATHA	11256	US	30 JAN	1418.3	9.8	42796	28078	
1979-009A	AYAME 1	11261	JAPAN	06 FEB	1312.8	2.0	37404	29269	
1979-011A	COSMOS 1076	11266	USSR	12 FEB	95.1	82.5	534	514	
1979-011B		11267	USSR	12 FEB	97.1	82.5	633	604	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1979-012A	COSMOS 1077	11268	USSR	13 FEB	94.4	81.2	494	486	
1979-012B		11269	USSR	13 FEB	95.0	81.2	548	485	
1979-015A	EKRAN 3	11273	USSR	21 FEB	1435.4	11.6	35943	35603	
1979-015D		13900	USSR	21 FEB	1421.1	11.5	35543	35440	
1979-017AM		16084	US	24 FEB	93.6	97.9	461	436	
1979-017AN		16085	US	24 FEB	94.2	97.8	484	471	
1979-017BX		16308	US	24 FEB	92.9	97.8	421	410	
1979-017CA		16311	US	24 FEB	93.6	97.8	461	442	
1979-017FE		16480	US	24 FEB	93.6	97.8	456	445	
1979-017FF		16484	US	24 FEB	92.1	97.6	385	370	
1979-017FG		16485	US	24 FEB	90.4	97.4	300	285	
1979-017GJ		16551	US	24 FEB	92.7	97.8	415	397	
1979-017GX		16564	US	24 FEB	94.1	97.8	479	472	
1979-017JF		16878	US	24 FEB	93.8	97.9	470	453	
1979-017JH		17094	US	24 FEB	93.9	97.8	481	446	
1979-020A	INTERCOSMOS 19	11285	USSR	27 FEB	96.4	74.0	714	454	
1979-020B		11286	USSR	27 FEB	96.6	74.0	734	452	
1979-021A	METEOR 2-4	11288	USSR	01 MAR	102.0	81.2	871	837	
1979-021B		11289	USSR	01 MAR	102.0	81.2	910	800	
1979-021C		11290	USSR	01 MAR	102.1	81.2	879	835	
1979-021D		14632	USSR	01 MAR	102.8	81.3	931	853	
1979-024A	COSMOS 1081	11296	USSR	15 MAR	114.5	74.0	1463	1402	
1979-024B	COSMOS 1082	11297	USSR	15 MAR	114.7	74.0	1463	1421	
1979-024C	COSMOS 1083	11298	USSR	15 MAR	114.9	74.0	1463	1440	
1979-024D	COSMOS 1084	11299	USSR	15 MAR	115.1	74.0	1463	1459	
1979-024E	COSMOS 1085	11300	USSR	15 MAR	115.6	74.0	1501	1463	
1979-024F	COSMOS 1086	11301	USSR	15 MAR	115.4	74.0	1479	1463	
1979-024G	COSMOS 1087	11302	USSR	15 MAR	115.8	74.0	1522	1463	
1979-024H	COSMOS 1088	11303	USSR	15 MAR	116.1	74.0	1545	1463	
1979-024J		11304	USSR	15 MAR	117.6	74.0	1687	1458	
1979-025B		11306	US	16 MAR	NO ELEMENTS AVAILABLE				
1979-026A	COSMOS 1089	11308	USSR	21 MAR	104.7	83.0	997	964	
1979-026B		11309	USSR	21 MAR	104.6	83.0	990	959	
1979-028A	COSMOS 1091	11320	USSR	07 APR	104.7	82.9	1004	961	
1979-028B		11321	USSR	07 APR	104.6	82.9	990	964	
1979-030A	COSMOS 1092	11326	USSR	11 APR	104.7	82.9	1001	959	
1979-030B		11327	USSR	11 APR	104.6	82.9	996	954	
1979-031A	MOLNIYA 1-43	11328	USSR	12 APR	100.4	63.7	1460	99	
1979-031D		11551	USSR	12 APR	620.8	64.1	35321	132	
1979-032A	COSMOS 1093	11331	USSR	14 APR	94.3	81.2	489	479	
1979-032B		11332	USSR	14 APR	95.6	81.2	581	518	
1979-035A	RADUGA 5	11343	USSR	25 APR	1436.1	11.6	35806	35766	
1979-035E		17873	USSR	25 APR	1437.6	11.3	36807	34823	
1979-038A	FLTSATCOM 2	11353	US	04 MAY	1461.4	9.6	36328	36230	
1979-046A	COSMOS 1104	11378	USSR	31 MAY	104.7	82.9	1003	953	
1979-046B		11379	USSR	31 MAY	104.6	82.9	988	958	
1979-050A		11389	US	06 JUN	NO ELEMENTS AVAILABLE				
1979-050B		11403	US	06 JUN	NO ELEMENTS AVAILABLE				
1979-050C		11408	US	06 JUN	NO ELEMENTS AVAILABLE				
1979-050D		11410	US	06 JUN	NO ELEMENTS AVAILABLE				
1979-050G		11534	US	06 JUN	NO ELEMENTS AVAILABLE				
1979-053A		11397	US	10 JUN	NO ELEMENTS AVAILABLE				
1979-053C		11436	US	10 JUN	NO ELEMENTS AVAILABLE				
1979-053D		20364	US	10 JUN	NO ELEMENTS AVAILABLE				
1979-057A	NOAA 6	11416	US	27 JUN	100.7	98.6	802	784	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1979-057B		11419	US	27 JUN	98.8	98.3	703	700	
1979-057C		11634	US	27 JUN	98.9	98.3	707	702	
1979-058A	COSMOS 1109	11417	USSR	27 JUN	718.3	63.3	39424	957	
1979-058D		11555	USSR	27 JUN	721.6	67.7	38545	1998	
1979-058E		12833	USSR	27 JUN	714.9	67.0	38325	1886	
1979-058F		12834	USSR	27 JUN	718.9	67.6	34717	5692	
1979-058G		12909	USSR	27 JUN	719.6	68.2	39114	1329	
1979-058H		12995	USSR	27 JUN	698.9	66.3	38251	1169	
1979-058J		13960	USSR	27 JUN	720.4	67.6	38505	1976	
1979-060A	COSMOS 1110	11425	USSR	28 JUN	100.6	74.0	797	776	
1979-060B		11427	USSR	28 JUN	100.4	74.0	792	761	
1979-060C		14866	USSR	28 JUN	99.4	74.0	729	725	
1979-060D		15784	USSR	28 JUN	99.8	74.0	751	746	
1979-062A	GORIZONT 2	11440	USSR	05 JUL	1435.8	11.1	35863	35697	
1979-062D		14005	USSR	05 JUL	1474.4	11.5	36555	36509	
1979-067B		11458	USSR	20 JUL	94.7	81.2	526	477	
1979-070A	MOLNIYA 1-44	11474	USSR	31 JUL	717.5	63.6	39611	731	
1979-070D		11556	USSR	31 JUL	733.1	63.9	39922	1186	
1979-072A	WESTAR 3	11484	US	10 AUG	1440.9	5.0	35906	35854	
1979-072C		13940	US	11 JAN	168.2	24.3	7255	172	
1979-077A	COSMOS 1124	11509	USSR	28 AUG	716.5	67.3	35219	5072	
1979-077D		11550	USSR	28 AUG	723.8	67.2	35666	4987	
1979-077E		12814	USSR	28 AUG	720.2	68.3	38472	2001	
1979-077F		12815	USSR	28 AUG	715.7	67.2	35556	4694	
1979-077G		12816	USSR	28 AUG	686.5	63.6	36895	1904	
1979-077H		12817	USSR	28 AUG	720.7	68.4	37999	2497	
1979-078A	COSMOS 1125	11510	USSR	28 AUG	100.6	74.0	795	779	
1979-078B		11511	USSR	28 AUG	100.4	74.0	789	767	
1979-078C		14805	USSR	28 AUG	99.4	74.1	732	724	
1979-078D		14806	USSR	28 AUG	100.4	74.0	779	772	
1979-078E		18650	USSR	28 AUG	99.3	74.1	728	717	
1979-084A	COSMOS 1130	11538	USSR	25 SEP	114.6	74.0	1478	1395	
1979-084B	COSMOS 1131	11539	USSR	25 SEP	114.8	74.0	1480	1409	
1979-084C	COSMOS 1132	11540	USSR	25 SEP	114.9	74.0	1480	1423	
1979-084D	COSMOS 1133	11541	USSR	25 SEP	115.1	74.0	1481	1437	
1979-084E	COSMOS 1134	11542	USSR	25 SEP	115.3	74.0	1481	1452	
1979-084F	COSMOS 1135	11543	USSR	25 SEP	115.4	74.0	1490	1459	
1979-084G	COSMOS 1136	11544	USSR	25 SEP	115.6	74.0	1495	1469	
1979-084H	COSMOS 1137	11545	USSR	25 SEP	115.8	74.0	1512	1470	
1979-084J		11546	USSR	25 SEP	117.8	74.0	1682	1480	
1979-086A		11558	US	01 OCT	NO ELEMENTS AVAILABLE				
1979-086C		11560	US	01 OCT	NO ELEMENTS AVAILABLE				
1979-087A	EKRAN 4	11561	USSR	03 OCT	1435.6	11.1	35830	35721	
1979-087C		17939	USSR	03 OCT	1433.5	11.2	35934	35536	
1979-089A	COSMOS 1140	11573	USSR	11 OCT	100.4	74.1	787	765	
1979-089B		11574	USSR	11 OCT	100.2	74.1	778	755	
1979-089C		14345	USSR	11 OCT	99.9	74.0	763	740	
1979-089D		14807	USSR	11 OCT	99.3	74.1	729	718	
1979-089E		19048	USSR	11 OCT	100.0	74.0	771	743	
1979-090A	COSMOS 1141	11585	USSR	16 OCT	104.6	82.9	996	952	
1979-090B		11586	USSR	16 OCT	104.4	82.9	987	947	
1979-090C		11587	USSR	16 OCT	102.4	82.9	891	848	
1979-091A	MOLNIYA 1-45	11589	USSR	20 OCT	717.9	61.8	40024	337	
1979-091D		11602	USSR	20 OCT	731.7	61.9	40491	549	
1979-093A	COSMOS 1143	11600	USSR	26 OCT	95.3	81.3	534	526	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1979-093B		11601	USSR	26 OCT	95.7	81.2	580	528	
1979-095A	METEOR 2-5	11605	USSR	31 OCT	102.4	81.2	877	863	
1979-095B		11608	USSR	31 OCT	102.4	81.2	912	834	
1979-098A		11621	US	21 NOV	1451.4	9.0	36088	36084	
1979-098B		11622	US	21 NOV	1436.1	9.0	35825	35749	
1979-098C		11623	US	21 NOV	1510.8	10.4	38532	35939	
1979-099A	COSMOS 1145	11629	USSR	27 NOV	94.5	81.2	498	488	
1979-099B		11630	USSR	27 NOV	95.5	81.2	573	509	
1979-101A	RCA SATCOM III	11635	US	07 DEC	788.9	8.1	35446	8363	
1979-105A	GORIZONT 3	11648	USSR	28 DEC	1436.7	10.9	35833	35764	
1979-105E		11684	USSR	28 DEC	1459.2	11.0	36324	36151	
1980 LAUNCHES									
1980-003A	COSMOS 1150	11667	USSR	14 JAN	104.8	83.0	1010	963	
1980-003B		11668	USSR	14 JAN	104.7	82.9	994	964	
1980-004A	FLTSATCOM 3	11669	US	18 JAN	1435.8	8.8	35867	35692	
1980-005A	COSMOS 1151	11671	USSR	23 JAN	96.3	82.5	589	568	
1980-005B		11672	USSR	23 JAN	97.1	82.5	636	607	
1980-007A	COSMOS 1153	11680	USSR	25 JAN	104.8	82.9	1014	957	
1980-007B		11681	USSR	25 JAN	104.7	82.9	1006	954	
1980-008A	COSMOS 1154	11682	USSR	30 JAN	95.5	81.2	548	540	
1980-008B		11683	USSR	30 JAN	96.0	81.2	597	532	
1980-011A		11690	US	09 FEB	718.0	64.6	20529	19836	
1980-011B		11705	US	09 FEB	289.4	63.9	15564	665	
1980-012A	COSMOS 1156	11691	USSR	11 FEB	114.5	74.0	1472	1396	
1980-012B	COSMOS 1157	11692	USSR	11 FEB	114.7	74.0	1475	1412	
1980-012C	COSMOS 1158	11693	USSR	11 FEB	115.0	74.0	1475	1431	
1980-012D	COSMOS 1159	11694	USSR	11 FEB	115.2	74.0	1476	1448	
1980-012E	COSMOS 1160	11695	USSR	11 FEB	115.4	74.0	1480	1464	
1980-012F	COSMOS 1161	11696	USSR	11 FEB	115.6	74.0	1500	1465	
1980-012G	COSMOS 1162	11697	USSR	11 FEB	115.8	74.0	1517	1469	
1980-012H	COSMOS 1163	11698	USSR	11 FEB	116.1	74.0	1541	1469	
1980-012J		11699	USSR	11 FEB	117.8	74.0	1692	1466	
1980-016A	RADUGA 6	11708	USSR	20 FEB	1435.6	11.0	35801	35751	
1980-016D		11728	USSR	20 FEB	1475.1	11.4	36636	36456	
1980-018A	AYAME 2	11715	JAPAN	22 FEB	1386.6	1.4	36839	32785	
1980-018C		11718	JAPAN	22 FEB	315.7	24.4	17668	290	
1980-019A		11720	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019B		11721	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019C		11731	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019D		11732	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019E		11733	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019F		11734	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019G		11745	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-019H		11746	US	03 MAR	NO ELEMENTS AVAILABLE				
1980-022A	COSMOS 1168	11735	USSR	17 MAR	104.7	82.9	1009	954	
1980-022B		11736	USSR	17 MAR	104.6	82.9	1002	950	
1980-022C		12404	USSR	17 MAR	103.0	82.9	918	883	
1980-026A	COSMOS 1171	11750	USSR	03 APR	104.8	65.8	994	976	
1980-026B		11751	USSR	03 APR	104.6	65.8	985	966	
1980-026C		11752	USSR	03 APR	104.8	65.8	992	973	
1980-028A	COSMOS 1172	11758	USSR	12 APR	717.7	64.8	38720	1628	
1980-028E		11762	USSR	12 APR	722.2	65.3	39333	1237	
1980-030A	COSMOS 1174	11765	USSR	18 APR	102.9	66.1	1413	382	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1980-030J		11777	USSR	18 APR	99.4	66.0	1007	456	
1980-030K		11778	USSR	18 APR	105.9	66.5	1452	620	
1980-030N		11781	USSR	18 APR	100.2	66.2	1144	389	
1980-030R		12343	USSR	18 APR	104.7	66.4	1341	623	
1980-030V		12347	USSR	18 APR	95.4	66.0	684	390	
1980-030Y		12354	USSR	18 APR	102.5	66.1	1343	413	
1980-030AE		12360	USSR	18 APR	93.3	66.0	522	348	
1980-030AM		13929	USSR	18 APR	93.5	65.7	501	386	
1980-030AQ		13932	USSR	18 APR	93.0	65.6	456	385	
1980-030AX		15781	USSR	18 APR	103.5	65.8	1261	587	
1980-030AY		18644	USSR	18 APR	101.4	67.0	849	799	
1980-032A		11783	US	26 APR	707.8	62.9	20466	19392	
1980-032B		11791	US	26 APR	190.0	63.1	8950	189	
1980-032C		21944	US	26 APR	227.7	62.7	11538	407	
1980-034A	COSMOS 1176	11788	USSR	29 APR	103.4	64.8	962	873	
1980-034D		11971	USSR	29 APR	103.1	64.8	942	865	
1980-039A	COSMOS 1181	11803	USSR	20 MAY	104.8	82.9	1000	968	
1980-039B		11804	USSR	20 MAY	104.7	82.9	993	963	
1980-044A	COSMOS 1184	11821	USSR	04 JUN	95.3	81.2	537	531	
1980-044B		11822	USSR	04 JUN	96.2	81.2	607	547	
1980-049A	GORIZONT 4	11841	USSR	14 JUN	1460.1	10.6	36284	36226	
1980-049F		11862	USSR	14 JUN	1470.3	10.8	36576	36331	
1980-050A	COSMOS 1188	11844	USSR	14 JUN	717.5	67.3	38183	2155	
1980-050B		11847	USSR	14 JUN	722.9	67.5	38410	2197	
1980-051B		11849	USSR	18 JUN	96.0	97.6	590	548	
1980-052C		11852	US	18 JUN	NO ELEMENTS AVAILABLE				
1980-056A	COSMOS 1190	11869	USSR	01 JUL	100.6	74.0	791	778	
1980-056B		11870	USSR	01 JUL	100.4	74.1	789	766	
1980-056C		14808	USSR	01 JUL	100.7	74.0	805	777	
1980-056D		14809	USSR	01 JUL	100.5	74.0	791	771	
1980-057A	COSMOS 1191	11871	USSR	02 JUL	716.5	67.6	34750	5540	
1980-057D		11888	USSR	02 JUL	721.9	67.3	35571	4985	
1980-057E		13999	USSR	02 JUL	708.6	65.7	37658	2245	
1980-058A	COSMOS 1192	11875	USSR	09 JUL	114.5	74.0	1471	1394	
1980-058B	COSMOS 1193	11876	USSR	09 JUL	114.7	74.0	1473	1411	
1980-058C	COSMOS 1194	11877	USSR	09 JUL	114.9	74.0	1472	1430	
1980-058D	COSMOS 1195	11878	USSR	09 JUL	115.1	74.0	1473	1447	
1980-058E	COSMOS 1196	11879	USSR	09 JUL	115.3	74.0	1474	1465	
1980-058F	COSMOS 1197	11880	USSR	09 JUL	115.5	74.0	1490	1469	
1980-058G	COSMOS 1198	11881	USSR	09 JUL	115.7	74.0	1506	1472	
1980-058H	COSMOS 1199	11882	USSR	09 JUL	116.0	74.0	1528	1471	
1980-058J		11883	USSR	09 JUL	117.6	74.0	1680	1467	
1980-060A	EKRAN 5	11890	USSR	14 JUL	1436.1	0.0	35834	35737	
1980-060F		14193	USSR	14 JUL	1417.3	10.6	35506	35328	
1980-063A	MOLNIYA 3-13	11896	USSR	18 JUL	717.8	63.2	38814	1539	
1980-063D		11909	USSR	18 JUL	732.5	63.3	39328	1748	
1980-069A	COSMOS 1206	11932	USSR	15 AUG	95.2	81.2	535	525	
1980-069B		11933	USSR	15 AUG	96.0	81.2	598	534	
1980-073A	METEOR 2-6	11962	USSR	09 SEP	102.1	81.2	885	834	
1980-073B		11963	USSR	09 SEP	102.2	81.2	909	816	
1980-074A	GOES 4	11964	US	09 SEP	1451.3	8.8	36212	35953	
1980-074C		11970	US	09 SEP	1767.3	0.1	49745	34341	
1980-081A	RADUGA 7	12003	USSR	05 OCT	1434.6	10.6	35779	35733	
1980-081F		12447	USSR	05 OCT	1440.4	10.6	35899	35841	
1980-085A	COSMOS 1217	12032	USSR	24 OCT	716.4	67.2	38157	2127	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1980-085D		12035	USSR	24 OCT	722.0	67.4	38662	1898	
1980-087A	FLTSATCOM 4	12046	US	31 OCT	1436.1	8.9	35809	35763	
1980-087B		12069	US	31 OCT	175.8	26.2	7772	264	
1980-089A	COSMOS 1220	12054	USSR	04 NOV	97.6	65.0	763	524	
1980-091A	SBS 1	12065	US	15 NOV	1442.7	5.7	35931	35900	
1980-092A	MOLNIYA 1-48	12066	USSR	16 NOV	713.8	62.4	39257	899	
1980-092D		12070	USSR	16 NOV	733.5	62.4	40191	935	
1980-093A	COSMOS 1222	12071	USSR	21 NOV	95.9	81.2	561	559	
1980-093B		12072	USSR	21 NOV	96.0	81.2	602	531	
1980-095A	COSMOS 1223	12078	USSR	27 NOV	718.1	68.4	35025	5343	
1980-095E		12086	USSR	27 NOV	723.4	67.8	35838	4790	
1980-097A	COSMOS 1225	12087	USSR	05 DEC	104.8	82.9	1024	941	
1980-097B		12088	USSR	05 DEC	104.6	82.9	1012	937	
1980-098A	INTELSAT 5 F-2	12089	ITSO	06 DEC	1436.2	4.2	35806	35770	
1980-098B		12445	US	06 DEC	227.5	23.7	11560	375	
1980-099A	COSMOS 1226	12091	USSR	10 DEC	104.8	82.9	1007	957	
1980-099B		12092	USSR	10 DEC	104.6	82.9	998	952	
1980-100A		12093	US	13 DEC	NO ELEMENTS AVAILABLE				
1980-100B		12094	US	13 DEC	NO ELEMENTS AVAILABLE				
1980-102A	COSMOS 1228	12107	USSR	23 DEC	114.4	74.0	1462	1391	
1980-102B	COSMOS 1229	12108	USSR	23 DEC	114.6	74.0	1462	1412	
1980-102C	COSMOS 1230	12109	USSR	23 DEC	114.4	74.0	1462	1397	
1980-102D	COSMOS 1231	12110	USSR	23 DEC	114.5	74.0	1462	1404	
1980-102E	COSMOS 1232	12111	USSR	23 DEC	114.6	74.0	1462	1410	
1980-102F	COSMOS 1233	12112	USSR	23 DEC	114.7	74.0	1462	1416	
1980-102G	COSMOS 1234	12113	USSR	23 DEC	114.6	74.0	1462	1407	
1980-102H	COSMOS 1235	12114	USSR	23 DEC	114.6	74.0	1462	1411	
1980-102J		12115	USSR	23 DEC	114.9	74.0	1466	1436	
1980-104A	EKRAN 6	12120	USSR	26 DEC	1436.9	10.5	35844	35760	
1980-104E		12471	USSR	26 DEC	1420.9	10.3	35616	35361	
1981 LAUNCHES									
1981-002A	MOLNIYA 3-14	12133	USSR	09 JAN	717.7	63.7	39665	683	
1981-002B		12134	USSR	09 JAN	732.2	64.1	39955	1107	
1981-003A	COSMOS 1238	12138	USSR	16 JAN	106.3	83.0	1708	397	
1981-003B		12139	USSR	16 JAN	104.7	83.0	1571	390	
1981-006A	COSMOS 1241	12149	USSR	21 JAN	104.9	65.8	1008	973	
1981-006B		12150	USSR	21 JAN	104.6	65.8	1017	935	
1981-006C		12151	USSR	21 JAN	104.8	65.8	1004	969	
1981-008A	COSMOS 1242	12154	USSR	27 JAN	96.2	81.2	587	567	
1981-008B		12155	USSR	27 JAN	96.4	81.2	627	542	
1981-009A	MOLNIYA 1-49	12156	USSR	30 JAN	718.3	63.8	38567	1815	
1981-009D		12159	USSR	30 JAN	731.6	64.1	38785	2250	
1981-012A	KIKU 3	12295	JAPAN	11 FEB	368.0	28.3	21048	217	
1981-012C		12787	JAPAN	11 FEB	510.8	28.2	29306	269	
1981-013A	COSMOS 1244	12297	USSR	12 FEB	104.7	83.0	1003	959	
1981-013B		12298	USSR	12 FEB	104.6	82.9	997	954	
1981-016A	COSMOS 1247	12303	USSR	19 FEB	711.0	67.2	35351	4669	
1981-016E		12311	USSR	19 FEB	703.5	67.1	35054	4595	
1981-016F		12984	USSR	19 FEB	710.5	67.2	35283	4709	
1981-016G		12985	USSR	19 FEB	710.1	65.4	37292	2682	
1981-016H		12992	USSR	19 FEB	706.6	65.8	38696	1106	
1981-018A	COMSTAR 4	12309	US	21 FEB	1436.2	6.8	35792	35785	
1981-018B		12363	US	21 FEB	649.7	20.0	36320	618	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1981-021A	COSMOS 1249	12319	USSR	05 MAR	103.9	65.0	987	894	
1981-021C		12551	USSR	05 MAR	103.5	65.0	961	890	
1981-022A	COSMOS 1250	12320	USSR	06 MAR	114.4	74.0	1469	1388	
1981-022B	COSMOS 1251	12321	USSR	06 MAR	114.6	74.0	1470	1401	
1981-022C	COSMOS 1252	12322	USSR	06 MAR	114.7	74.0	1470	1415	
1981-022D	COSMOS 1253	12323	USSR	06 MAR	115.6	74.0	1494	1466	
1981-022E	COSMOS 1254	12324	USSR	06 MAR	114.9	74.0	1470	1429	
1981-022F	COSMOS 1255	12325	USSR	06 MAR	115.0	74.0	1470	1443	
1981-022G	COSMOS 1256	12326	USSR	06 MAR	115.2	74.0	1475	1454	
1981-022H	COSMOS 1257	12327	USSR	06 MAR	115.4	74.0	1477	1466	
1981-022J		12328	USSR	06 MAR	117.6	74.0	1694	1454	
1981-025A		12339	US	16 MAR	NO ELEMENTS AVAILABLE				
1981-025C		12371	US	16 MAR	NO ELEMENTS AVAILABLE				
1981-027A	RADUGA 8	12351	USSR	18 MAR	1434.5	10.4	36106	35404	
1981-027F		14194	USSR	18 MAR	1474.5	10.8	36615	36454	
1981-028BE		13682	USSR	20 MAR	95.0	65.0	533	501	
1981-031A	COSMOS 1261	12376	USSR	31 MAR	717.1	67.3	35580	4740	
1981-031D		12384	USSR	31 MAR	707.5	67.4	34888	4957	
1981-031E		12892	USSR	31 MAR	719.4	68.3	35146	5287	
1981-031F		12893	USSR	31 MAR	716.1	64.2	37401	2868	
1981-031G		12894	USSR	31 MAR	718.4	65.2	37293	3094	
1981-033A	COSMOS 1263	12388	USSR	09 APR	105.9	83.0	1691	385	
1981-033B		12389	USSR	09 APR	103.6	82.9	1482	372	
1981-036E		12427	USSR	16 APR	102.3	99.1	985	748	
1981-037A	COSMOS 1266	12409	USSR	21 APR	103.6	64.8	937	916	
1981-037D		12435	USSR	21 APR	103.3	64.8	919	914	
1981-038A		12418	US	24 APR	NO ELEMENTS AVAILABLE				
1981-038B		12446	US	24 APR	NO ELEMENTS AVAILABLE				
1981-041A	COSMOS 1269	12442	USSR	07 MAY	100.7	74.1	797	782	
1981-041B		12443	USSR	07 MAY	100.5	74.1	787	781	
1981-041C		13498	USSR	07 MAY	100.1	74.0	771	753	
1981-041D		14346	USSR	07 MAY	99.6	74.0	748	732	
1981-043A	METEOR 2-7	12456	USSR	14 MAY	102.2	81.3	888	835	
1981-043B		12457	USSR	14 MAY	102.4	81.3	915	824	
1981-043C		15769	USSR	14 MAY	102.4	81.3	916	825	
1981-044A	NNSS 30480	12458	US	15 MAY	108.9	90.1	1184	1162	
1981-046A	COSMOS 1271	12464	USSR	19 MAY	96.2	81.2	582	567	
1981-046B		12465	USSR	19 MAY	96.6	81.2	632	562	
1981-049A	GOES 5	12472	US	22 MAY	1437.0	6.0	35831	35781	
1981-050A	INTELSAT 5 F-1	12474	ITSO	23 MAY	1436.0	4.7	35804	35768	
1981-050B		12497	US	23 MAY	216.9	23.9	10829	330	
1981-053A	COSMOS 1275	12504	USSR	04 JUN	104.7	83.0	1002	955	
1981-053B TO 053MT			USSR	04 JUN	SEE NOTE		28*		28*
1981-054A	MOLNIYA 3-16	12512	USSR	09 JUN	717.7	63.9	40021	330	
1981-054E		12519	USSR	09 JUN	733.6	64.0	40501	629	
1981-057A	METEOSAT 2	12544	ESA	19 JUN	1458.6	6.0	36347	36105	
1981-057B	APPLE	12545	INDIA	19 JUN	1439.4	9.7	35944	35758	
1981-057C		12546	ESA	19 JUN	512.2	10.8	29381	276	
1981-057F		20837	ESA	19 JUN	1449.1	9.6	36351	35728	
1981-058A	COSMOS 1278	12547	USSR	19 JUN	718.2	67.1	37654	2721	
1981-058D		12561	USSR	19 JUN	724.0	67.5	38519	2144	
1981-058E		17256	USSR	19 JUN	717.9	67.1	37646	2712	
1981-059A	NOAA 7	12553	US	23 JUN	101.7	98.9	847	828	
1981-059B		12559	US	23 JUN	100.9	98.9	803	794	
1981-059C		12560	US	23 JUN	100.9	98.9	803	795	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1981-061A	EKRAN 7	12564	USSR	25 JUN	1436.3	10.1	35821	35760	
1981-061F		12851	USSR	25 JUN	1425.6	10.0	35595	35566	
1981-065A	METEOR 1-31	12585	USSR	10 JUL	96.6	97.9	613	573	
1981-065B		12586	USSR	10 JUL	96.7	97.9	617	587	
1981-069A	RADUGA 9	12618	USSR	30 JUL	1435.9	10.1	35792	35771	
1981-069F		12850	USSR	30 JUL	1474.0	10.3	36621	36426	
1981-070A	DE 1	12624	US	03 AUG	409.7	88.7	23233	558	
1981-070E		12679	US	03 AUG	410.8	88.8	23289	564	
1981-070J		14620	US	03 AUG	394.1	88.8	22330	524	
1981-070K		14621	US	03 AUG	396.8	88.7	22447	567	
1981-070L		19478	US	03 AUG	402.8	88.6	22817	560	
1981-071A	COSMOS 1285	12627	USSR	04 AUG	726.9	67.4	36084	4721	
1981-071D		12680	USSR	04 AUG	722.8	67.5	35688	4912	
1981-071E		12993	USSR	04 AUG	727.7	67.4	36004	4838	
1981-071F		13961	USSR	04 AUG	726.8	68.1	36964	3834	
1981-073A	FLTSATCOM 5	12635	US	06 AUG	1460.4	8.5	36289	36233	
1981-074A	COSMOS 1287	12636	USSR	06 AUG	115.7	74.0	1511	1462	
1981-074B	COSMOS 1288	12637	USSR	06 AUG	115.5	74.0	1491	1462	
1981-074C	COSMOS 1289	12638	USSR	06 AUG	114.7	74.0	1462	1424	
1981-074D	COSMOS 1290	12639	USSR	06 AUG	114.9	74.0	1462	1439	
1981-074E	COSMOS 1291	12640	USSR	06 AUG	115.1	74.0	1462	1456	
1981-074F	COSMOS 1292	12641	USSR	06 AUG	115.3	74.0	1475	1461	
1981-074G	COSMOS 1293	12642	USSR	06 AUG	114.6	74.0	1463	1407	
1981-074H	COSMOS 1294	12643	USSR	06 AUG	114.4	74.0	1462	1390	
1981-074J		12644	USSR	06 AUG	117.4	74.0	1669	1461	
1981-075A	INTERCOSMOS	12645	USSR	07 AUG	101.6	81.2	882	788	
1981-075B		12646	USSR	07 AUG	101.7	81.2	891	791	
1981-076A	GMS 2	12677	JAPAN	10 AUG	1446.5	8.7	36047	35931	
1981-077A	COSMOS 1295	12681	USSR	12 AUG	104.6	82.9	1009	942	
1981-077B		12682	USSR	12 AUG	104.5	82.9	996	942	
1981-081A	COSMOS 1299	12783	USSR	24 AUG	103.9	65.1	966	922	
1981-082A	COSMOS 1300	12785	USSR	24 AUG	96.7	82.5	611	588	
1981-082B		12786	USSR	24 AUG	97.3	82.5	641	615	
1981-084A	COSMOS 1302	12791	USSR	28 AUG	100.5	74.0	797	771	
1981-084B		12792	USSR	28 AUG	100.4	74.0	786	766	
1981-084C		12793	USSR	28 AUG	100.0	74.0	760	753	
1981-084D		14810	USSR	28 AUG	100.6	74.0	800	769	
1981-087A	COSMOS 1304	12803	USSR	04 SEP	103.8	82.9	971	904	
1981-087B		12804	USSR	04 SEP	103.7	82.9	963	902	
1981-088A	COSMOS 1305	12818	USSR	11 SEP	263.7	63.6	13208	1277	
1981-088F		12827	USSR	11 SEP	262.4	63.5	13169	1226	
1981-088G		14131	USSR	11 SEP	247.3	63.3	12479	863	
1981-088H		18598	USSR	11 SEP	251.1	63.6	12700	909	
1981-091A	COSMOS 1308	12835	USSR	18 SEP	104.7	82.9	999	960	
1981-091B		12836	USSR	18 SEP	104.6	82.9	993	959	
1981-094A	OREOL 3	12848	USSR	21 SEP	105.9	82.5	1677	393	
1981-094B		12849	USSR	21 SEP	108.1	82.5	1874	400	
1981-096A	SBS 2	12855	US	24 SEP	1436.2	4.8	35801	35774	
1981-098A	COSMOS 1312	12879	USSR	30 SEP	115.9	82.6	1500	1488	
1981-098B		12880	USSR	30 SEP	115.8	82.6	1498	1485	
1981-100C		12889	US	06 OCT	118.7	99.9	2695	549	
1981-102A	RADUGA 10	12897	USSR	09 OCT	1435.8	9.9	35803	35759	
1981-102F		14195	USSR	09 OCT	1438.0	9.8	35838	35808	
1981-103A	COSMOS 1315	12903	USSR	13 OCT	96.4	81.2	601	571	
1981-103B		12904	USSR	13 OCT	96.9	81.2	637	578	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1981-105A	MOLNIYA 3-17	12915	USSR	17 OCT	713.8	62.8	39264	891	
1981-105E		12920	USSR	17 OCT	733.3	63.1	40244	870	
1981-106A	VENERA 13	12927	USSR	30 OCT	HELIOCENTRIC ORBIT				
1981-107A		12930	US	31 OCT	NO ELEMENTS AVAILABLE				
1981-107C		12932	US	31 OCT	NO ELEMENTS AVAILABLE				
1981-108A	COSMOS 1317	12933	USSR	31 OCT	719.3	68.3	35101	5327	
1981-108D		12940	USSR	31 OCT	723.2	68.1	35900	4722	
1981-108E		14734	USSR	31 OCT	713.6	65.3	36709	3438	
1981-108F		14735	USSR	31 OCT	714.7	65.1	36478	3725	
1981-108G		14736	USSR	31 OCT	719.9	68.5	35131	5327	
1981-110A	VENERA 14	12938	USSR	04 NOV	HELIOCENTRIC ORBIT				
1981-113A	MOLNIYA 1-51	12959	USSR	17 NOV	443.1	63.4	25667	84	
1981-113D		12986	USSR	17 NOV	698.2	63.7	39104	277	
1981-114A	RCA SATCOM IIIR	12967	US	20 NOV	1438.1	2.2	35851	35800	
1981-116A	COSMOS 1320	12975	USSR	28 NOV	117.2	74.0	1633	1479	
1981-116B	COSMOS 1321	12976	USSR	28 NOV	117.2	74.0	1629	1479	
1981-116C	COSMOS 1322	12977	USSR	28 NOV	117.2	74.0	1627	1479	
1981-116D	COSMOS 1323	12978	USSR	28 NOV	117.1	74.0	1622	1479	
1981-116E	COSMOS 1324	12979	USSR	28 NOV	117.1	74.0	1618	1479	
1981-116F	COSMOS 1325	12980	USSR	28 NOV	117.0	74.0	1615	1479	
1981-116G	COSMOS 1326	12981	USSR	28 NOV	117.0	74.0	1609	1478	
1981-116H	COSMOS 1327	12982	USSR	28 NOV	116.9	74.0	1601	1479	
1981-116J		12983	USSR	28 NOV	117.5	74.0	1660	1480	
1981-117A	COSMOS 1328	12987	USSR	03 DEC	96.9	82.5	621	596	
1981-117B		12988	USSR	03 DEC	97.3	82.5	643	616	
1981-119A	INTELSAT 5 F-3	12994	ITSO	15 DEC	1436.1	3.8	35809	35766	
1981-119B		13007	US	15 DEC	217.9	23.6	10961	274	
1981-120A	RADIO 3	12997	USSR	17 DEC	118.4	83.0	1655	1562	
1981-120B	RADIO 8	12998	USSR	17 DEC	119.6	83.0	1679	1650	
1981-120C	RADIO 5	12999	USSR	17 DEC	119.4	83.0	1668	1642	
1981-120D	RADIO 4	13000	USSR	17 DEC	119.3	83.0	1663	1633	
1981-120E	RADIO 7	13001	USSR	17 DEC	119.1	83.0	1658	1619	
1981-120F	RADIO 6	13002	USSR	17 DEC	118.6	83.0	1657	1577	
1981-120G		13003	USSR	17 DEC	120.8	83.0	1783	1649	
1981-122A	MARECS A	13010	ESA	20 DEC	1436.0	5.9	35798	35774	
1981-122B	CAT 4	13011	ESA	20 DEC	538.2	10.3	30859	220	
1981-123A	MOLNIYA 1-52	13012	USSR	23 DEC	717.6	63.8	38120	2226	
1981-123D		13016	USSR	23 DEC	695.3	64.0	37172	2064	
1982 LAUNCHES									
1982-001A	COSMOS 1331	13027	USSR	07 JAN	100.4	74.0	794	757	
1982-001B		13028	USSR	07 JAN	100.3	74.0	789	759	
1982-001C		13029	USSR	07 JAN	100.0	74.0	767	746	
1982-001D		13030	USSR	07 JAN	99.4	74.0	749	713	
1982-003A	COSMOS 1333	13033	USSR	14 JAN	104.9	82.9	1011	964	
1982-003B		13034	USSR	14 JAN	104.7	82.9	1005	956	
1982-004A	RCA SATCOM IV	13035	US	16 JAN	1446.0	1.5	36001	35959	
1982-006C		13103	US	21 JAN	NO ELEMENTS AVAILABLE				
1982-006D		13104	US	21 JAN	NO ELEMENTS AVAILABLE				
1982-006E		13105	US	21 JAN	NO ELEMENTS AVAILABLE				
1982-006F		13152	US	21 JAN	NO ELEMENTS AVAILABLE				
1982-009A	EKRAN 8	13056	USSR	05 FEB	1441.0	9.7	36017	35749	
1982-009F		14117	USSR	05 FEB	1426.1	9.6	35746	35434	
1982-012A	COSMOS 1339	13065	USSR	17 FEB	104.7	82.9	1010	948	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1982-012B		13066	USSR	17 FEB	104.6	82.9	1005	942	
1982-013A	COSMOS 1340	13067	USSR	19 FEB	96.6	81.2	604	591	
1982-013B		13068	USSR	19 FEB	96.7	81.2	624	579	
1982-014A	WESTAR 4	13069	US	26 FEB	1443.4	1.6	35959	35900	
1982-015A	MOLNIYA 1-53	13070	USSR	26 FEB	717.7	63.1	38984	1365	
1982-015D		13075	USSR	26 FEB	730.8	63.4	39638	1359	
1982-016A	COSMOS 1341	13080	USSR	03 MAR	717.1	67.5	35804	4514	
1982-016D		13090	USSR	03 MAR	709.0	67.3	36026	3893	
1982-017A	INTELSAT 5 F-4	13083	ITSO	05 MAR	1436.2	3.8	35806	35772	
1982-019A		13086	US	06 MAR	NO ELEMENTS AVAILABLE				
1982-019B		13089	US	06 MAR	NO ELEMENTS AVAILABLE				
1982-020A	GORIZONT 5	13092	USSR	15 MAR	1461.5	9.6	36425	36140	
1982-020F		13899	USSR	15 MAR	1460.0	9.7	36362	36143	
1982-024A	COSMOS 1344	13110	USSR	24 MAR	104.8	82.9	1006	963	
1982-024B		13111	USSR	24 MAR	104.7	82.9	1010	948	
1982-025A	METEOR 2	13113	USSR	25 MAR	104.0	82.5	955	935	
1982-025B		13114	USSR	25 MAR	104.0	82.5	955	936	
1982-027A	COSMOS 1346	13120	USSR	31 MAR	96.4	81.2	602	574	
1982-027B		13121	USSR	31 MAR	96.8	81.2	634	575	
1982-029A	COSMOS 1348	13124	USSR	07 APR	719.0	68.3	35319	5094	
1982-029D		13169	USSR	07 APR	705.4	68.1	35148	4593	
1982-030A	COSMOS 1349	13127	USSR	08 APR	104.8	82.9	1009	961	
1982-030B		13128	USSR	08 APR	104.7	82.9	1001	957	
1982-031A	INSAT-1A	13129	INDIA	10 APR	1434.2	0.1	35936	35562	
1982-037A	COSMOS 1354	13148	USSR	28 APR	100.7	74.0	798	783	
1982-037B		13149	USSR	28 APR	100.5	74.0	793	772	
1982-037C		14344	USSR	03 AUG	100.6	74.1	801	772	
1982-037D		14811	USSR	28 APR	100.7	74.0	810	773	
1982-039A	COSMOS 1356	13153	USSR	05 MAY	96.7	81.2	614	586	
1982-039B		13154	USSR	05 MAY	97.1	81.2	659	583	
1982-040A	COSMOS 1357	13160	USSR	06 MAY	114.6	74.0	1476	1399	
1982-040B	COSMOS 1358	13161	USSR	06 MAY	114.8	74.0	1478	1413	
1982-040C	COSMOS 1359	13162	USSR	06 MAY	115.0	74.0	1478	1430	
1982-040D	COSMOS 1360	13163	USSR	06 MAY	115.1	74.0	1480	1444	
1982-040E	COSMOS 1361	13164	USSR	06 MAY	115.3	74.0	1481	1459	
1982-040F	COSMOS 1362	13165	USSR	06 MAY	115.5	74.0	1493	1464	
1982-040G	COSMOS 1363	13166	USSR	06 MAY	115.7	74.0	1503	1471	
1982-040H	COSMOS 1364	13167	USSR	06 MAY	115.9	74.0	1522	1471	
1982-040J		13168	USSR	06 MAY	117.7	74.1	1685	1470	
1982-041C		13172	US	11 MAY	NO ELEMENTS AVAILABLE				
1982-043A	COSMOS 1365	13175	USSR	14 MAY	103.6	65.1	982	877	
1982-043D		13594	USSR	14 MAY	103.3	65.1	965	868	
1982-044A	COSMOS 1366	13177	USSR	17 MAY	1436.0	9.3	35797	35773	
1982-044F		14114	USSR	17 MAY	1437.1	9.2	35869	35742	
1982-045A	COSMOS 1367	13205	USSR	20 MAY	717.9	67.8	35846	4511	
1982-045D		13215	USSR	20 MAY	704.1	67.3	36012	3663	
1982-051A	COSMOS 1371	13241	USSR	01 JUN	100.7	74.0	801	781	
1982-051B		13242	USSR	01 JUN	100.5	74.0	799	763	
1982-051C		14398	USSR	01 JUN	100.3	74.1	776	771	
1982-051D		18502	USSR	01 JUN	100.4	74.1	776	773	
1982-051E		18509	USSR	01 JUN	100.3	74.0	783	764	
1982-051F		18510	USSR	01 JUN	100.4	74.0	790	762	
1982-051G		19102	USSR	01 JUN	100.3	74.1	783	759	
1982-052A	COSMOS 1372	13243	USSR	01 JUN	103.9	64.9	955	930	
1982-052D		13416	USSR	01 JUN	103.6	64.9	938	917	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1982-055A	COSMOS 1375	13259	USSR	06 JUN	105.0	65.8	1006	983	
1982-055B TO 055BM			USSR	06 JUN	SEE NOTE		29*		29*
1982-058A	WESTAR 5	13269	US	09 JUN	1451.5	1.2	36168	36005	
1982-059A	COSMOS 1378	13271	USSR	10 JUN	96.8	82.5	621	592	
1982-059B		13272	USSR	10 JUN	97.3	82.5	645	613	
1982-064A	COSMOS 1382	13295	USSR	25 JUN	717.0	68.1	35033	5282	
1982-064D		13298	USSR	25 JUN	708.4	67.6	35025	4865	
1982-066A	COSMOS 1383	13301	USSR	29 JUN	105.2	82.9	1024	982	
1982-066B		13302	USSR	29 JUN	105.1	82.9	1026	969	
1982-069A	COSMOS 1386	13353	USSR	07 JUL	104.6	83.0	1004	948	
1982-069B		13354	USSR	07 JUL	104.5	83.0	1006	931	
1982-072A	LANDSAT 4	13367	US	16 JUL	98.8	98.2	706	698	
1982-073A	COSMOS 1388	13375	USSR	21 JUL	114.5	74.0	1472	1391	
1982-073B	COSMOS 1389	13376	USSR	21 JUL	114.7	74.0	1473	1407	
1982-073C	COSMOS 1390	13377	USSR	21 JUL	114.9	74.0	1473	1424	
1982-073D	COSMOS 1391	13378	USSR	21 JUL	115.0	74.0	1473	1440	
1982-073E	COSMOS 1392	13379	USSR	21 JUL	115.2	74.0	1473	1457	
1982-073F	COSMOS 1393	13380	USSR	21 JUL	115.4	74.0	1481	1467	
1982-073G	COSMOS 1394	13381	USSR	21 JUL	115.6	74.0	1493	1472	
1982-073H	COSMOS 1395	13382	USSR	21 JUL	115.8	74.0	1513	1472	
1982-073J		13386	USSR	21 JUL	117.9	74.0	1709	1463	
1982-074D		13390	USSR	21 JUL	679.0	62.8	38231	192	
1982-079A	COSMOS 1400	13402	USSR	05 AUG	96.4	81.2	591	576	
1982-079B		13403	USSR	05 AUG	96.9	81.2	643	573	
1982-082A	ANIK D-1	13431	CANADA	26 AUG	1438.4	1.9	35881	35780	
1982-083A	MOLNIYA 3-19	13432	USSR	27 AUG	717.5	64.0	38545	1795	
1982-083E		13446	USSR	27 AUG	733.1	64.2	39068	2036	
1982-087A	ETS 3	13492	JAPAN	03 SEP	107.2	44.6	1227	965	
1982-087B		13493	JAPAN	03 SEP	105.1	44.6	1009	990	
1982-087C		13510	JAPAN	03 SEP	106.9	44.6	1226	944	
1982-087D		14569	JAPAN	03 SEP	106.3	44.9	1145	963	
1982-092A	COSMOS 1408	13552	USSR	16 SEP	96.8	82.6	618	588	
1982-092B		13553	USSR	16 SEP	97.3	82.6	648	612	
1982-093A	EKRAN 9	13554	USSR	16 SEP	1436.5	9.2	35910	35679	
1982-093F		14115	USSR	16 SEP	1422.2	9.1	35579	35448	
1982-095A	COSMOS 1409	13585	USSR	22 SEP	718.8	66.6	36699	3705	
1982-095D		13591	USSR	22 SEP	707.2	66.0	37350	2483	
1982-096A	COSMOS 1410	13589	USSR	24 SEP	115.9	82.6	1499	1489	
1982-096B		13590	USSR	24 SEP	115.8	82.6	1498	1487	
1982-097A	INTELSAT 5F 5	13595	ITSO	28 SEP	1436.1	3.2	35807	35766	
1982-099A	COSMOS 1412	13600	USSR	02 OCT	103.9	64.8	992	892	
1982-099E		13653	USSR	02 OCT	103.6	64.8	966	888	
1982-100A	COSMOS 1413	13603	USSR	12 OCT	673.3	64.7	19078	19059	
1982-100D	COSMOS 1414	13606	USSR	12 OCT	675.7	64.7	19210	19047	
1982-100E	COSMOS 1415	13607	USSR	12 OCT	673.5	64.4	19081	19064	
1982-100F		13608	USSR	12 OCT	285.1	52.2	15669	272	
1982-100G		13609	USSR	12 OCT	305.3	52.1	16935	345	
1982-100H		13610	USSR	12 OCT	672.9	64.7	19074	19041	
1982-102A	COSMOS 1417	13617	USSR	19 OCT	104.7	83.0	1005	955	
1982-102B		13618	USSR	19 OCT	104.6	83.0	998	951	
1982-103A	GORIZONT 6	13624	USSR	20 OCT	1434.8	8.8	35779	35743	
1982-103E		13630	USSR	20 OCT	1434.3	8.7	35795	35706	
1982-105A	RCA SATCOM-V	13631	US	28 OCT	1436.1	2.1	35811	35763	
1982-106A		13636	US	30 OCT	1436.1	6.1	35795	35778	
1982-106B		13637	US	30 OCT	1436.2	3.0	35792	35783	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1982-106D		13643	US	30 OCT	1448.9	7.3	36203	35872	
1982-109A	COSMOS 1420	13648	USSR	11 NOV	100.6	74.0	800	769	
1982-109B		13649	USSR	11 NOV	100.4	74.0	793	763	
1982-109D		15528	USSR	11 NOV	100.2	74.0	779	759	
1982-110B	SBS 3	13651	US	11 NOV	1436.2	1.7	35800	35775	
1982-110C	ANIK C-3	13652	CANADA	12 NOV	1436.1	1.7	35799	35775	
1982-110D		13658	US	11 NOV	628.1	23.3	35516	317	
1982-110E		13666	US	11 NOV	626.9	23.1	35438	332	
1982-113A	RADUGA 11	13669	USSR	26 NOV	1473.9	8.3	36713	36330	
1982-113F		13954	USSR	26 NOV	1475.9	8.4	36672	36451	
1982-116A	METEOR 2-9	13718	USSR	14 DEC	101.8	81.2	883	801	
1982-116B		13719	USSR	14 DEC	101.8	81.3	897	794	
1982-116C		13720	USSR	14 DEC	101.8	81.2	884	801	
1982-116D		17755	USSR	14 DEC	101.8	81.3	899	791	
1982-118A		13736	US	21 DEC	101.0	98.6	809	798	
1982-118C		13738	US	21 DEC	97.7	98.5	650	643	
1983 LAUNCHES									
1983-001A	COSMOS 1428	13757	USSR	12 JAN	104.6	82.9	1001	947	
1983-001B		13758	USSR	12 JAN	104.5	82.9	990	947	
1983-001C		14568	USSR	12 JAN	103.3	82.9	933	895	
1983-002A	COSMOS 1429	13761	USSR	19 JAN	115.8	74.0	1516	1464	
1983-002B	COSMOS 1430	13762	USSR	19 JAN	115.6	74.0	1496	1465	
1983-002C	COSMOS 1431	13763	USSR	19 JAN	115.4	74.0	1482	1462	
1983-002D	COSMOS 1432	13764	USSR	19 JAN	115.2	74.0	1465	1461	
1983-002E	COSMOS 1433	13765	USSR	19 JAN	115.0	74.0	1465	1444	
1983-002F	COSMOS 1434	13766	USSR	19 JAN	114.8	74.0	1464	1429	
1983-002G	COSMOS 1435	13767	USSR	19 JAN	114.6	74.0	1465	1412	
1983-002H	COSMOS 1436	13768	USSR	19 JAN	114.5	74.0	1464	1397	
1983-002J		13769	USSR	19 JAN	117.9	74.0	1693	1476	
1983-003A	COSMOS 1437	13770	USSR	20 JAN	96.6	81.2	604	583	
1983-003B		13771	USSR	20 JAN	96.8	81.2	638	572	
1983-004A	IRAS	13777	US	26 JAN	102.9	99.0	897	889	
1983-004B		13778	US	26 JAN	102.3	100.0	882	850	
1983-004C		13783	US	26 JAN	102.8	99.0	900	880	
1983-006A	CS-2A	13782	JAPAN	04 FEB	1448.7	5.4	36087	35976	
1983-006B		13786	JAPAN	04 FEB	133.6	28.5	4335	221	
1983-008A		13791	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008B		13792	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008C		13834	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008D		13835	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008E		13844	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008F		13845	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008G		13849	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-008H		13874	US	09 FEB	NO ELEMENTS AVAILABLE				
1983-010A	COSMOS 1441	13818	USSR	16 FEB	96.3	81.1	586	580	
1983-010B		13819	USSR	16 FEB	96.6	81.1	635	559	
1983-015A	MOLNIYA 3-20	13875	USSR	11 MAR	717.6	64.0	38372	1973	
1983-015E		13882	USSR	11 MAR	731.9	64.3	39135	1913	
1983-016A	EKRAN 10	13878	USSR	12 MAR	1515.4	9.7	37489	37159	
1983-016F		14086	USSR	12 MAR	1424.5	9.1	35630	35487	
1983-019A	MOLNIYA 1-56	13890	USSR	16 MAR	720.5	63.8	39117	1372	
1983-019D		13897	USSR	16 MAR	732.6	64.0	39792	1292	
1983-020A	ASTRON	13901	USSR	23 MAR	5935.2	34.8	176044	28375	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1983-020D		20413	USSR	23 MAR	5824.5	35.5	174672	27040	
1983-021A	COSMOS 1447	13916	USSR	24 MAR	104.7	82.9	1008	953	
1983-021B		13917	USSR	24 MAR	104.6	82.9	994	957	
1983-022A	NOAA 8	13923	US	28 MAR	101.0	98.5	817	793	
1983-023A	COSMOS 1448	13949	USSR	30 MAR	104.7	83.0	999	956	
1983-023B		13950	USSR	30 MAR	104.6	83.0	1001	949	
1983-025A	MOLNIYA 1-57	13964	USSR	02 APR	716.3	64.1	39236	1046	
1983-025D		13967	USSR	02 APR	699.3	64.2	38233	1204	
1983-026B	TDRS 1	13969	US	04 APR	1435.9	6.9	35898	35670	
1983-026C		13970	US	04 APR	1089.7	4.8	35363	22034	
1983-026D		13971	US	04 APR	524.4	25.6	30092	231	
1983-028A	RADUGA 12	13974	USSR	08 APR	1436.2	8.0	35801	35774	
1983-028F		13983	USSR	08 APR	1439.2	8.0	35947	35746	
1983-030A	RCA SATCOM VI	13984	US	11 APR	1442.0	0.6	35926	35876	
1983-030B		13985	US	11 APR	112.1	25.4	2352	293	
1983-031A	COSMOS 1452	13991	USSR	12 APR	100.6	74.0	800	774	
1983-031B		13992	USSR	12 APR	100.5	74.1	785	775	
1983-031D		14812	USSR	12 APR	100.7	74.1	806	777	
1983-037A	COSMOS 1455	14032	USSR	23 APR	96.8	82.5	617	593	
1983-037B		14033	USSR	23 APR	97.4	82.5	646	617	
1983-038A	COSMOS 1456	14034	USSR	25 APR	718.2	66.7	38245	2128	
1983-038E		14041	USSR	25 APR	707.3	66.5	37933	1902	
1983-038H		14297	USSR	25 APR	719.0	66.9	36977	3436	
1983-038J		14301	USSR	25 APR	789.5	67.0	43591	246	
1983-038K		14306	USSR	25 APR	720.6	64.3	39697	795	
1983-041A	GOES 6	14050	US	28 APR	1435.7	4.8	35796	35766	
1983-041B		14051	US	28 APR	115.3	25.4	2534	404	
1983-041C		14069	US	28 APR	1707.4	11.5	49164	32719	
1983-042A	COSMOS 1459	14057	USSR	06 MAY	104.6	83.0	1013	938	
1983-042B		14059	USSR	06 MAY	104.5	83.0	1002	938	
1983-044A	COSMOS 1461	14064	USSR	07 MAY	98.5	65.0	820	557	
1983-044AA		15707	USSR	07 MAY	96.1	65.0	635	510	
1983-044EL		18480	USSR	07 MAY	97.9	65.0	769	546	
1983-047A	INTELSAT 5 F-6	14077	ITSO	19 MAY	1436.1	2.2	35801	35773	
1983-048A	COSMOS 1464	14084	USSR	24 MAY	104.8	82.9	1006	960	
1983-048B		14085	USSR	24 MAY	104.6	82.9	1003	951	
1983-051B		14096	US	26 MAY	119.1	72.3	2517	759	
1983-053A	VENERA 15	14104	USSR	02 JUN	VENUS ORBIT				
1983-054A	VENERA 16	14107	USSR	07 JUN	VENUS ORBIT				
1983-056A		14112	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056B		14113	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056C		14143	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056D		14144	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056E		14145	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056F		14146	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056G		14180	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-056H		14181	US	09 JUN	NO ELEMENTS AVAILABLE				
1983-058A	ECS 1	14128	ESA	16 JUN	1436.1	3.5	35797	35774	
1983-058B	OSCAR 10	14129	FRG	16 JUN	699.5	27.0	35457	3991	
1983-058C		14130	ESA	16 JUN	327.2	8.5	18456	242	
1983-058F		17331	ESA	16 JUN	116.4	7.6	2730	307	
1983-059B	ANIK C2	14133	CANADA	18 JUN	1436.1	1.5	35801	35773	
1983-059C	PALAPA B1	14134	INDNSA	18 JUN	1436.2	2.8	35789	35787	
1983-059D		14135	US	18 JUN	601.5	23.5	34124	328	
1983-059E		14136	US	18 JUN	618.5	25.9	35015	321	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1983-060C		14139	US	20 JUN	NO ELEMENTS AVAILABLE				
1983-061A	COSMOS 1470	14147	USSR	22 JUN	96.9	82.5	625	598	
1983-061B		14148	USSR	22 JUN	97.4	82.5	648	617	
1983-063A		14154	US	27 JUN	100.6	82.0	817	755	
1983-063B		14155	US	27 JUN	100.5	82.0	812	751	
1983-063C		14222	US	27 JUN	99.6	82.4	758	723	
1983-063D		14223	US	27 JUN	100.8	81.7	842	750	
1983-065A	GALAXY 1	14158	US	28 JUN	1436.1	0.0	35793	35781	
1983-065C		14168	US	28 JUN	254.5	23.1	13649	202	
1983-066A	GORIZONT 7	14160	USSR	30 JUN	1464.2	7.6	36391	36278	
1983-066E		14167	USSR	30 JUN	134.9	46.5	4467	204	
1983-066F		15141	USSR	30 JUN	1475.2	7.9	36586	36510	
1983-067A	PROGNOZ 9	14163	USSR	01 JUL	NO CURRENT ELEMENTS				
1983-069A	COSMOS 1473	14171	USSR	06 JUL	114.4	74.0	1461	1391	
1983-069B	COSMOS 1474	14172	USSR	06 JUL	114.6	74.0	1461	1409	
1983-069C	COSMOS 1475	14173	USSR	06 JUL	114.7	74.0	1460	1427	
1983-069D	COSMOS 1476	14174	USSR	06 JUL	114.9	74.0	1460	1444	
1983-069E	COSMOS 1477	14175	USSR	06 JUL	115.1	74.0	1463	1459	
1983-069F	COSMOS 1478	14176	USSR	06 JUL	115.3	74.0	1480	1460	
1983-069G	COSMOS 1479	14177	USSR	06 JUL	115.5	74.0	1498	1460	
1983-069H	COSMOS 1480	14178	USSR	06 JUL	115.8	74.0	1518	1460	
1983-069J		14179	USSR	06 JUL	117.4	74.0	1669	1459	
1983-070A	COSMOS 1481	14182	USSR	08 JUL	707.3	67.3	36634	3200	
1983-070D		14191	USSR	08 JUL	707.9	67.4	36420	3447	
1983-070E		14192	USSR	08 JUL	708.9	67.3	36746	3169	
1983-070F		20412	USSR	08 JUL	705.8	67.5	36835	2925	
1983-072A		14189	US	14 JUL	718.0	64.0	20463	19899	
1983-072B		14190	US	14 JUL	371.8	64.1	20117	1380	
1983-073A	MOLNIYA 1-58	14199	USSR	19 JUL	453.8	63.6	26199	169	
1983-075A	COSMOS 1484	14207	USSR	24 JUL	96.1	97.5	592	546	
1983-075B		14208	USSR	24 JUL	96.8	97.6	629	579	
1983-075C		14209	USSR	24 JUL	96.5	97.5	620	560	
1983-075D		14229	USSR	24 JUL	97.1	97.8	646	591	
1983-075E		14631	USSR	24 JUL	96.4	97.6	601	566	
1983-075F		14928	USSR	24 JUL	96.8	97.6	628	581	
1983-077A	TELSTAR 3A	14234	US	28 JUL	1436.2	0.0	35794	35782	
1983-077C		14236	US	28 JUL	204.8	22.7	10036	226	
1983-078A		14237	US	31 JUL	NO ELEMENTS AVAILABLE				
1983-078B		14238	US	31 JUL	NO ELEMENTS AVAILABLE				
1983-079A	COSMOS 1486	14240	USSR	03 AUG	100.6	74.1	794	774	
1983-079B		14241	USSR	03 AUG	100.5	74.1	793	767	
1983-079D		14813	USSR	03 AUG	100.7	74.0	809	777	
1983-079E		15756	USSR	03 AUG	99.8	74.1	758	739	
1983-081A	CS-2B	14248	JAPAN	05 AUG	1457.3	4.7	36213	36188	
1983-084A	COSMOS 1490	14258	USSR	10 AUG	675.7	64.8	19168	19090	
1983-084B	COSMOS 1491	14259	USSR	10 AUG	668.4	64.8	19064	18825	
1983-084C	COSMOS 1492	14260	USSR	10 AUG	676.8	64.8	19159	19154	
1983-084F		14264	USSR	10 AUG	676.3	64.9	19155	19131	
1983-084G		14277	USSR	10 AUG	324.2	52.0	18149	361	
1983-084H		14278	USSR	10 AUG	321.6	52.2	18015	326	
1983-088A	RADUGA 13	14307	USSR	25 AUG	1466.8	7.7	36444	36326	
1983-088F		14333	USSR	25 AUG	1475.2	7.8	36605	36492	
1983-089B	INSAT 1B	14318	INDIA	31 AUG	1436.2	3.4	35810	35765	
1983-089C		14524	US	31 AUG	546.9	24.3	31253	295	
1983-090A	MOLNIYA 3-21	14313	USSR	30 AUG	716.2	64.5	38272	2005	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1983-090D		14319	USSR	30 AUG	731.2	64.3	38987	2028	
1983-094A	RCA SATCOM VII	14328	US	08 SEP	1436.2	0.0	35805	35770	
1983-094B		14329	US	08 SEP	107.4	25.5	1931	277	
1983-098A	GALAXY 2	14365	US	22 SEP	1436.1	0.0	35792	35783	
1983-099A	COSMOS 1500	14372	USSR	28 SEP	96.9	82.5	623	595	
1983-099B		14373	USSR	28 SEP	97.4	82.5	647	617	
1983-100A	EKRAN 11	14377	USSR	30 SEP	1436.3	8.4	35805	35774	
1983-100F		14394	USSR	30 SEP	1425.1	8.3	35638	35502	
1983-103A	COSMOS 1503	14401	USSR	12 OCT	100.7	74.0	800	779	
1983-103B		14402	USSR	12 OCT	100.5	74.1	802	760	
1983-105A	INTELSAT 5 F-7	14421	ITSO	19 OCT	1436.0	2.6	35806	35766	
1983-108A	COSMOS 1506	14450	USSR	26 OCT	104.6	82.9	1009	945	
1983-108B		14451	USSR	26 OCT	104.5	82.9	997	946	
1983-109A	METEOR 2-10	14452	USSR	28 OCT	101.1	81.2	876	742	
1983-109B		14453	USSR	28 OCT	101.2	81.2	891	735	
1983-109C		14454	USSR	28 OCT	101.1	81.2	880	738	
1983-111A	COSMOS 1508	14483	USSR	11 NOV	106.9	82.9	1777	392	
1983-111B		14484	USSR	11 NOV	104.5	82.9	1578	367	
1983-113A		14506	US	18 NOV	101.1	98.4	819	800	
1983-113E		14610	US	18 NOV	97.9	98.5	660	654	
1983-114A	MOLNIYA 1-59	14516	USSR	23 NOV	718.2	64.2	38486	1889	
1983-114D		14520	USSR	23 NOV	699.2	64.3	37595	1836	
1983-115A	COSMOS 1510	14521	USSR	24 NOV	116.0	73.6	1522	1478	
1983-115B		14522	USSR	24 NOV	115.9	73.6	1518	1477	
1983-118A	GORIZONT 8	14532	USSR	30 NOV	1465.4	7.3	36462	36256	
1983-118F		14548	USSR	30 NOV	1435.6	7.2	35981	35573	
1983-120A	COSMOS 1513	14546	USSR	08 DEC	104.8	82.9	1012	956	
1983-120B		14547	USSR	08 DEC	104.6	82.9	1007	941	
1983-122A	COSMOS 1515	14551	USSR	15 DEC	96.9	82.5	622	594	
1983-122B		14552	USSR	15 DEC	97.4	82.5	647	618	
1983-123A	MOLNIYA 3-22	14570	USSR	21 DEC	686.6	64.2	38673	131	
1983-123D		14582	USSR	21 DEC	732.3	64.5	40767	303	
1983-126A	COSMOS 1518	14587	USSR	28 DEC	714.0	66.9	37848	2320	
1983-126D		14596	USSR	28 DEC	705.5	66.8	37593	2152	
1983-127A	COSMOS 1519	14590	USSR	29 DEC	675.7	66.5	19148	19110	
1983-127B	COSMOS 1520	14591	USSR	29 DEC	675.7	66.5	19204	19054	
1983-127C	COSMOS 1521	14592	USSR	29 DEC	673.4	66.5	19155	18986	
1983-127F		14595	USSR	29 DEC	673.1	66.5	19157	18968	
1983-127G		14607	USSR	29 DEC	326.2	52.2	18224	415	
1983-127H		14608	USSR	29 DEC	329.7	51.7	18531	329	
1983-127J		21752	USSR	29 DEC	230.9	53.1	11628	548	
1983-127K		21753	USSR	29 DEC	239.6	51.9	12253	546	
1983-127M		21935	USSR	29 DEC	315.1	52.2	17190	727	
1984 LAUNCHES									
1984-001A	COSMOS 1522	14611	USSR	05 JAN	115.4	74.0	1490	1459	
1984-001B	COSMOS 1522	14612	USSR	05 JAN	114.4	74.0	1459	1394	
1984-001C	COSMOS 1524	14613	USSR	05 JAN	114.6	74.0	1460	1409	
1984-001D	COSMOS 1525	14614	USSR	05 JAN	114.7	74.0	1460	1424	
1984-001E	COSMOS 1526	14615	USSR	05 JAN	114.9	74.0	1459	1440	
1984-001F	COSMOS 1527	14616	USSR	05 JAN	115.1	74.0	1460	1456	
1984-001G	COSMOS 1528	14617	USSR	05 JAN	115.3	74.0	1474	1459	
1984-001H	COSMOS 1529	14618	USSR	05 JAN	115.6	74.0	1509	1459	
1984-001J		14619	USSR	05 JAN	117.5	74.0	1671	1468	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1984-003A	COSMOS 1531	14624	USSR	11 JAN	104.9	82.9	1007	975	
1984-003B		14625	USSR	11 JAN	104.8	82.9	1001	967	
1984-005A	BS-2A	14659	JAPAN	23 JAN	1453.8	4.6	36219	36043	
1984-008A	PRC 14	14670	PRC	29 JAN	162.0	36.1	6453	477	
1984-009A		14675	US	31 JAN	NO ELEMENTS AVAILABLE				
1984-009C		14677	US	31 JAN	NO ELEMENTS AVAILABLE				
1984-010A	COSMOS 1535	14679	USSR	02 FEB	104.7	83.0	1014	949	
1984-010B		14680	USSR	02 FEB	104.6	83.0	1005	946	
1984-011E		14693	US	06 FEB	95.3	28.1	799	265	
1984-011F		14694	US	03 FEB	97.8	27.7	1006	300	
1984-012A		14690	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012B		14691	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012C		14728	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012D		14729	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012F		14795	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012J		15347	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012K		15348	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-012L		15349	US	05 FEB	NO ELEMENTS AVAILABLE				
1984-013A	COSMOS 1536	14699	USSR	08 FEB	97.0	82.5	629	604	
1984-013B		14700	USSR	08 FEB	97.4	82.5	646	619	
1984-016A	RADUGA 14	14725	USSR	15 FEB	1436.0	7.2	35791	35777	
1984-016F		17874	USSR	15 FEB	1436.1	7.2	35924	35646	
1984-019A	COSMOS 1538	14759	USSR	21 FEB	100.6	74.0	800	769	
1984-019B		14760	USSR	21 FEB	100.5	74.0	801	760	
1984-019C		15785	USSR	21 FEB	100.0	74.1	769	751	
1984-019D		18519	USSR	21 FEB	100.0	74.1	770	750	
1984-021A	LANDSAT 5	14780	US	01 MAR	98.8	98.2	704	699	
1984-021B	UOSAT 2	14781	UK	01 MAR	98.0	97.8	669	653	
1984-022A	COSMOS 1540	14783	USSR	02 MAR	1436.0	7.9	35804	35762	
1984-022F		14948	USSR	02 MAR	1441.8	8.0	35987	35809	
1984-023A	INTELSAT 5 F-8	14786	ITSO	05 MAR	1436.1	1.9	35810	35766	
1984-024A	COSMOS 1541	14790	USSR	06 MAR	718.0	67.0	36144	4221	
1984-024D		14796	USSR	06 MAR	709.8	67.0	35896	4061	
1984-027A	COSMOS 1544	14819	USSR	15 MAR	96.8	82.5	617	593	
1984-027B		14820	USSR	15 MAR	97.4	82.5	647	616	
1984-028A	EKRAN 12	14821	USSR	16 MAR	1499.1	8.7	37037	36984	
1984-028D		14828	USSR	16 MAR	624.7	46.6	35418	238	
1984-028F		15139	USSR	16 MAR	1419.8	8.3	35548	35384	
1984-029A	MOLNIYA 1-60	14825	USSR	16 MAR	716.0	64.4	39901	365	
1984-029D		14830	USSR	16 MAR	730.9	64.5	40565	436	
1984-031A	COSMOS 1546	14867	USSR	29 MAR	1436.3	7.0	35897	35685	
1984-031D		14887	USSR	29 MAR	566.9	45.3	32280	345	
1984-031F		14951	USSR	29 MAR	1448.4	7.1	36109	35943	
1984-033A	COSMOS 1547	14884	USSR	04 APR	716.8	67.5	36421	3884	
1984-033D		14894	USSR	04 APR	706.5	67.3	36366	3432	
1984-035A	PRC 15	14899	PRC	08 APR	1434.9	5.7	35794	35730	
1984-035B		14900	PRC	08 APR	624.0	30.7	35233	386	
1984-037A		14930	US	14 APR	NO ELEMENTS AVAILABLE				
1984-037B		14931	US	14 APR	NO ELEMENTS AVAILABLE				
1984-041A	GORIZONT 9	14940	USSR	22 APR	1435.8	6.9	35800	35760	
1984-041D		14943	USSR	22 APR	1460.1	7.0	36319	36191	
1984-043A	COSMOS 1550	14965	USSR	11 MAY	104.9	83.0	1009	969	
1984-043B		14966	USSR	11 MAY	104.8	83.0	996	972	
1984-046A	COSMOS 1553	14973	USSR	17 MAY	104.7	82.9	1005	956	
1984-046B		14974	USSR	17 MAY	104.6	82.9	1007	941	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1984-047A	COSMOS 1554	14977	USSR	19 MAY	675.7	66.5	19162	19096	
1984-047B	COSMOS 1555	14978	USSR	19 MAY	675.7	66.5	19158	19101	
1984-047C	COSMOS 1556	14979	USSR	19 MAY	676.3	66.5	19158	19130	
1984-047F		14984	USSR	19 MAY	675.5	66.5	19162	19086	
1984-047G		15053	USSR	19 MAY	332.0	52.1	18624	386	
1984-047H		15054	USSR	19 MAY	311.2	52.0	17369	298	
1984-049A	SPACENET 1	14985	US	23 MAY	1436.0	0.0	35791	35783	
1984-052A	COSMOS 1559	14998	USSR	28 MAY	115.7	74.0	1508	1468	
1984-052B	COSMOS 1560	14999	USSR	28 MAY	115.5	74.0	1490	1468	
1984-052C	COSMOS 1561	15000	USSR	28 MAY	115.4	74.0	1483	1459	
1984-052D	COSMOS 1562	15001	USSR	28 MAY	115.2	74.0	1475	1450	
1984-052E	COSMOS 1563	15002	USSR	28 MAY	115.0	74.0	1475	1435	
1984-052F	COSMOS 1564	15003	USSR	28 MAY	114.8	74.0	1474	1422	
1984-052G	COSMOS 1565	15004	USSR	28 MAY	114.7	74.0	1474	1406	
1984-052H	COSMOS 1566	15005	USSR	28 MAY	114.5	74.0	1472	1392	
1984-052J		15006	USSR	28 MAY	117.6	74.0	1680	1468	
1984-055A	COSMOS 1569	15027	USSR	06 JUN	717.4	65.9	37350	2983	
1984-055D		15030	USSR	06 JUN	706.8	66.2	37363	2450	
1984-056A	COSMOS 1570	15031	USSR	08 JUN	100.7	74.1	800	782	
1984-056B		15032	USSR	08 JUN	100.5	74.1	796	772	
1984-056C		15033	USSR	08 JUN	100.7	74.1	803	779	
1984-056D		15757	USSR	08 JUN	95.7	74.0	553	552	
1984-059A		15039	US	13 JUN	718.0	63.8	20311	20052	
1984-059B		15040	US	13 JUN	339.2	61.9	19322	142	
1984-062A	COSMOS 1574	15055	USSR	21 JUN	104.8	83.0	1004	963	
1984-062B		15056	USSR	21 JUN	104.6	83.0	996	958	
1984-063A	RADUGA 15	15057	USSR	22 JUN	1434.6	6.9	35768	35745	
1984-063E		15076	USSR	22 JUN	345.0	46.8	19619	215	
1984-063F		15693	USSR	22 JUN	1394.2	6.6	35031	34892	
1984-065C		15071	US	25 JUN	NO ELEMENTS AVAILABLE				
1984-067A	COSMOS 1577	15077	USSR	27 JUN	104.7	83.0	1007	953	
1984-067B		15078	USSR	27 JUN	104.6	83.0	994	954	
1984-069A	COSMOS 1579	15085	USSR	29 JUN	103.9	65.0	983	902	
1984-069D		15330	USSR	29 JUN	103.6	65.1	953	902	
1984-069E		19453	USSR	29 JUN	102.6	65.8	944	817	
1984-071A	COSMOS 1581	15095	USSR	03 JUL	721.1	67.8	36064	4452	
1984-071D		15098	USSR	03 JUL	705.6	67.5	35677	4075	
1984-072A	METEOR 2-11	15099	USSR	05 JUL	104.0	82.5	956	935	
1984-072B		15100	USSR	05 JUL	104.0	82.5	956	936	
1984-078A	GORIZONT 10	15144	USSR	01 AUG	1437.5	6.6	35826	35801	
1984-078F		15181	USSR	01 AUG	1436.1	6.6	35874	35699	
1984-079A	COSMOS 1586	15147	USSR	02 AUG	716.8	66.0	36702	3606	
1984-079D		15156	USSR	02 AUG	705.7	66.1	36409	3348	
1984-080A	GMS 3	15152	JAPAN	02 AUG	1436.0	4.2	35791	35779	
1984-080C		15157	JAPAN	02 AUG	158.1	28.8	6441	172	
1984-080E		22266	JAPAN	02 AUG	1443.5	6.2	36444	35419	
1984-081A	ECS 2	15158	ESA	04 AUG	1436.1	2.6	35806	35766	
1984-081B	TELECOM 1A	15159	FRANCE	04 AUG	1463.4	2.5	36468	36170	
1984-081D		15166	ESA	04 AUG	597.7	6.9	33578	674	
1984-081E		20674	ESA	04 AUG	600.4	6.8	33649	746	
1984-084A	COSMOS 1589	15171	USSR	08 AUG	115.9	82.6	1500	1489	
1984-084B		15172	USSR	08 AUG	115.8	82.6	1499	1487	
1984-085A	MOLNIYA 1-61	15182	USSR	10 AUG	716.0	64.2	38361	1907	
1984-085D		15188	USSR	10 AUG	730.9	64.4	39035	1965	
1984-088A	CCE	15199	US	16 AUG	939.5	4.8	49691	1101	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1984-088B	IRM	15200	FRG	16 AUG	2653.4	27.0	113818	402	
1984-088C	UKS	15201	UK	16 AUG	2659.6	26.9	113417	1002	
1984-088D		15202	US	16 AUG	133.9	28.9	4032	547	
1984-088E		15205	US	16 AUG	132.9	28.7	3946	552	
1984-088F		15206	US	16 AUG	919.0	28.6	49361	507	
1984-088G		19008	US	16 AUG	131.7	28.7	3837	551	
1984-088H		19599	US	16 AUG	133.0	28.7	3949	553	
1984-089A	MOLNIYA 1-62	15214	USSR	24 AUG	735.2	63.9	40347	861	
1984-089D		15223	USSR	24 AUG	738.9	64.1	40166	1227	
1984-090A	EKRAN 13	15219	USSR	24 AUG	1499.7	7.8	37084	36960	
1984-090F		17875	USSR	24 AUG	1422.1	7.4	35570	35453	
1984-091A		15226	US	28 AUG	NO ELEMENTS AVAILABLE				
1984-091B		15227	US	28 AUG	NO ELEMENTS AVAILABLE				
1984-093B	SBS 4	15235	US	31 AUG	1436.0	0.4	35797	35775	
1984-093C	SYNCOM IV-2	15236	US	31 AUG	1436.0	4.4	35795	35776	
1984-093D	TELSTAR 3C	15237	US	01 SEP	1436.2	0.0	35795	35781	
1984-093E		15244	US	31 AUG	258.3	27.2	13784	329	
1984-093F		15245	US	31 AUG	594.8	22.3	33803	297	
1984-093G		15246	US	01 SEP	638.9	25.1	36050	335	
1984-095A	COSMOS 1593	15259	USSR	04 SEP	675.7	64.8	19175	19083	
1984-095B		15260	USSR	04 SEP	677.2	64.8	19188	19144	
1984-095C		15261	USSR	04 SEP	675.7	64.7	19182	19076	
1984-095F		15264	USSR	04 SEP	675.9	64.8	19184	19083	
1984-095G		15265	USSR	04 SEP	326.4	52.0	18363	286	
1984-095H		15266	USSR	04 SEP	330.2	51.9	18574	317	
1984-096A	COSMOS 1596	15267	USSR	07 SEP	718.1	67.7	36161	4207	
1984-096D		15270	USSR	07 SEP	703.2	67.6	35605	4026	
1984-097A		15271	US	08 SEP	NO ELEMENTS AVAILABLE				
1984-097B		15272	US	08 SEP	369.2	63.9	20247	1092	
1984-100A	COSMOS 1598	15292	USSR	13 SEP	104.9	82.9	1013	963	
1984-100B		15293	USSR	13 SEP	104.7	82.9	999	965	
1984-101A	GALAXY 3	15308	US	21 SEP	1436.1	0.0	35797	35777	
1984-104L		15982	USSR	27 SEP	90.5	65.8	305	289	
1984-105A	COSMOS 1602	15331	USSR	28 SEP	97.0	82.5	626	600	
1984-105B		15332	USSR	28 SEP	97.4	82.5	648	617	
1984-106A	COSMOS 1603	15333	USSR	28 SEP	101.9	71.0	861	832	
1984-106C		15335	USSR	28 SEP	101.4	66.5	837	813	
1984-106F		15338	USSR	28 SEP	101.7	66.6	854	824	
1984-107A	COSMOS 1604	15350	USSR	04 OCT	718.3	67.7	36135	4245	
1984-107D		15355	USSR	04 OCT	708.1	67.8	35797	4078	
1984-108B	ERBS	15354	US	05 OCT	96.4	57.0	596	577	
1984-109A	COSMOS 1605	15359	USSR	11 OCT	104.7	82.9	1016	945	
1984-109B		15360	USSR	11 OCT	104.6	82.9	1009	943	
1984-110A		15362	US	12 OCT	108.9	89.9	1196	1152	
1984-111A	COSMOS 1606	15369	USSR	18 OCT	96.9	82.5	622	594	
1984-111B		15370	USSR	18 OCT	97.3	82.5	648	614	
1984-112A	COSMOS 1607	15378	USSR	31 OCT	104.1	65.0	986	915	
1984-112C		15503	USSR	31 OCT	103.8	65.0	958	914	
1984-113B	ANIK D2	15383	CANADA	09 NOV	1432.8	0.3	35737	35711	
1984-113C	SYNCOM IV-1	15384	US	10 NOV	1461.4	2.8	36424	36134	
1984-113D		15387	US	09 NOV	615.9	25.8	34835	366	
1984-113E		15390	US	10 NOV	258.7	27.0	13793	346	
1984-113F		18904	US	10 NOV	235.5	26.7	12191	315	
1984-114A	SPACENET 2	15385	US	10 NOV	1436.1	0.0	35791	35784	
1984-114B	MARECS B2	15386	ESA	10 NOV	1436.1	3.8	35809	35766	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1984-114C		15388	ESA	10 NOV	599.3	7.6	33994	340	
1984-115A	NATO III-D	15391	NATO	14 NOV	1435.3	1.8	35781	35761	
1984-115B		15392	US	14 NOV	115.8	21.5	2312	675	
1984-115C		15402	US	14 NOV	634.8	22.8	35720	456	
1984-118A	COSMOS 1610	15398	USSR	15 NOV	104.8	82.9	1009	962	
1984-118B		15399	USSR	15 NOV	104.7	82.9	1002	954	
1984-122A		15423	US	04 DEC	NO ELEMENTS AVAILABLE				
1984-123A	NOAA 9	15427	US	12 DEC	101.8	99.0	858	835	
1984-123B		15440	US	12 DEC	97.8	99.0	657	653	
1984-124A	MOLNIYA 1-63	15429	USSR	14 DEC	718.2	64.0	38830	1545	
1984-124H		15439	USSR	14 DEC	733.4	64.3	39561	1559	
1984-125A	VEGA 1	15432	USSR	15 DEC	HELIOCENTRIC ORBIT				
1984-125D		15447	USSR	15 DEC	HELIOCENTRIC ORBIT				
1984-128A	VEGA 2	15449	USSR	21 DEC	HELIOCENTRIC ORBIT				
1984-128B		15450	USSR	21 DEC	HELIOCENTRIC ORBIT				
1984-129A		15453	US	22 DEC	NO ELEMENTS AVAILABLE				
1984-129B		15454	US	22 DEC	NO ELEMENTS AVAILABLE				
1985 LAUNCHES									
1985-001A	MS-T5	15464	JAPAN	07 JAN	HELIOCENTRIC ORBIT				
1985-001B		15465	JAPAN	07 JAN	HELIOCENTRIC ORBIT				
1985-003A	COSMOS 1617	15469	USSR	15 JAN	114.0	82.6	1412	1409	
1985-003B	COSMOS 1618	15470	USSR	15 JAN	114.0	82.6	1410	1405	
1985-003C	COSMOS 1619	15471	USSR	15 JAN	113.7	82.6	1411	1380	
1985-003D	COSMOS 1620	15472	USSR	15 JAN	113.8	82.6	1410	1388	
1985-003E	COSMOS 1621	15473	USSR	15 JAN	113.8	82.6	1410	1393	
1985-003F	COSMOS 1622	15474	USSR	15 JAN	113.9	82.6	1410	1398	
1985-003G		15475	USSR	15 JAN	114.7	82.6	1469	1411	
1985-004A	MOLNIYA 3-23	15476	USSR	16 JAN	717.5	64.7	39587	755	
1985-004D		15481	USSR	16 JAN	731.7	64.9	40036	1000	
1985-006A	COSMOS 1624	15482	USSR	17 JAN	100.6	74.0	798	777	
1985-006B		15483	USSR	17 JAN	100.5	74.0	794	765	
1985-006C		15490	USSR	17 JAN	100.2	74.0	770	768	
1985-006D		15491	USSR	17 JAN	100.7	74.0	805	776	
1985-007A	GORIZONT 11	15484	USSR	18 JAN	1435.6	6.2	35796	35755	
1985-007D		15487	USSR	18 JAN	1397.8	5.9	35111	34954	
1985-007F		15489	USSR	18 JAN	310.5	46.9	17458	161	
1985-009A	COSMOS 1626	15494	USSR	24 JAN	96.8	82.5	617	592	
1985-009B		15495	USSR	24 JAN	97.3	82.5	645	616	
1985-010B		15543	US	24 JAN	NO ELEMENTS AVAILABLE				
1985-010C		15544	US	24 JAN	NO ELEMENTS AVAILABLE				
1985-010D		15545	US	24 JAN	NO ELEMENTS AVAILABLE				
1985-011A	COSMOS 1627	15505	USSR	01 FEB	104.8	82.9	1015	951	
1985-011B		15506	USSR	01 FEB	104.7	82.9	1005	950	
1985-013A	METEOR 2-12	15516	USSR	06 FEB	103.9	82.5	955	932	
1985-013B		15517	USSR	06 FEB	103.9	82.5	954	935	
1985-014A		15546	US	08 FEB	NO ELEMENTS AVAILABLE				
1985-014B		15547	US	08 FEB	NO ELEMENTS AVAILABLE				
1985-015A	ARABSAT 1	15560	SA	08 FEB	1437.0	2.3	35829	35779	
1985-015B	SBTS 1	15561	BRAZIL	08 FEB	1436.2	0.0	35793	35783	
1985-015C		15562	ESA	08 FEB	575.3	7.0	32762	308	
1985-016A	COSMOS 1629	15574	USSR	21 FEB	1435.0	6.3	35783	35746	
1985-016F		15581	USSR	21 FEB	1448.7	6.4	36141	35924	
1985-020A	COSMOS 1633	15592	USSR	05 MAR	96.8	82.5	614	596	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1985-020B		15593	USSR	05 MAR	97.3	82.5	640	620	
1985-021A	GEOSAT	15595	US	13 MAR	100.4	108.1	780	775	
1985-021B		15596	US	13 MAR	100.2	108.1	794	745	
1985-021D		15614	US	13 MAR	99.3	108.2	742	709	
1985-021E		15615	US	13 MAR	100.4	107.8	814	737	
1985-021F		15616	US	13 MAR	100.3	107.5	842	700	
1985-022A	COSMOS 1634	15597	USSR	14 MAR	104.7	82.9	1007	954	
1985-022B		15598	USSR	14 MAR	104.6	82.9	993	958	
1985-023A	COSMOS 1635	15617	USSR	21 MAR	115.8	74.1	1510	1472	
1985-023B	COSMOS 1636	15618	USSR	21 MAR	115.6	74.0	1492	1472	
1985-023C	COSMOS 1637	15619	USSR	21 MAR	115.4	74.1	1486	1462	
1985-023D	COSMOS 1638	15620	USSR	21 MAR	115.2	74.0	1479	1453	
1985-023E	COSMOS 1639	15621	USSR	21 MAR	115.1	74.1	1478	1438	
1985-023F	COSMOS 1640	15622	USSR	21 MAR	114.9	74.1	1478	1424	
1985-023G	COSMOS 1641	15623	USSR	21 MAR	114.8	74.1	1478	1409	
1985-023H	COSMOS 1642	15624	USSR	21 MAR	114.6	74.1	1476	1396	
1985-023J		15625	USSR	21 MAR	118.0	74.0	1708	1474	
1985-024A	EKRAN 14	15626	USSR	22 MAR	1519.1	7.4	37471	37320	
1985-024D		15630	USSR	22 MAR	1422.5	7.0	35575	35466	
1985-025A	INTELSAT VF10	15629	ITSO	22 MAR	1436.1	0.9	35812	35763	
1985-025B		15631	US	22 MAR	297.7	23.0	16571	207	
1985-028B	ANIK C1	15642	CANADA	13 APR	1436.1	0.0	35788	35781	
1985-028C	SYNCOM IV-3	15643	US	12 APR	1436.0	3.7	35802	35771	
1985-028D		15644	US	13 APR	590.1	22.8	33535	319	
1985-028E		16229	US	12 APR	273.8	26.9	14827	352	
1985-035A	GSTAR 1	15677	US	08 MAY	1436.0	0.0	35788	35784	
1985-035B	TELECOM 1B	15678	FRANCE	08 MAY	1434.5	4.8	35771	35738	
1985-035C		15679	ESA	08 MAY	463.5	6.9	26643	280	
1985-035D		15680	ESA	08 MAY	304.9	6.6	16451	801	
1985-037A	COSMOS 1650	15697	USSR	17 MAY	675.7	64.8	19172	19086	
1985-037B	COSMOS 1651	15698	USSR	17 MAY	675.6	64.8	19147	19108	
1985-037C	COSMOS 1652	15699	USSR	17 MAY	675.8	64.9	19153	19110	
1985-037F		15702	USSR	17 MAY	675.0	64.9	19167	19056	
1985-037G		15714	USSR	17 MAY	333.4	52.0	18751	349	
1985-037H		15715	USSR	17 MAY	330.2	52.1	18547	344	
1985-040A	MOLNIYA 3-24	15738	USSR	29 MAY	718.1	64.1	39076	1291	
1985-040D		15741	USSR	29 MAY	732.2	64.4	39557	1507	
1985-041A	COSMOS 1655	15751	USSR	30 MAY	105.0	82.9	1013	972	
1985-041B		15752	USSR	30 MAY	104.9	82.9	1007	969	
1985-042A	COSMOS 1656	15755	USSR	30 MAY	101.4	71.1	854	800	
1985-042D		15772	USSR	30 MAY	101.4	71.1	852	798	
1985-042E		15773	USSR	30 MAY	101.1	66.6	837	783	
1985-042F		15774	USSR	30 MAY	101.2	66.6	831	800	
1985-042G		18764	USSR	30 MAY	100.1	66.6	841	683	
1985-042H		18765	USSR	30 MAY	101.1	66.6	820	803	
1985-042J		18766	USSR	30 MAY	102.5	66.6	937	817	
1985-042K		18767	USSR	30 MAY	104.2	66.6	1093	824	
1985-042L		18819	USSR	30 MAY	101.7	66.6	887	795	
1985-045A	COSMOS 1658	15808	USSR	11 JUN	717.7	65.5	36898	3450	
1985-045D		15811	USSR	11 JUN	709.2	65.9	36898	3033	
1985-047A	COSMOS 1660	15821	USSR	14 JUN	116.0	73.6	1522	1480	
1985-047B		15822	USSR	14 JUN	116.0	73.6	1518	1479	
1985-048B	MORELOS A	15824	MEXICO	17 JUN	1436.1	0.0	35799	35775	
1985-048C	ARABSAT 1B	15825	SA	18 JUN	1435.1	1.5	35788	35746	
1985-048D	TELSTAR 3D	15826	US	19 JUN	1436.1	0.0	35792	35781	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1985-048F		15832	US	17 JUN	624.6	25.4	35288	365	
1985-048G		15836	US	18 JUN	618.1	26.9	34928	388	
1985-048H		15837	US	18 JUN	651.2	26.0	36620	396	
1985-049A	COSMOS 1661	15827	USSR	18 JUN	718.0	67.4	36459	3907	
1985-049D		15830	USSR	18 JUN	724.8	67.8	36950	3747	
1985-055A	INTELSAT VA F11	15873	ITSO	30 JUN	1436.1	0.4	35811	35764	
1985-055B		15874	US	30 JUN	542.0	23.3	30996	288	
1985-056A	GIOTTO	15875	ESA	02 JUL	HELIOCENTRIC ORBIT				
1985-056B		15876	ESA	02 JUL	498.2	8.1	28592	288	
1985-056C		17255	ESA	02 JUL	598.8	8.5	33993	314	
1985-056D		17325	ESA	02 JUL	543.2	7.5	31071	280	
1985-056E		17332	ESA	02 JUL	392.0	7.7	22409	318	
1985-058A	COSMOS 1666	15889	USSR	08 JUL	96.9	82.5	624	594	
1985-058B		15890	USSR	08 JUL	97.4	82.5	649	616	
1985-058C		19241	USSR	08 JUL	96.5	82.5	608	577	
1985-061A	MOLNIYA 3-25	15909	USSR	17 JUL	713.2	64.6	38510	1618	
1985-061D		15916	USSR	17 JUL	737.8	64.5	39698	1640	
1985-064A	COSMOS 1670	15930	USSR	01 AUG	104.1	64.9	1010	890	
1985-066A	NNSS 30300	15935	US	03 AUG	107.9	89.9	1256	998	
1985-066B	NNSS 30240	15936	US	03 AUG	107.9	89.9	1257	997	
1985-066C		15938	US	03 AUG	107.9	89.9	1257	998	
1985-066D		15950	US	03 AUG	106.6	89.9	1175	959	
1985-066E		15951	US	03 AUG	106.7	89.9	1185	966	
1985-066F		16020	US	03 AUG	107.5	90.2	1216	1007	
1985-066G		17164	US	03 AUG	108.2	89.3	1299	983	
1985-066H		21878	US	03 AUG	107.8	89.9	1251	996	
1985-069A	COSMOS 1674	15944	USSR	08 AUG	96.9	82.5	620	595	
1985-069B		15945	USSR	08 AUG	97.3	82.5	645	617	
1985-070A	RADUGA 16	15946	USSR	08 AUG	1434.6	5.9	35773	35740	
1985-070F		15963	USSR	08 AUG	1472.4	6.1	36539	36446	
1985-071A	COSMOS 1675	15952	USSR	12 AUG	717.7	67.4	36958	3393	
1985-071D		15955	USSR	12 AUG	708.2	67.3	36615	3267	
1985-073A	PLANET A	15967	JAPAN	18 AUG	HELIOCENTRIC ORBIT				
1985-073C		15969	JAPAN	18 AUG	HELIOCENTRIC ORBIT				
1985-074A	MOLNIYA 1-64	15977	USSR	22 AUG	717.8	64.7	38350	2003	
1985-074D		15983	USSR	22 AUG	732.4	65.0	38968	2104	
1985-075A	COSMOS 1677	15986	USSR	23 AUG	103.9	64.7	992	889	
1985-076B	AUSSAT 1	15993	AUSTRL	27 AUG	1436.2	0.0	35800	35774	
1985-076C	ASC 1	15994	US	27 AUG	1436.0	0.0	35807	35765	
1985-076D	SYNCOM IV-4	15995	US	29 AUG	1438.2	3.3	35842	35816	
1985-076E		15996	US	27 AUG	629.4	26.3	35518	384	
1985-076F		16001	US	29 AUG	277.1	27.4	15030	373	
1985-076G		16007	US	29 AUG	627.7	27.0	35415	395	
1985-077K		18608	USSR	29 AUG	100.2	74.1	777	756	
1985-079A	COSMOS 1680	16011	USSR	04 SEP	100.6	74.1	798	775	
1985-079B		16012	USSR	04 SEP	100.5	74.1	791	768	
1985-079C		17754	USSR	04 SEP	100.6	74.0	803	772	
1985-084A	COSMOS 1684	16064	USSR	24 SEP	718.4	66.0	36307	4076	
1985-084D		16070	USSR	24 SEP	705.9	66.5	36021	3748	
1985-087A	INTELSAT VA F-12	16101	ITSO	29 SEP	1436.1	0.0	35811	35765	
1985-087B		16102	US	29 SEP	493.5	23.4	28345	269	
1985-088A	COSMOS 1687	16103	USSR	30 SEP	716.8	67.6	36308	3995	
1985-088D		16106	USSR	30 SEP	703.6	67.5	35969	3683	
1985-090A	COSMOS 1689	16110	USSR	03 OCT	95.1	97.6	546	499	
1985-090B		16111	USSR	03 OCT	96.4	97.6	620	549	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1985-091A	MOLNIYA 3-26	16112	USSR	03 OCT	719.2	64.6	38616	1806	
1985-091D		16125	USSR	03 OCT	734.0	64.7	39195	1954	
1985-092B		16116	US	03 OCT	NO ELEMENTS AVAILABLE				
1985-092C		16117	US	03 OCT	NO ELEMENTS AVAILABLE				
1985-092D		16118	US	03 OCT	NO ELEMENTS AVAILABLE				
1985-092E		16119	US	03 OCT	NO ELEMENTS AVAILABLE				
1985-093A		16129	US	09 OCT	718.0	64.5	20528	19835	
1985-093B		16137	US	09 OCT	368.2	64.1	20109	1169	
1985-094A	COSMOS 1690	16138	USSR	09 OCT	113.7	82.6	1414	1377	
1985-094B	COSMOS 1691	16139	USSR	09 OCT	114.0	82.6	1414	1408	
1985-094C	COSMOS 1692	16140	USSR	09 OCT	113.8	82.6	1415	1385	
1985-094D	COSMOS 1693	16141	USSR	09 OCT	113.8	82.6	1415	1389	
1985-094E	COSMOS 1694	16142	USSR	09 OCT	113.9	82.6	1415	1394	
1985-094F	COSMOS 1695	16143	USSR	09 OCT	114.0	82.6	1415	1401	
1985-094G		16144	USSR	09 OCT	114.7	82.6	1469	1412	
1985-094K		16266	USSR	09 OCT	114.0	82.6	1422	1393	
1985-094L		16267	USSR	09 OCT	112.8	82.6	1399	1306	
1985-094M		16268	USSR	09 OCT	114.9	82.7	1510	1391	
1985-094N		16269	USSR	09 OCT	114.1	82.6	1424	1401	
1985-094P		16270	USSR	09 OCT	113.7	82.7	1600	1190	
1985-094Q		16271	USSR	09 OCT	114.0	82.6	1414	1402	
1985-094R		16272	USSR	09 OCT	113.4	82.6	1416	1346	
1985-094S		17168	USSR	09 OCT	112.9	82.6	1391	1331	
1985-094T		18282	USSR	09 OCT	113.7	82.6	1399	1393	
1985-094U		18777	USSR	09 OCT	114.0	82.6	1412	1410	
1985-094V		19111	USSR	09 OCT	113.8	82.6	1403	1393	
1985-097A	COSMOS 1697	16181	USSR	22 OCT	101.9	71.0	852	843	
1985-097B		16182	USSR	22 OCT	101.7	71.0	844	835	
1985-097C		16389	USSR	22 OCT	104.7	71.0	1123	842	
1985-097D		16390	USSR	22 OCT	105.1	71.0	1152	841	
1985-097E		16391	USSR	22 OCT	104.7	71.0	1123	839	
1985-097F		16392	USSR	22 OCT	104.9	71.0	1138	839	
1985-098A	COSMOS 1698	16183	USSR	22 OCT	717.8	67.1	36371	3986	
1985-098D		16186	USSR	22 OCT	707.9	67.0	36049	3816	
1985-099A	MOLNIYA 1-65	16187	USSR	23 OCT	717.5	64.6	38994	1347	
1985-099E		16197	USSR	23 OCT	698.0	64.6	37979	1396	
1985-100A	METEOR 3	16191	USSR	24 OCT	109.3	82.5	1208	1178	
1985-100B		16194	USSR	24 OCT	110.2	82.5	1246	1222	
1985-102A	COSMOS 1700	16199	USSR	25 OCT	1436.8	5.5	35857	35741	
1985-102D		16214	USSR	25 OCT	1430.9	5.4	35764	35605	
1985-103A	MOLNIYA 1-66	16220	USSR	28 OCT	717.6	64.0	38795	1549	
1985-103D		16223	USSR	28 OCT	701.1	64.4	37790	1737	
1985-105A	COSMOS 1701	16235	USSR	09 NOV	717.8	67.2	36961	3395	
1985-105D		16243	USSR	09 NOV	706.2	67.3	36776	3005	
1985-107A	RADUGA 17	16250	USSR	15 NOV	1437.5	5.6	35864	35762	
1985-107F		16339	USSR	15 NOV	1477.1	5.8	36662	36506	
1985-108A	COSMOS 1703	16262	USSR	22 NOV	96.9	82.5	622	597	
1985-108B		16263	USSR	22 NOV	97.4	82.5	648	619	
1985-109B	MORELOS B	16274	MEXICO	27 NOV	1436.1	0.0	35795	35778	
1985-109C	AUSSAT 2	16275	AUSTRL	27 NOV	1435.7	0.2	35787	35770	
1985-109D	SATCOM KU2	16276	US	28 NOV	1436.2	0.0	35795	35780	
1985-109F		16293	US	27 NOV	636.8	26.2	35889	389	
1985-109G		16294	US	27 NOV	633.4	26.5	35713	390	
1985-109H		16295	US	28 NOV	616.2	26.5	34816	400	
1985-110A	COSMOS 1704	16291	USSR	28 NOV	104.7	82.9	1006	958	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1985-110B		16292	USSR	28 NOV	104.6	82.9	998	951	
1985-113A	COSMOS 1707	16326	USSR	12 DEC	96.9	82.5	622	598	
1985-113B		16327	USSR	12 DEC	97.4	82.5	646	619	
1985-116A	COSMOS 1709	16368	USSR	19 DEC	104.8	82.9	1008	957	
1985-116B		16369	USSR	19 DEC	104.6	82.9	1003	948	
1985-117A	MOLNIYA 3-27	16393	USSR	24 DEC	712.9	64.4	38623	1490	
1985-117F		16402	USSR	24 DEC	732.6	64.3	39529	1555	
1985-118A	COSMOS 1710	16396	USSR	24 DEC	675.7	66.3	19147	19111	
1985-118B	COSMOS 1711	16397	USSR	24 DEC	675.7	66.1	19160	19100	
1985-118C	COSMOS 1712	16398	USSR	24 DEC	676.3	66.2	19156	19131	
1985-118F		16404	USSR	24 DEC	675.5	66.3	19174	19075	
1985-118K		16445	USSR	24 DEC	340.3	64.9	19056	477	
1985-118L		16446	USSR	24 DEC	339.8	64.9	19066	440	
1985-118M		21960	USSR	24 DEC	330.6	64.8	18430	491	
1985-119A	METEOR 2-13	16408	USSR	26 DEC	103.9	82.5	957	931	
1985-119B		16409	USSR	26 DEC	104.0	82.5	957	933	
1986 LAUNCHES									
1986-002A	COSMOS 1716	16449	USSR	09 JAN	115.5	74.0	1489	1462	
1986-002B	COSMOS 1717	16450	USSR	09 JAN	115.8	74.0	1511	1473	
1986-002C	COSMOS 1718	16451	USSR	09 JAN	115.6	74.0	1493	1473	
1986-002D	COSMOS 1719	16452	USSR	09 JAN	115.3	74.0	1482	1453	
1986-002E	COSMOS 1720	16453	USSR	09 JAN	115.1	74.0	1482	1438	
1986-002F	COSMOS 1721	16454	USSR	09 JAN	114.9	74.0	1481	1424	
1986-002G	COSMOS 1722	16455	USSR	09 JAN	114.8	74.0	1482	1410	
1986-002H	COSMOS 1723	16456	USSR	09 JAN	114.6	74.0	1480	1397	
1986-002J		16457	USSR	09 JAN	117.9	74.0	1693	1479	
1986-003B	SATCOM KU1	16482	US	12 JAN	1436.2	0.0	35796	35780	
1986-003C		16483	US	12 JAN	614.7	26.8	34829	311	
1986-005A	COSMOS 1725	16493	USSR	17 JAN	104.8	82.9	998	967	
1986-005B		16494	USSR	17 JAN	104.6	82.9	989	962	
1986-006A	COSMOS 1726	16495	USSR	17 JAN	96.8	82.5	617	592	
1986-006B		16496	USSR	17 JAN	97.3	82.5	646	615	
1986-007A	RADUGA 18	16497	USSR	17 JAN	1457.3	5.4	36494	35908	
1986-007E		16501	USSR	17 JAN	647.7	47.0	36585	252	
1986-007F		16870	USSR	17 JAN	1472.4	5.7	36618	36371	
1986-008A	COSMOS 1727	16510	USSR	23 JAN	104.8	82.9	1011	956	
1986-008B		16511	USSR	23 JAN	104.7	82.9	996	961	
1986-010A	PRC 18	16526	PRC	01 FEB	1437.0	4.3	35832	35778	
1986-010B		16528	PRC	01 FEB	627.0	30.8	35292	481	
1986-011A	COSMOS 1729	16527	USSR	01 FEB	718.1	65.4	36571	3796	
1986-011F		16533	USSR	01 FEB	705.7	65.7	36163	3594	
1986-014A		16591	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014B		16592	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014C		16622	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014D		16623	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014E		16624	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014F		16625	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014G		16630	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-014H		16631	US	09 FEB	NO ELEMENTS AVAILABLE				
1986-015A	COSMOS 1732	16593	USSR	11 FEB	116.0	73.6	1523	1478	
1986-015B		16594	USSR	11 FEB	115.9	73.6	1519	1477	
1986-016A	BS-2B	16597	JAPAN	12 FEB	1450.4	2.5	36147	35983	
1986-016C		16600	JAPAN	12 FEB	367.0	28.2	20976	228	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1986-017A	MIR	16609	USSR	19 FEB	92.4	51.6	395	388	
1986-017AA TO017HG			USSR	19 FEB	SEE NOTE		39*		39*
1986-018A	COSMOS 1733	16611	USSR	19 FEB	96.8	82.5	621	593	
1986-018B		16612	USSR	19 FEB	97.3	82.5	645	615	
1986-019A	SPOT 1	16613	FRANCE	22 FEB	101.3	98.7	823	821	
1986-019B	VIKING	16614	SWEDEN	22 FEB	261.6	98.8	13542	796	
1986-019C TO 019VL			ESA	22 FEB	SEE NOTE		30*		30*
1986-022C		16863	USSR	13 MAR	89.5	51.6	253	244	
1986-024A	COSMOS 1736	16647	USSR	21 MAR	104.4	65.0	998	933	
1986-024E		16809	USSR	21 MAR	104.2	65.0	982	932	
1986-026A	GSTAR 2	16649	US	28 MAR	1436.0	0.0	35792	35781	
1986-026B	SBTS 2	16650	BRAZIL	28 MAR	1436.2	0.0	35792	35782	
1986-026C		16657	ESA	28 MAR	650.5	6.9	36566	418	
1986-026E		17253	ESA	28 MAR	537.3	8.6	30480	547	
1986-026F		17254	ESA	28 MAR	532.4	8.1	30242	522	
1986-027A	COSMOS 1738	16667	USSR	04 APR	1435.4	5.3	35825	35722	
1986-027F		16676	USSR	04 APR	1474.1	5.5	36691	36361	
1986-030A	COSMOS 1741	16681	USSR	18 APR	100.6	74.0	801	773	
1986-030B		16682	USSR	18 APR	100.5	74.0	791	770	
1986-030C		17842	USSR	18 APR	100.7	74.0	806	778	
1986-030D		17843	USSR	18 APR	100.7	74.0	804	778	
1986-030E		18274	USSR	18 APR	100.1	74.1	794	734	
1986-030F		18526	USSR	18 APR	100.2	74.0	771	765	
1986-030G		18681	USSR	18 APR	100.7	74.0	807	778	
1986-030H		19235	USSR	18 APR	103.9	74.0	949	939	
1986-031A	MOLNIYA 3-28	16683	USSR	18 APR	717.8	64.7	38817	1538	
1986-031D		16686	USSR	18 APR	733.4	64.9	39366	1758	
1986-034A	COSMOS 1743	16719	USSR	15 MAY	96.9	82.6	623	594	
1986-034B		16720	USSR	15 MAY	97.4	82.6	649	615	
1986-037A	COSMOS 1745	16727	USSR	23 MAY	104.8	83.0	1006	961	
1986-037B		16728	USSR	23 MAY	104.6	83.0	998	955	
1986-038A	EKRAN 15	16729	USSR	24 MAY	1491.6	6.3	36930	36800	
1986-038D		16732	USSR	24 MAY	1420.6	6.0	35553	35410	
1986-038E		16733	USSR	24 MAY	254.4	47.9	13280	559	
1986-039A	METEOR 2-14	16735	USSR	27 MAY	103.9	82.5	955	934	
1986-039B		16736	USSR	27 MAY	104.0	82.5	954	936	
1986-042A	COSMOS 1748	16758	USSR	06 JUN	115.1	74.0	1468	1451	
1986-042B	COSMOS 1749	16759	USSR	06 JUN	114.4	74.0	1467	1391	
1986-042C	COSMOS 1750	16760	USSR	06 JUN	114.6	74.0	1468	1406	
1986-042D	COSMOS 1751	16761	USSR	06 JUN	115.6	74.0	1503	1465	
1986-042E	COSMOS 1752	16762	USSR	06 JUN	115.4	74.0	1484	1466	
1986-042F	COSMOS 1753	16763	USSR	06 JUN	115.3	74.0	1475	1459	
1986-042G	COSMOS 1754	16764	USSR	06 JUN	114.9	74.0	1468	1435	
1986-042H	COSMOS 1755	16765	USSR	06 JUN	114.8	74.0	1468	1421	
1986-042J		16766	USSR	06 JUN	117.7	74.0	1681	1470	
1986-044A	GORIZONT 12	16769	USSR	10 JUN	1435.4	5.0	36051	35495	
1986-044F		16797	USSR	10 JUN	1474.4	5.2	37018	36047	
1986-046A	COSMOS 1758	16791	USSR	12 JUN	97.1	82.5	638	602	
1986-046B		16792	USSR	12 JUN	97.4	82.5	652	614	
1986-047A	COSMOS 1759	16798	USSR	18 JUN	104.7	82.9	999	962	
1986-047B		16799	USSR	18 JUN	104.6	82.9	1022	926	
1986-049A	MOLNIYA 3-29	16802	USSR	19 JUN	718.5	64.7	38773	1615	
1986-049D		16805	USSR	19 JUN	733.1	65.1	39385	1721	
1986-050A	COSMOS 1761	16849	USSR	05 JUL	718.9	66.9	36577	3830	
1986-050D		16854	USSR	05 JUL	710.0	67.0	36329	3642	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1986-052A	COSMOS 1763	16860	USSR	16 JUL	100.3	74.0	794	749	
1986-052B		16864	USSR	16 JUL	100.2	74.0	793	743	
1986-052C		16865	USSR	16 JUL	99.3	74.0	746	706	
1986-052D		16866	USSR	16 JUL	99.3	74.0	742	703	
1986-052E		16867	USSR	16 JUL	99.6	74.0	758	718	
1986-055A	COSMOS 1766	16881	USSR	28 JUL	97.0	82.5	628	604	
1986-055B		16882	USSR	28 JUL	97.4	82.5	648	619	
1986-057A	MOLNIYA 1-67	16885	USSR	30 JUL	717.8	64.7	38677	1677	
1986-057D		16889	USSR	30 JUL	731.6	65.0	39390	1644	
1986-061A	EGP	16908	JAPAN	12 AUG	115.7	50.0	1500	1476	
1986-061B	JAS-1	16909	JAPAN	12 AUG	115.7	50.0	1497	1479	
1986-061C		16910	JAPAN	12 AUG	116.9	50.0	1595	1483	
1986-062A	COSMOS 1771	16917	USSR	20 AUG	104.2	65.0	1004	905	
1986-062C		17035	USSR	20 AUG	103.8	65.0	980	900	
1986-065A	COSMOS 1774	16922	USSR	28 AUG	719.0	65.0	37053	3361	
1986-065D		16925	USSR	28 AUG	707.0	65.4	36533	3287	
1986-068A	MOLNIYA 1-68	16934	USSR	05 SEP	717.8	64.6	38391	1965	
1986-068D		16939	USSR	05 SEP	731.3	64.8	38807	2210	
1986-070A	COSMOS 1777	16952	USSR	10 SEP	100.6	74.0	803	768	
1986-070B		16953	USSR	10 SEP	100.4	74.0	784	767	
1986-071A	COSMOS 1778	16961	USSR	16 SEP	675.8	64.8	19179	19084	
1986-071B	COSMOS 1779	16962	USSR	16 SEP	675.7	64.9	19138	19119	
1986-071C	COSMOS 1780	16963	USSR	16 SEP	675.7	64.8	19152	19106	
1986-071F		16968	USSR	16 SEP	675.2	64.8	19146	19086	
1986-073A	NOAA 10	16969	US	17 SEP	101.0	98.5	817	800	
1986-073B		16982	US	17 SEP	96.6	98.6	598	596	
1986-074A	COSMOS 1782	16986	USSR	30 SEP	97.0	82.5	631	603	
1986-074B		16987	USSR	30 SEP	97.4	82.5	648	619	
1986-075A	COSMOS 1783	16993	USSR	03 OCT	358.0	63.8	19333	1314	
1986-075D		16996	USSR	03 OCT	357.0	63.7	19300	1282	
1986-078A	COSMOS 1785	17031	USSR	15 OCT	718.9	67.1	37094	3318	
1986-078D		17037	USSR	15 OCT	707.6	67.5	36841	3008	
1986-079A	MOLNIYA 3-30	17038	USSR	20 OCT	716.3	65.0	38461	1821	
1986-079D		17041	USSR	20 OCT	699.0	64.8	37809	1614	
1986-082A	RADUGA 19	17046	USSR	25 OCT	1436.1	4.8	35793	35777	
1986-082D		17052	USSR	25 OCT	637.1	45.9	36043	252	
1986-082E		17053	USSR	25 OCT	101.8	46.4	1551	132	
1986-082F		17065	USSR	25 OCT	1475.4	4.9	36670	36436	
1986-086A	COSMOS 1791	17066	USSR	13 NOV	104.7	82.9	1010	947	
1986-086B		17067	USSR	13 NOV	104.5	82.9	998	947	
1986-086C		18552	USSR	13 NOV	103.7	82.9	954	911	
1986-088A	POLAR BEAR	17070	US	14 NOV	104.8	89.6	1013	955	
1986-088B		17071	US	14 NOV	104.8	89.6	1012	954	
1986-088C		18426	US	14 NOV	105.1	89.1	1047	948	
1986-088D		18525	US	14 NOV	104.2	89.8	959	954	
1986-089A	MOLNIYA 1-69	17078	USSR	15 NOV	716.7	64.0	38772	1527	
1986-089D		17081	USSR	15 NOV	735.8	63.8	39337	1902	
1986-090A	GORIZONT 13	17083	USSR	18 NOV	1488.8	4.7	36880	36743	
1986-090D		17125	USSR	18 NOV	1437.6	4.6	35857	35776	
1986-090F		17149	USSR	18 NOV	632.9	47.3	35812	268	
1986-091A	COSMOS 1793	17134	USSR	20 NOV	718.6	67.1	37082	3311	
1986-091D		17147	USSR	20 NOV	705.9	67.6	36637	3127	
1986-092A	COSMOS 1794	17138	USSR	21 NOV	115.6	74.0	1498	1464	
1986-092B	COSMOS 1795	17139	USSR	21 NOV	115.4	74.0	1480	1464	
1986-092C	COSMOS 1796	17140	USSR	21 NOV	115.2	74.0	1476	1452	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1986-092D	COSMOS 1797	17141	USSR	21 NOV	115.0	74.0	1470	1442	
1986-092E	COSMOS 1798	17142	USSR	21 NOV	114.8	74.0	1470	1427	
1986-092F	COSMOS 1799	17143	USSR	21 NOV	114.7	74.0	1469	1412	
1986-092G	COSMOS 1800	17144	USSR	21 NOV	114.5	74.0	1470	1397	
1986-092H	COSMOS 1801	17145	USSR	21 NOV	114.4	74.0	1469	1383	
1986-092J		17146	USSR	21 NOV	117.6	74.0	1665	1482	
1986-093A	COSMOS 1802	17159	USSR	24 NOV	104.9	82.9	1021	956	
1986-093B		17160	USSR	24 NOV	104.8	82.9	1013	953	
1986-094A	COSMOS 1803	17177	USSR	02 DEC	115.9	82.6	1501	1493	
1986-094B		17178	USSR	02 DEC	115.9	82.6	1497	1492	
1986-094C		20284	USSR	02 DEC	117.3	83.2	1734	1385	
1986-096A		17181	US	05 DEC	1436.2	0.7	35853	35723	
1986-097A	COSMOS 1805	17191	USSR	10 DEC	96.9	82.5	622	599	
1986-097B		17192	USSR	10 DEC	97.3	82.5	646	617	
1986-098A	COSMOS 1806	17213	USSR	12 DEC	718.6	65.2	36601	3795	
1986-098D		17216	USSR	12 DEC	705.8	65.6	36236	3527	
1986-100A	COSMOS 1808	17239	USSR	17 DEC	105.0	82.9	1016	967	
1986-100B		17240	USSR	17 DEC	104.8	82.9	1009	962	
1986-100C		18545	USSR	17 DEC	104.1	82.9	968	932	
1986-101A	COSMOS 1809	17241	USSR	18 DEC	104.1	82.5	962	937	
1986-101B		17242	USSR	18 DEC	104.1	82.5	962	938	
1986-101C		17268	USSR	18 DEC	103.7	82.6	955	906	
1986-101D		17269	USSR	18 DEC	104.1	82.6	965	940	
1986-101E		17270	USSR	18 DEC	103.9	82.4	946	943	
1986-101F		17271	USSR	18 DEC	103.4	82.4	941	897	
1986-101G		17272	USSR	18 DEC	103.3	82.5	923	902	
1986-101H		17273	USSR	18 DEC	103.2	82.5	921	898	
1986-101J		17274	USSR	18 DEC	104.1	82.5	978	925	
1986-101K		17844	USSR	18 DEC	103.2	82.5	927	896	
1986-101L		18680	USSR	18 DEC	103.3	82.5	925	902	
1986-103A	MOLNIYA 1-70	17264	USSR	26 DEC	717.7	64.1	39334	1016	
1986-103D		17267	USSR	26 DEC	698.8	64.4	38274	1141	
1987 LAUNCHES									
1987-001A	METEOR 2-15	17290	USSR	05 JAN	104.0	82.5	956	935	
1987-001B		17291	USSR	05 JAN	104.0	82.5	955	936	
1987-003A	COSMOS 1812	17295	USSR	14 JAN	96.9	82.5	624	597	
1987-003B		17296	USSR	14 JAN	97.4	82.5	647	618	
1987-004GR		18273	USSR	15 JAN	90.4	72.8	321	265	
1987-006A	COSMOS 1814	17303	USSR	21 JAN	100.5	74.1	799	762	
1987-006B		17304	USSR	21 JAN	100.4	74.1	795	756	
1987-006C		18257	USSR	21 JAN	100.1	74.0	767	758	
1987-008A	MOLNIYA 3-31	17328	USSR	22 JAN	717.7	63.8	39057	1291	
1987-008D		17333	USSR	22 JAN	730.7	64.0	39470	1521	
1987-009A	COSMOS 1816	17359	USSR	29 JAN	104.8	82.9	1006	960	
1987-009B		17360	USSR	29 JAN	104.6	82.9	1000	951	
1987-011A	COSMOS 1818	17369	USSR	01 FEB	100.6	65.0	801	777	
1987-012B		17481	JAPAN	05 FEB	93.7	31.1	487	418	
1987-015A		17506	US	12 FEB	NO ELEMENTS AVAILABLE				
1987-015B		17507	US	12 FEB	NO ELEMENTS AVAILABLE				
1987-017A	COSMOS 1821	17525	USSR	18 FEB	104.8	82.9	1012	958	
1987-017B		17526	USSR	18 FEB	104.6	82.9	1005	946	
1987-018A	MOS-1	17527	JAPAN	19 FEB	103.2	99.1	909	907	
1987-018B		17528	JAPAN	19 FEB	99.8	97.4	868	625	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1987-020A	COSMOS 1823	17535	USSR	20 FEB	116.0	73.6	1522	1477	
1987-020B TO 020DQ			USSR	20 FEB	SEE NOTE		31*		31*
1987-022A	GOES 7	17561	US	26 FEB	1436.1	0.7	35809	35767	
1987-022B		17562	US	26 FEB	89.7	21.7	342	179	
1987-022C		17563	US	26 FEB	605.5	17.4	34369	292	
1987-024A	COSMOS 1825	17566	USSR	03 MAR	96.9	82.5	619	596	
1987-024B		17567	USSR	03 MAR	97.3	82.5	645	618	
1987-026A	COSMOS 1827	17582	USSR	13 MAR	113.8	82.6	1408	1393	
1987-026B	COSMOS 1828	17583	USSR	13 MAR	113.7	82.6	1408	1382	
1987-026C	COSMOS 1829	17584	USSR	13 MAR	114.0	82.6	1412	1408	
1987-026D	COSMOS 1830	17585	USSR	13 MAR	113.9	82.6	1408	1405	
1987-026E	COSMOS 1831	17586	USSR	13 MAR	113.8	82.6	1408	1389	
1987-026F	COSMOS 1832	17587	USSR	13 MAR	113.9	82.6	1408	1398	
1987-026G		17588	USSR	13 MAR	114.6	82.6	1468	1408	
1987-027A	COSMOS 1833	17589	USSR	18 MAR	101.9	70.9	854	844	
1987-027B		17590	USSR	18 MAR	101.7	71.0	841	834	
1987-027C		18416	USSR	18 MAR	104.7	71.0	1119	841	
1987-027D		18417	USSR	18 MAR	104.9	71.0	1142	839	
1987-027E		18527	USSR	18 MAR	104.8	71.0	1132	840	
1987-027F		18550	USSR	18 MAR	104.6	71.0	1110	838	
1987-028A	RADUGA 20	17611	USSR	19 MAR	1500.6	4.8	37161	36919	
1987-028D		17705	USSR	19 MAR	1441.8	4.8	35999	35797	
1987-029A	PALAPA B-2P	17706	INDNSA	20 MAR	1436.2	0.1	35791	35787	
1987-030A	KVANT 1	17845	USSR	31 MAR	92.4	51.6	395	388	
1987-036K		21622	USSR	24 APR	141.7	64.7	4343	908	
1987-036L		21623	USSR	24 APR	210.6	62.7	10270	426	
1987-036M		21657	USSR	24 APR	149.7	64.8	4749	1174	
1987-036N		21725	USSR	24 APR	149.1	64.7	4576	1296	
1987-038A	COSMOS 1842	17911	USSR	27 APR	97.0	82.5	630	601	
1987-038B		17912	USSR	27 APR	97.4	82.5	650	617	
1987-040A	GORIZONT 14	17969	USSR	11 MAY	1474.6	6.4	36656	36416	
1987-040D		17972	USSR	11 MAY	1397.9	6.2	35109	34960	
1987-040E		18111	USSR	11 MAY	537.1	46.9	30892	128	
1987-040F		18112	USSR	11 MAY	597.7	47.0	34107	144	
1987-041A	COSMOS 1844	17973	USSR	13 MAY	101.9	70.9	849	845	
1987-041B		17974	USSR	13 MAY	101.6	71.0	844	827	
1987-041C		18410	USSR	13 MAY	105.0	71.0	1144	840	
1987-041D		18411	USSR	13 MAY	104.8	71.0	1125	842	
1987-041E		18412	USSR	13 MAY	104.8	71.0	1128	838	
1987-041F		18476	USSR	13 MAY	105.0	71.0	1151	840	
1987-043A		17997	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043B		17998	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043C		18007	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043D		18008	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043E		18009	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043F		18010	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043G		18024	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-043H		18025	US	15 MAY	NO ELEMENTS AVAILABLE				
1987-048A	COSMOS 1849	18083	USSR	04 JUN	718.5	67.2	37402	2987	
1987-048D		18086	USSR	04 JUN	706.2	67.3	36884	2898	
1987-049A	COSMOS 1850	18095	USSR	09 JUN	100.6	74.0	797	775	
1987-049B		18096	USSR	09 JUN	100.5	74.0	793	767	
1987-050A	COSMOS 1851	18103	USSR	12 JUN	718.0	64.8	36986	3378	
1987-050D		18106	USSR	12 JUN	707.3	64.8	36548	3287	
1987-051A	COSMOS 1852	18113	USSR	16 JUN	115.6	74.0	1498	1470	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1987-051B	COSMOS 1853	18114	USSR	16 JUN	115.4	74.0	1480	1470	
1987-051C	COSMOS 1854	18115	USSR	16 JUN	115.3	74.0	1478	1457	
1987-051D	COSMOS 1855	18116	USSR	16 JUN	115.1	74.0	1475	1444	
1987-051E	COSMOS 1856	18117	USSR	16 JUN	114.9	74.0	1475	1429	
1987-051F	COSMOS 1857	18118	USSR	16 JUN	114.8	74.0	1475	1415	
1987-051G	COSMOS 1858	18119	USSR	16 JUN	114.6	74.0	1475	1399	
1987-051H	COSMOS 1859	18120	USSR	16 JUN	114.4	74.0	1474	1385	
1987-051J		18121	USSR	16 JUN	117.8	74.0	1685	1475	
1987-052A	COSMOS 1860	18122	USSR	18 JUN	104.0	65.0	993	898	
1987-052D		18241	USSR	18 JUL	103.7	65.0	966	896	
1987-053A		18123	US	20 JUN	101.7	98.8	849	827	
1987-053B		18127	US	20 JUN	99.7	98.7	752	737	
1987-053C		18128	US	20 JUN	98.4	98.7	684	679	
1987-053D		18154	US	20 JUN	97.9	98.7	662	658	
1987-053E		18159	US	20 JUN	99.7	98.7	751	737	
1987-054A	COSMOS 1861	18129	USSR	23 JUN	104.9	82.9	995	981	
1987-054B		18130	USSR	23 JUN	104.6	82.9	990	964	
1987-054C		18131	USSR	23 JUN	105.0	82.9	1015	971	
1987-055A	COSMOS 1862	18152	USSR	01 JUL	97.1	82.5	634	605	
1987-055B		18153	USSR	01 JUL	97.4	82.5	650	615	
1987-057A	COSMOS 1864	18160	USSR	06 JUL	104.6	82.9	998	952	
1987-057B		18161	USSR	06 JUL	104.7	82.9	1002	956	
1987-060A	COSMOS 1867	18187	USSR	10 JUL	100.7	65.0	800	780	
1987-062A	COSMOS 1869	18214	USSR	16 JUL	97.1	82.5	633	602	
1987-062B		18215	USSR	16 JUL	97.4	82.5	651	616	
1987-065C		19033	USSR	01 AUG	115.4	102.1	1500	1445	
1987-068A	METEOR 2-16	18312	USSR	18 AUG	104.0	82.6	956	936	
1987-068B		18313	USSR	18 AUG	104.0	82.6	956	937	
1987-070A	ETS-V	18316	JAPAN	27 AUG	1436.1	1.5	35806	35768	
1987-073A	EKRAN 16	18328	USSR	04 SEP	1492.5	5.0	36904	36863	
1987-073D		18331	USSR	04 SEP	1420.4	4.7	35555	35403	
1987-073E		18332	USSR	04 SEP	460.1	46.5	26485	245	
1987-074A	COSMOS 1875	18334	USSR	07 SEP	113.7	82.6	1406	1384	
1987-074B	COSMOS 1876	18335	USSR	07 SEP	114.0	82.6	1413	1406	
1987-074C	COSMOS 1877	18336	USSR	07 SEP	113.9	82.6	1407	1406	
1987-074D	COSMOS 1878	18337	USSR	07 SEP	113.9	82.6	1406	1400	
1987-074E	COSMOS 1879	18338	USSR	07 SEP	113.8	82.6	1406	1395	
1987-074F	COSMOS 1880	18339	USSR	07 SEP	113.8	82.6	1406	1391	
1987-074G		18340	USSR	07 SEP	114.6	82.6	1470	1407	
1987-078A	AUSSAT K3	18350	AUSTRL	16 SEP	1436.2	0.0	35798	35778	
1987-078B	ECS 4	18351	ESA	16 SEP	1436.1	0.2	35867	35704	
1987-078E		18571	ESA	16 SEP	529.3	7.3	30310	281	
1987-079A	COSMOS 1883	18355	USSR	16 SEP	675.7	65.9	19139	19119	
1987-079B	COSMOS 1884	18356	USSR	16 SEP	675.7	66.0	19153	19105	
1987-079C	COSMOS 1885	18357	USSR	16 SEP	675.7	65.9	19156	19102	
1987-079F		18360	USSR	16 SEP	674.7	66.0	19120	19087	
1987-079G		18374	USSR	16 SEP	339.6	65.3	18893	600	
1987-079H		18375	USSR	16 SEP	339.6	65.3	18856	633	
1987-080A		18361	US	16 SEP	107.1	90.4	1175	1013	
1987-080B		18362	US	16 SEP	107.2	90.4	1177	1013	
1987-080C		18363	US	16 SEP	107.2	90.4	1177	1014	
1987-080E		18365	US	16 SEP	106.9	90.4	1160	1008	
1987-080F		18530	US	16 SEP	106.3	90.4	1117	989	
1987-080G		18561	US	16 SEP	106.9	90.4	1158	1011	
1987-080H		18562	US	16 SEP	107.8	90.2	1263	983	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1987-084A	COSMOS 1888	18384	USSR	01 OCT	1436.1	3.7	35813	35760	
1987-084D		18387	USSR	01 OCT	1439.1	3.7	35965	35726	
1987-087A	COSMOS 1891	18402	USSR	14 OCT	104.8	82.9	1023	949	
1987-087B		18403	USSR	14 OCT	104.6	82.9	1019	934	
1987-088A	COSMOS 1892	18421	USSR	20 OCT	96.9	82.5	621	598	
1987-088B		18422	USSR	20 OCT	97.4	82.5	648	618	
1987-090A		18441	US	26 OCT	NO ELEMENTS AVAILABLE				
1987-091A	COSMOS 1894	18443	USSR	28 OCT	1436.8	3.9	35818	35784	
1987-091D		18446	USSR	28 OCT	1435.5	3.8	35891	35656	
1987-091F		18448	USSR	28 OCT	599.4	46.8	34204	135	
1987-095A	TVSAT 1	18570	FRG	21 NOV	1452.6	4.1	36160	36057	
1987-096A	COSMOS 1897	18575	USSR	26 NOV	1436.1	3.6	35798	35774	
1987-096D		18578	USSR	26 NOV	1432.0	3.5	35799	35613	
1987-097A		18583	US	29 NOV	NO ELEMENTS AVAILABLE				
1987-097B		18584	US	29 NOV	NO ELEMENTS AVAILABLE				
1987-098A	COSMOS 1898	18585	USSR	01 DEC	100.6	74.0	800	770	
1987-098B		18586	USSR	01 DEC	100.4	74.0	794	762	
1987-098C		18697	USSR	01 DEC	100.3	74.0	776	766	
1987-098D		18698	USSR	01 DEC	100.7	74.0	801	777	
1987-100A	RADUGA 21	18631	USSR	10 DEC	1436.4	3.7	35801	35782	
1987-100D		18634	USSR	10 DEC	1392.7	3.5	35004	34858	
1987-100C		21620	USSR	10 DEC	168.4	46.5	7278	165	
1987-101A	COSMOS 1900	18665	USSR	12 DEC	99.2	66.1	750	688	
1987-105A	COSMOS 1903	18701	USSR	21 DEC	718.2	63.4	37638	2736	
1987-105D		18704	USSR	21 DEC	705.1	64.5	36928	2799	
1987-106A	COSMOS 1904	18709	USSR	23 DEC	104.8	82.9	1005	962	
1987-106B		18710	USSR	23 DEC	104.7	82.9	998	958	
1987-109A	EKRAN 17	18715	USSR	27 DEC	1501.9	3.4	37239	36889	
1987-109D		18718	USSR	27 DEC	1428.0	3.3	35905	35352	
1987-109E		18719	USSR	27 DEC	442.2	46.7	25466	230	
1988 LAUNCHES									
1988-001A	COSMOS 1908	18748	USSR	06 JAN	97.0	82.5	627	599	
1988-001B		18749	USSR	06 JAN	97.4	82.5	646	619	
1988-002A	COSMOS 1909	18788	USSR	15 JAN	114.0	82.6	1410	1408	
1988-002B	COSMOS 1910	18789	USSR	15 JAN	113.9	82.6	1409	1403	
1988-002C	COSMOS 1911	18790	USSR	15 JAN	113.9	82.6	1409	1397	
1988-002D	COSMOS 1912	18791	USSR	15 JAN	113.8	82.6	1409	1392	
1988-002E	COSMOS 1913	18792	USSR	15 JAN	113.7	82.6	1409	1387	
1988-002F	COSMOS 1914	18793	USSR	15 JAN	113.7	82.6	1408	1381	
1988-002G		18794	USSR	15 JAN	114.6	82.6	1469	1408	
1988-005A	METEOR 2-17	18820	USSR	30 JAN	103.9	82.5	957	931	
1988-005B		18821	USSR	30 JAN	103.9	82.5	955	932	
1988-006A		18822	US	03 FEB	101.1	98.5	816	809	
1988-006D		18955	US	03 FEB	96.0	98.7	570	567	
1988-006F		18984	US	03 FEB	98.7	98.6	701	695	
1988-012A	CS-3A	18877	JAPAN	19 FEB	1436.8	0.0	35788	35784	
1988-012C		18879	JAPAN	19 FEB	377.5	27.7	21638	207	
1988-012D		20760	JAPAN	19 FEB	523.2	27.1	29682	575	
1988-013A	COSMOS 1922	18881	USSR	26 FEB	718.0	65.3	36973	3393	
1988-013C		18883	USSR	26 FEB	705.8	65.8	36612	3148	
1988-014A	PRC 22	18922	PRC	07 MAR	1436.2	0.2	35818	35758	
1988-016A	COSMOS 1924	18937	USSR	11 MAR	115.7	74.0	1513	1457	
1988-016B	COSMOS 1925	18938	USSR	11 MAR	115.5	74.0	1495	1456	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1988-016C	COSMOS 1926	18939	USSR	11 MAR	115.3	74.0	1477	1457	
1988-016D	COSMOS 1927	18940	USSR	11 MAR	115.1	74.0	1465	1453	
1988-016E	COSMOS 1928	18941	USSR	11 MAR	114.9	74.0	1459	1442	
1988-016F	COSMOS 1929	18942	USSR	11 MAR	114.7	74.0	1458	1427	
1988-016G	COSMOS 1930	18943	USSR	11 MAR	114.6	74.0	1458	1412	
1988-016H	COSMOS 1931	18944	USSR	11 MAR	114.4	74.0	1458	1396	
1988-016J		18945	USSR	11 MAR	117.6	74.0	1685	1462	
1988-016K		19451	USSR	11 MAR	117.5	74.0	1681	1456	
1988-017A	MOLNIYA 1-71	18946	USSR	11 MAR	717.8	63.7	39031	1323	
1988-017D		18949	USSR	11 MAR	695.6	63.8	37977	1275	
1988-018A	SPACENET 3R	18951	US	11 MAR	1434.0	0.0	35751	35748	
1988-018B	TELECOM 1C	18952	FRANCE	11 MAR	1436.1	0.0	35933	35640	
1988-018C		18953	ESA	11 MAR	570.3	7.0	32539	266	
1988-019A	COSMOS 1932	18957	USSR	14 MAR	104.4	65.0	1002	926	
1988-019D		19162	USSR	14 MAR	104.0	65.0	973	924	
1988-020A	COSMOS 1933	18958	USSR	15 MAR	97.1	82.5	632	604	
1988-020B		18959	USSR	15 MAR	97.4	82.5	646	618	
1988-021A	IRS-1A	18960	INDIA	17 MAR	103.1	98.8	914	893	
1988-021B		18961	USSR	17 MAR	102.8	98.8	928	851	
1988-022A	MOLNIYA 1-72	18980	USSR	17 MAR	717.9	64.7	38235	2124	
1988-022D		18983	USSR	17 MAR	731.7	64.9	38835	2203	
1988-023A	COSMOS 1934	18985	USSR	22 MAR	104.6	83.0	1005	946	
1988-023B		18986	USSR	22 MAR	104.5	83.0	992	947	
1988-023C		21912	USSR	22 MAR	104.5	83.0	1003	943	
1988-028A	GORIZONT 15	19017	USSR	31 MAR	1472.0	3.3	36637	36336	
1988-028D		19020	USSR	31 MAR	1472.7	3.5	36586	36413	
1988-028E		19036	USSR	31 MAR	640.4	46.4	36344	122	
1988-028F		19037	USSR	31 MAR	621.6	46.4	35148	346	
1988-029A	COSMOS 1937	19038	USSR	05 APR	100.4	74.0	798	761	
1988-029B		19039	USSR	05 APR	100.3	74.0	795	751	
1988-032A	COSMOS 1939	19045	USSR	20 APR	96.4	97.7	602	572	
1988-032B		19046	USSR	20 APR	97.1	97.7	654	586	
1988-033A		19070	US	26 APR	108.5	90.3	1301	1013	
1988-033B		19071	US	26 APR	108.5	90.3	1300	1012	
1988-033C		19072	US	26 APR	108.5	90.3	1302	1013	
1988-033D		19077	US	26 APR	108.0	90.3	1270	1000	
1988-033E		19078	US	26 APR	107.6	90.6	1233	997	
1988-033F		19140	US	26 APR	107.8	90.3	1255	998	
1988-033G		19181	US	26 APR	109.1	90.1	1379	990	
1988-034A	COSMOS 1940	19073	USSR	26 APR	1430.5	3.4	35790	35563	
1988-034D		19076	USSR	26 APR	1438.5	3.4	35936	35731	
1988-034E		19082	USSR	26 APR	639.3	48.6	36022	387	
1988-034F		19083	USSR	26 APR	649.6	47.3	36714	223	
1988-036A	EKRAN 18	19090	USSR	06 MAY	1513.5	4.3	37335	37240	
1988-036E		19094	USSR	06 MAY	1424.1	4.2	35640	35460	
1988-039A	COSMOS 1943	19119	USSR	15 MAY	101.8	71.0	852	837	
1988-039B		19120	USSR	15 MAY	101.5	71.0	849	812	
1988-039C		19125	USSR	15 MAY	104.6	71.0	1109	837	
1988-039D		19126	USSR	15 MAY	104.7	71.0	1118	839	
1988-039E		19127	USSR	15 MAY	105.1	71.0	1154	840	
1988-039F		19128	USSR	15 MAY	105.0	71.0	1150	842	
1988-040A	INTELSAT 5A F-13	19121	ITSO	17 MAY	1436.2	0.0	35807	35769	
1988-040B		19122	ESA	17 MAY	634.0	7.6	35619	514	
1988-043A	COSMOS 1946	19163	USSR	21 MAY	675.7	65.0	19146	19112	
1988-043B	COSMOS 1947	19164	USSR	21 MAY	675.7	65.0	19142	19116	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1988-043C	COSMOS 1948	19165	USSR	21 MAY	675.7	64.9	19140	19118	
1988-043F		19168	USSR	21 MAY	674.5	65.0	19118	19078	
1988-043G		19169	USSR	21 MAY	339.8	65.4	18761	744	
1988-043H		19170	USSR	21 MAY	339.9	65.4	18732	776	
1988-044A	MOLNIYA 3-32	19189	USSR	26 MAY	714.3	64.6	38138	2045	
1988-044B		19190	USSR	26 MAY	733.0	64.8	38787	2313	
1988-046A	COSMOS 1950	19195	USSR	30 MAY	116.0	73.6	1519	1482	
1988-046B		19196	USSR	30 MAY	116.0	73.6	1514	1482	
1988-050A	COSMOS 1953	19210	USSR	14 JUN	97.1	82.5	637	605	
1988-050B		19211	USSR	14 JUN	97.4	82.5	651	615	
1988-051A	METEOSAT	19215	ESA	15 JUN	1436.5	1.0	35808	35780	
1988-051B	OSCAR 13	19216	US	15 JUN	686.6	57.9	38037	767	
1988-051C	PAS-1	19217	US	15 JUN	1436.1	0.0	35796	35780	
1988-051D		19218	ESA	15 JUN	245.1	10.1	13045	142	
1988-051E		19219	ESA	15 JUN	593.9	9.9	33826	226	
1988-051F		19220	ESA	15 JUN	421.2	10.2	24229	241	
1988-051G		19857	ESA	15 JUN	631.3	6.7	35385	612	
1988-051H		19951	ESA	15 JUN	633.0	7.9	35303	783	
1988-052A		19223	US	16 JUN	108.9	90.0	1195	1153	
1988-053A	COSMOS 1954	19256	USSR	21 JUN	100.5	74.0	796	772	
1988-053B		19257	USSR	21 JUN	100.4	74.1	795	759	
1988-053C		19260	USSR	21 JUN	100.3	74.1	780	769	
1988-053D		19261	USSR	21 JUN	100.4	74.1	784	767	
1988-056A	OKEAN 1	19274	USSR	05 JUL	97.1	82.5	635	604	
1988-056B		19275	USSR	05 JUL	97.4	82.5	651	618	
1988-058A	PHOBOS 1	19281	USSR	07 JUL	MARS ORBIT				
1988-058B		19282	USSR	07 JUL	HELIOCENTRIC ORBIT				
1988-059A	PHOBOS 2	19287	USSR	12 JUL	MARS ORBIT				
1988-059B		19288	USSR	12 JUL	HELIOCENTRIC ORBIT				
1988-062A	COSMOS 1959	19324	USSR	18 JUL	104.6	82.9	1001	953	
1988-062B		19325	USSR	18 JUL	104.5	83.0	993	952	
1988-063A	INSAT 1C	19330	INDIA	21 JUL	1436.1	3.3	35805	35765	
1988-063B	ECS 5	19331	ESA	21 JUL	1436.0	0.0	35872	35698	
1988-063C		19332	ESA	21 JUL	439.7	7.4	25315	236	
1988-063E		20127	ESA	21 JUL	630.0	7.5	35536	396	
1988-063F		20488	ESA	21 JUL	306.7	7.3	16983	393	
1988-063G		22101	INDIA	21 JUL	287.4	7.8	15706	387	
1988-064A	METEOR 3-2	19336	USSR	26 JUL	109.3	82.5	1207	1179	
1988-064B		19337	USSR	26 JUL	109.3	82.5	1204	1181	
1988-065N		20380	USSR	28 JUL	91.0	65.8	323	319	
1988-065ST		20378	USSR	28 JUL	90.8	65.8	318	308	
1988-066A	COSMOS 1961	19344	USSR	01 AUG	1436.2	2.9	35800	35774	
1988-066D		19347	USSR	01 AUG	1459.7	3.0	36376	36115	
1988-066E		19348	USSR	01 AUG	419.9	46.7	24126	267	
1988-069A	MOLNIYA 1-73	19377	USSR	12 AUG	717.7	64.9	38689	1659	
1988-069D		19380	USSR	12 AUG	730.8	65.1	39383	1612	
1988-071A	GORIZONT 16	19397	USSR	18 AUG	1440.4	2.9	35916	35824	
1988-071D		19400	USSR	18 AUG	1432.0	2.9	35784	35627	
1988-071E		19401	USSR	18 AUG	600.1	46.7	34244	131	
1988-071F		19402	USSR	18 AUG	239.5	46.7	12621	173	
1988-074A		19419	US	25 AUG	107.3	89.9	1174	1031	
1988-074B		19420	US	25 AUG	107.3	89.9	1172	1031	
1988-074C		19421	US	25 AUG	107.3	89.9	1175	1033	
1988-074D		19515	US	25 AUG	107.2	89.8	1167	1022	
1988-074E		19516	US	25 AUG	107.1	89.9	1160	1023	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1988-074F		19559	US	25 AUG	107.2	89.4	1169	1024	
1988-074G		19577	US	25 AUG	107.2	90.5	1166	1030	
1988-076A	COSMOS 1966	19445	USSR	30 AUG	719.0	67.0	38059	2355	
1988-076D		19448	USSR	30 AUG	705.5	67.4	37466	2280	
1988-077A		19458	US	02 SEP	NO ELEMENTS AVAILABLE				
1988-077B		19459	US	02 SEP	NO ELEMENTS AVAILABLE				
1988-077C		19490	US	02 SEP	NO ELEMENTS AVAILABLE				
1988-077D		22668	US	02 SEP	NO ELEMENTS AVAILABLE				
1988-077E		22669	US	02 SEP	NO ELEMENTS AVAILABLE				
1988-078A		19460	US	05 SEP	NO ELEMENTS AVAILABLE				
1988-078B		19461	US	05 SEP	NO ELEMENTS AVAILABLE				
1988-080A	FENGYUN 1	19467	PRC	06 SEP	102.7	99.3	936	833	
1988-080B		19468	PRC	06 SEP	102.7	99.3	893	875	
1988-081A	GSTAR 3	19483	US	08 SEP	1436.0	5.0	35807	35764	
1988-081B	SBS 5	19484	US	08 SEP	1436.1	0.0	35794	35782	
1988-081C		19485	ESA	08 SEP	415.6	7.5	23838	298	
1988-085A	COSMOS 1970	19501	USSR	16 SEP	675.7	65.8	19180	19077	
1988-085B	COSMOS 1971	19502	USSR	16 SEP	675.7	65.7	19159	19099	
1988-085C	COSMOS 1972	19503	USSR	16 SEP	675.7	65.7	19145	19113	
1988-085E		19505	USSR	16 SEP	674.9	65.7	19121	19094	
1988-085F		19535	USSR	16 SEP	339.2	65.4	18731	734	
1988-085G		19537	USSR	16 SEP	339.2	65.3	18696	771	
1988-085H		21751	USSR	16 SEP	213.1	64.6	9950	928	
1988-086A	CS-3B	19508	JAPAN	16 SEP	1436.0	0.0	35787	35785	
1988-086C		19558	JAPAN	16 SEP	629.3	27.9	35800	95	
1988-089A	NOAA 11	19531	US	24 SEP	101.9	99.1	858	840	
1988-089B		19532	US	24 SEP	97.9	98.9	660	651	
1988-090A	MOLNIYA 3-33	19541	USSR	29 SEP	717.1	64.9	38551	1769	
1988-090D		19544	USSR	29 SEP	698.2	64.8	37627	1755	
1988-091B	TDRS 3	19548	US	29 SEP	1435.9	0.2	35795	35772	
1988-091C		19549	US	29 SEP	601.7	26.4	34107	353	
1988-091D		19550	US	29 SEP	1433.4	2.2	35834	35634	
1988-092A	COSMOS 1974	19554	USSR	03 OCT	718.5	63.9	37431	2958	
1988-092D		19557	USSR	03 OCT	705.4	64.1	36867	2876	
1988-093A	COSMOS 1975	19573	USSR	11 OCT	97.1	82.5	637	604	
1988-093B		19574	USSR	11 OCT	97.4	82.5	651	614	
1988-093C		20471	USSR	11 OCT	96.0	82.5	580	557	
1988-095A	RADUGA 22	19596	USSR	20 OCT	1436.4	2.7	35824	35760	
1988-095D		19600	USSR	20 OCT	602.6	46.6	34363	144	
1988-095E		19601	USSR	20 OCT	545.2	46.6	31321	138	
1988-095F		19777	USSR	20 OCT	1470.4	2.8	36524	36385	
1988-096A	COSMOS 1977	19608	USSR	25 OCT	718.0	64.5	37175	3189	
1988-096D		19611	USSR	25 OCT	704.9	64.8	36702	3015	
1988-098A	TDF-1	19621	FRANCE	28 OCT	1436.2	0.1	35915	35660	
1988-098B		19622	ESA	28 OCT	559.8	3.9	31999	243	
1988-098C		20132	ESA	26 OCT	340.5	3.9	19257	290	
1988-099A		19625	US	06 NOV	NO ELEMENTS AVAILABLE				
1988-099B		19626	US	06 NOV	NO ELEMENTS AVAILABLE				
1988-102A	COSMOS 1980	19649	USSR	23 NOV	101.8	71.0	851	840	
1988-102B		19650	USSR	23 NOV	101.7	71.0	851	830	
1988-102C		19656	USSR	23 NOV	105.1	71.0	1160	840	
1988-102D		19657	USSR	23 NOV	105.1	71.0	1159	838	
1988-102E		19658	USSR	23 NOV	104.9	71.0	1138	839	
1988-102F		19659	USSR	23 NOV	104.7	71.0	1121	839	
1988-102H		19813	USSR	23 NOV	105.1	71.0	1162	839	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1988-102J		20301	USSR	23 NOV	101.9	71.0	856	838	
1988-106B		19671	US	02 DEC	NO ELEMENTS AVAILABLE				
1988-108A	EKRAN 19	19683	USSR	08 DEC	1436.1	2.6	35802	35771	
1988-108D		19686	USSR	08 DEC	1418.6	2.6	35511	35373	
1988-109A	SKYNET 4B	19687	UK	11 DEC	1436.2	1.0	35854	35720	
1988-109B	ASTRA 1A	19688	LUXBRG	11 DEC	1436.1	0.0	35811	35760	
1988-109C		19689	ESA	11 DEC	638.4	7.2	35893	472	
1988-109D		19690	ESA	11 DEC	196.0	7.0	9446	154	
1988-111A	PRC 25	19710	PRC	22 DEC	1436.1	0.1	35787	35784	
1988-112A	MOLNIYA 3-34	19713	USSR	22 DEC	717.9	63.8	39447	913	
1988-112D		19716	USSR	22 DEC	696.1	63.7	38450	829	
1988-113H		19764	USSR	23 DEC	94.0	73.5	474	467	
1988-115A	MOLNIYA 1-74	19730	USSR	28 DEC	717.9	64.9	39129	1232	
1988-115D		19733	USSR	28 DEC	695.7	64.9	37983	1276	
1989 LAUNCHES									
1989-001A	COSMOS 1987	19749	USSR	10 JAN	675.7	64.9	19146	19112	
1989-001B	COSMOS 1988	19750	USSR	10 JAN	675.7	64.9	19149	19109	
1989-001C	COSMOS 1989	19751	USSR	10 JAN	675.5	64.9	19152	19098	
1989-001E		19753	USSR	10 JAN	675.5	64.9	19153	19095	
1989-001F		19754	USSR	10 JAN	674.7	64.9	19138	19069	
1989-001G		19755	USSR	10 JAN	339.6	65.5	18780	711	
1989-001H		19856	USSR	10 JAN	339.6	65.4	18772	719	
1989-004A	GORIZONT 17	19765	USSR	26 JAN	1430.5	2.5	35779	35573	
1989-004E		19771	USSR	26 JAN	284.9	46.6	15736	194	
1989-004F		19776	USSR	26 JAN	1469.5	2.6	36534	36340	
1989-005A	COSMOS 1992	19769	USSR	26 JAN	100.5	74.0	798	764	
1989-005B		19770	USSR	26 JAN	100.3	74.0	776	768	
1989-005C		19831	USSR	26 JAN	100.3	74.1	784	758	
1989-005D		19945	USSR	26 JAN	100.6	74.1	804	764	
1989-006A	INTELSAT 5A F-15	19772	ITSO	27 JAN	1436.1	0.0	35805	35771	
1989-006B		19773	ESA	27 JAN	636.8	8.3	35733	550	
1989-009A	COSMOS 1994	19785	USSR	10 FEB	113.9	82.6	1414	1391	
1989-009B	COSMOS 1995	19786	USSR	10 FEB	114.1	82.6	1415	1409	
1989-009C	COSMOS 1996	19787	USSR	10 FEB	114.0	82.6	1414	1403	
1989-009D	COSMOS 1997	19788	USSR	10 FEB	113.9	82.6	1414	1397	
1989-009E	COSMOS 1998	19789	USSR	10 FEB	113.8	82.6	1414	1387	
1989-009F	COSMOS 1999	19790	USSR	10 FEB	113.7	82.6	1414	1381	
1989-009G		19791	USSR	10 FEB	114.7	82.6	1468	1415	
1989-011A	COSMOS 2001	19796	USSR	14 FEB	718.7	66.4	38056	2341	
1989-011D		19799	USSR	14 FEB	705.7	66.9	37523	2235	
1989-013A		19802	US	14 FEB	718.0	55.1	20281	20084	
1989-014A	MOLNIYA 1-75	19807	USSR	15 FEB	717.9	63.4	38195	2165	
1989-014D		19810	USSR	15 FEB	694.4	63.4	37174	2020	
1989-016A	EXOS-D	19822	JAPAN	21 FEB	187.4	75.1	8673	262	
1989-016C		19824	JAPAN	21 FEB	172.0	75.1	7462	269	
1989-016K		19952	JAPAN	21 FEB	138.8	75.6	4749	250	
1989-016M		19963	JAPAN	21 FEB	161.7	75.2	6635	269	
1989-016N		20021	JAPAN	21 FEB	150.1	74.4	5688	262	
1989-016P		20034	JAPAN	21 FEB	89.8	74.8	364	164	
1989-017A	COSMOS 2004	19826	USSR	22 FEB	104.9	83.0	1013	970	
1989-017B		19827	USSR	22 FEB	104.8	83.0	1006	964	
1989-018A	METEOR 2-18	19851	USSR	28 FEB	104.0	82.5	956	934	
1989-018B		19852	USSR	28 FEB	104.0	82.5	961	934	

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INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1989-020A	JCSAT-1	19874	JAPAN	06 MAR	1436.2	0.0	35796	35780	
1989-020B	MOP-1	19876	ESA	06 MAR	1436.4	0.2	35794	35789	
1989-020E		20800	UK	06 MAR	1434.1	2.8	36284	35210	
1989-021B	TDRS-D	19883	US	13 MAR	1436.1	0.0	35800	35776	
1989-021C		19884	US	13 MAR	540.0	26.5	30943	234	
1989-021D		19913	US	13 MAR	1431.3	5.6	35797	35589	
1989-025A	COSMOS 2008	19902	USSR	24 MAR	114.4	74.0	1469	1390	
1989-025B	COSMOS 2009	19903	USSR	24 MAR	114.6	74.0	1470	1405	
1989-025C	COSMOS 2010	19904	USSR	24 MAR	114.8	74.0	1470	1421	
1989-025D	COSMOS 2011	19905	USSR	24 MAR	115.0	74.0	1470	1436	
1989-025E	COSMOS 2012	19906	USSR	24 MAR	115.1	74.0	1470	1453	
1989-025F	COSMOS 2013	19907	USSR	24 MAR	115.3	74.0	1477	1463	
1989-025G	COSMOS 2014	19908	USSR	24 MAR	115.5	74.0	1487	1469	
1989-025H	COSMOS 2015	19909	USSR	24 MAR	115.7	74.0	1507	1468	
1989-025J		19910	USSR	24 MAR	117.7	74.0	1682	1472	
1989-027A	TELE-X	19919	SWEDEN	02 APR	1436.0	0.1	36003	35567	
1989-027B		19920	ESA	02 APR	313.1	4.0	17361	428	
1989-028A	COSMOS 2016	19921	USSR	04 APR	104.7	83.0	1010	952	
1989-028B		19922	USSR	04 APR	104.6	83.0	999	949	
1989-030A	RADUGA 23	19928	USSR	14 APR	1436.3	2.3	35804	35774	
1989-030D		19931	USSR	14 APR	1470.5	2.4	36529	36386	
1989-030F		19933	USSR	14 APR	597.5	46.8	34087	154	
1989-033B	MAGELLAN	19969	US	04 MAY	VENUS ORBIT				
1989-033C		19970	US	04 MAY	424.3	27.8	24343	311	
1989-033D		19971	US	04 MAY	VENUS ORBIT				
1989-035A		19976	US	10 MAY	NO ELEMENTS AVAILABLE				
1989-035B		19977	US	10 MAY	NO ELEMENTS AVAILABLE				
1989-035C		19983	US	10 MAY	NO ELEMENTS AVAILABLE				
1989-039A	COSMOS 2022	20024	USSR	31 MAY	675.7	65.5	19144	19114	
1989-039B	COSMOS 2023	20025	USSR	31 MAY	675.7	65.5	19166	19092	
1989-039C	COSMOS 2024	20026	USSR	31 MAY	675.4	65.5	19146	19096	
1989-039E		20028	USSR	31 MAY	674.5	65.5	19138	19059	
1989-039F		20044	USSR	31 MAY	675.4	65.5	19142	19099	
1989-039G		20081	USSR	31 MAY	339.4	65.3	18731	746	
1989-039H		20082	USSR	31 MAY	339.4	65.3	18744	734	
1989-041A	SUPERBIRD A	20040	JAPAN	05 JUN	1443.8	2.3	35966	35906	
1989-041B		20041	FRG	05 JUN	1436.0	0.0	35831	35737	
1989-041C		20042	ESA	05 JUN	422.9	6.5	24369	201	
1989-042A	COSMOS 2026	20045	USSR	07 JUN	104.6	82.9	1007	947	
1989-042B		20046	USSR	07 JUN	104.5	82.9	999	944	
1989-043A	MOLNIYA 3-35	20052	USSR	08 JUN	717.8	64.8	39062	1293	
1989-043D		20055	USSR	08 JUN	733.3	65.2	39846	1269	
1989-044A		20061	US	10 JUN	718.0	54.8	20501	19863	
1989-046A		20066	US	14 JUN	NO ELEMENTS AVAILABLE				
1989-046B		20067	US	14 JUN	NO ELEMENTS AVAILABLE				
1989-046C		20068	US	14 JUN	NO ELEMENTS AVAILABLE				
1989-046D		20069	US	14 JUN	NO ELEMENTS AVAILABLE				
1989-046E		20319	US	14 JUN	NO ELEMENTS AVAILABLE				
1989-048A	RADUGA 1-1	20083	USSR	21 JUN	1436.1	2.1	35799	35774	
1989-048D		20086	USSR	21 JUN	1471.1	2.2	36560	36376	
1989-048F		20094	USSR	21 JUN	446.7	46.9	25684	272	
1989-050A	NADEZHDA-1	20103	USSR	04 JUL	104.8	83.0	1009	956	
1989-050B		20104	USSR	04 JUL	104.6	83.0	1005	943	
1989-052A	GORIZONT 18	20107	USSR	05 JUL	1436.0	2.0	35795	35774	
1989-052D		20110	USSR	05 JUL	1397.3	1.9	35157	34889	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1989-052F		20116	USSR	05 JUL	519.7	46.6	29858	209	
1989-053A	OLYMPUS	20122	ESA	12 JUL	1436.2	1.1	35811	35765	
1989-053B		20123	ESA	12 JUL	341.9	6.4	19456	182	
1989-053C		20229	ESA	12 JUN	636.5	6.3	35873	392	
1989-059A	COSMOS 2034	20149	USSR	25 JUL	104.8	82.9	1009	964	
1989-059B		20150	USSR	25 JUL	104.7	82.9	999	958	
1989-061B		20167	US	08 AUG	NO ELEMENTS AVAILABLE				
1989-061C		20172	US	08 AUG	NO ELEMENTS AVAILABLE				
1989-061D		20344	US	08 AUG	NO ELEMENTS AVAILABLE				
1989-061E		22263	US	08 AUG	NO CURRENT ELEMENTS				
1989-061F		22264	US	08 AUG	NO CURRENT ELEMENTS				
1989-061G		22265	US	08 AUG	NO CURRENT ELEMENTS				
1989-061H		22267	US	08 AUG	NO CURRENT ELEMENTS				
1989-061J		22268	US	08 AUG	NO CURRENT ELEMENTS				
1989-062A	TV-SAT 2	20168	FRG	08 AUG	1436.2	0.0	35804	35771	
1989-062B	HIPPARCOS	20169	ESA	08 AUG	638.4	7.1	35890	477	
1989-062C		20170	ESA	08 AUG	620.9	7.4	35098	362	
1989-064A		20185	US	18 AUG	718.0	54.9	20203	20161	
1989-067A	BSB-R1	20193	UK	27 AUG	1436.2	0.0	35796	35779	
1989-067C		20195	US	27 AUG	644.7	23.3	36412	272	
1989-068A	COSMOS 2037	20196	USSR	28 AUG	116.0	73.6	1522	1482	
1989-068B		20197	USSR	28 AUG	116.0	73.6	1520	1482	
1989-069A		20202	US	04 SEP	NO ELEMENTS AVAILABLE				
1989-069B		20203	US	04 SEP	NO ELEMENTS AVAILABLE				
1989-069D		20205	US	04 SEP	NO ELEMENTS AVAILABLE				
1989-070A	GMS-4	20217	JAPAN	05 SEP	1435.9	0.0	35787	35782	
1989-070B		20230	JAPAN	05 SEP	467.2	28.1	26916	214	
1989-070C		20317	JAPAN	05 SEP	1458.1	1.8	37201	35231	
1989-072A		20220	US	06 SEP	NO ELEMENTS AVAILABLE				
1989-072B		20221	US	06 SEP	NO ELEMENTS AVAILABLE				
1989-074A	COSMOS 2038	20232	USSR	14 SEP	113.8	82.6	1408	1389	
1989-074B	COSMOS 2039	20233	USSR	14 SEP	113.7	82.6	1408	1382	
1989-074C	COSMOS 2040	20234	USSR	14 SEP	114.0	82.6	1412	1408	
1989-074D	COSMOS 2041	20235	USSR	14 SEP	113.8	82.6	1408	1394	
1989-074E	COSMOS 2042	20236	USSR	14 SEP	113.9	82.6	1408	1399	
1989-074F	COSMOS 2043	20237	USSR	14 SEP	113.9	82.6	1408	1405	
1989-074G		20238	USSR	14 SEP	114.7	82.6	1472	1407	
1989-077A		20253	US	25 SEP	1436.3	2.7	35811	35770	
1989-078A	MOLNIYA 1-76	20255	USSR	27 SEP	717.7	64.7	39660	688	
1989-078D		20258	USSR	27 SEP	698.3	64.8	38652	734	
1989-080A	INTER-COSMOS 24	20261	USSR	28 SEP	115.4	82.6	2450	498	
1989-080B		20281	USSR	28 SEP	115.3	82.6	2442	498	
1989-080C		20262	USSR	28 SEP	115.6	82.6	2470	496	
1989-081A	GORIZANT 19	20263	USSR	28 SEP	1436.0	1.9	35790	35779	
1989-081D		20266	USSR	28 SEP	1431.3	1.8	35814	35572	
1989-084B	GALILEO	20298	US	18 OCT	HELIOCENTRIC ORBIT				
1989-084C		20299	US	18 OCT	432.3	34.3	24922	195	
1989-084D		20300	US	18 OCT	HELIOCENTRIC ORBIT				
1989-085A		20302	US	21 OCT	718.0	53.8	20203	20162	
1989-085B		20303	US	21 OCT	98.6	35.6	893	487	
1989-086A	METEOR 3-3	20305	USSR	24 OCT	109.4	82.6	1210	1183	
1989-086B		20306	USSR	24 OCT	109.4	82.6	1210	1183	
1989-087A	INTELSAT 6 F-2	20315	ITSO	27 OCT	1436.1	0.0	35793	35779	
1989-087B		20316	ESA	27 OCT	585.4	7.7	33300	307	
1989-089A	COBE	20322	US	18 NOV	102.6	98.9	893	877	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1989-089B		20323	US	18 NOV	99.7	97.1	802	690	
1989-089C		20324	US	18 NOV	102.3	99.0	879	858	
1989-089D		20328	US	18 NOV	102.7	99.0	888	881	
1989-090B		20355	US	23 NOV	NO ELEMENTS AVAILABLE				
1989-090C		20356	US	23 NOV	NO ELEMENTS AVAILABLE				
1989-090D		20357	US	23 NOV	NO ELEMENTS AVAILABLE				
1989-091A	COSMOS 2050	20330	USSR	23 NOV	718.0	62.7	38325	2041	
1989-091D		20333	USSR	23 NOV	705.2	63.6	37647	2085	
1989-093A	KVANT -2	20335	USSR	26 NOV	92.4	51.6	395	388	
1989-094A	MOLNIYA 3-36	20338	USSR	28 NOV	717.7	64.7	39722	629	
1989-094B		20339	USSR	28 NOV	732.1	64.8	40433	626	
1989-096A	GRANAT	20352	USSR	01 DEC	5896.5	87.1	153926	49550	
1989-096C		20354	USSR	01 DEC	5770.5	86.6	152533	47850	
1989-097A		20361	US	11 DEC	718.0	55.3	20365	19998	
1989-097B		20362	US	11 DEC	98.4	35.6	881	483	
1989-098A	RADUGA 24	20367	USSR	15 DEC	1436.3	1.7	35804	35776	
1989-098D		20370	USSR	15 DEC	1471.6	1.7	36543	36413	
1989-100A	COSMOS 2053	20389	USSR	27 DEC	92.9	73.5	419	415	
1989-100B		20390	USSR	27 DEC	94.4	73.5	498	481	
1989-101A	COSMOS 2054	20391	USSR	27 DEC	1436.2	1.6	35810	35764	
1989-101D		20394	USSR	27 DEC	1465.7	1.6	36414	36314	
1989-101E		20399	USSR	27 DEC	447.3	46.6	25795	196	
1989-101G		21648	USSR	27 DEC	NO CURRENT ELEMENTS				
1990 LAUNCHES									
1990-001A	SKYNET 4A	20401	UK	01 JAN	1436.2	1.7	35799	35776	
1990-001B	JCSAT	20402	JAPAN	01 JAN	1436.2	0.0	35800	35776	
1990-001D		20404	US	01 JAN	604.1	21.4	34239	349	
1990-001F		20406	US	01 JAN	325.5	26.7	18320	274	
1990-002B	LEASAT 5	20410	US	09 JAN	1436.1	2.7	35850	35809	
1990-002C		20411	US	09 JAN	266.2	27.2	14325	331	
1990-004A	COSMOS 2056	20432	USSR	18 JAN	100.6	74.0	804	768	
1990-004B		20433	USSR	18 JAN	100.5	74.0	807	754	
1990-004C		20434	USSR	18 JAN	100.7	74.0	807	778	
1990-004D		20435	USSR	18 JAN	100.2	74.0	785	752	
1990-005A	SPOT-2	20436	FRANCE	22 JAN	101.3	98.7	823	821	
1990-005B	OSCAR 14	20437	UK	22 JAN	100.7	98.6	797	781	
1990-005C	OSCAR 15	20438	UK	22 JAN	100.7	98.6	799	784	
1990-005D	OSCAR 16	20439	US	22 JAN	100.7	98.6	797	780	
1990-005E	OSCAR 17	20440	BRAZIL	22 JAN	100.6	98.6	797	780	
1990-005F	OSCAR 18	20441	US	22 JAN	100.6	98.6	797	780	
1990-005G	OSCAR 19	20442	ARGNT	22 JAN	100.6	98.6	797	779	
1990-005H		20443	ESA	22 JAN	100.5	98.5	790	773	
1990-006A	MOLNIYA 3	20444	USSR	23 JAN	717.7	64.9	39504	844	
1990-006C		20446	USSR	23 JAN	696.7	64.8	38416	891	
1990-007A	MUSES A	20448	JAPAN	24 JAN	NO ELEMENTS AVAILABLE				
1990-007B	HAGOROMO	20618	JAPAN	24 JAN	SELENOCENTRIC ORBIT				
1990-007D		20451	JAPAN	24 JAN	NO ELEMENTS AVAILABLE				
1990-008A		20452	US	24 JAN	718.0	54.1	20314	20051	
1990-008B		20453	US	24 JAN	101.5	35.6	1208	446	
1990-008C		20450	US	24 JAN	155.4	37.7	6222	172	
1990-010A	COSMOS 2058	20465	USSR	30 JAN	97.3	82.5	647	615	
1990-010B		20466	USSR	30 JAN	97.5	82.5	653	622	
1990-011A	PRC-26	20473	PRC	04 FEB	1436.1	0.1	35791	35780	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1990-011B		20474	PRC	04 FEB	595.9	30.2	33834	322	
1990-012C		20481	USSR	06 FEB	NO CURRENT ELEMENTS				
1990-013A	MOS 1B	20478	JAPAN	07 FEB	103.2	99.1	909	907	
1990-013B	DEBUT	20479	JAPAN	07 FEB	112.2	99.0	1742	908	
1990-013C	JAS 1-B	20480	JAPAN	07 FEB	112.2	99.0	1743	908	
1990-013D		20491	JAPAN	07 FEB	110.5	99.1	1605	890	
1990-015A		20496	US	14 FEB	94.1	43.1	484	465	
1990-016A	RADUGA 25	20499	USSR	15 FEB	1436.0	1.5	35802	35767	
1990-016D		20502	USSR	15 FEB	1439.9	1.5	36028	35692	
1990-017A	NADEZHDA-2	20508	USSR	27 FEB	104.8	83.0	1017	950	
1990-017B		20509	USSR	27 FEB	104.7	83.0	1011	947	
1990-018A	OKEAN-2	20510	USSR	28 FEB	97.4	82.5	644	620	
1990-018B		20511	USSR	28 FEB	97.6	82.5	654	630	
1990-019B		20516	US	28 FEB	NO ELEMENTS AVAILABLE				
1990-019C		20517	US	28 FEB	NO ELEMENTS AVAILABLE				
1990-019D		20518	US	28 FEB	NO ELEMENTS AVAILABLE				
1990-019E		20519	US	28 FEB	NO ELEMENTS AVAILABLE				
1990-019F		20520	US	28 FEB	NO ELEMENTS AVAILABLE				
1990-019G		20521	US	28 FEB	NO ELEMENTS AVAILABLE				
1990-021A	INTELSAT 6 F-3	20523	ITSO	14 MAR	1436.2	0.0	35790	35786	
1990-023A	COSMOS 2061	20527	USSR	20 MAR	104.9	82.9	1013	969	
1990-023B		20528	USSR	20 MAR	104.8	82.9	1006	966	
1990-025A		20533	US	26 MAR	718.0	55.1	20296	20069	
1990-025C		20535	US	26 MAR	120.7	37.3	3252	174	
1990-026A	COSMOS 2063	20536	USSR	27 MAR	717.5	63.8	38864	1474	
1990-026D		20539	USSR	27 MAR	709.3	64.8	38329	1606	
1990-028A	PEGSAT	20546	US	05 APR	93.8	94.1	519	403	
1990-028B		20547	US	05 APR	95.9	94.2	641	480	
1990-029A	COSMOS 2064	20549	USSR	06 APR	115.4	74.0	1488	1461	
1990-029B	COSMOS 2065	20550	USSR	06 APR	115.2	74.0	1473	1459	
1990-029C	COSMOS 2066	20551	USSR	06 APR	114.3	74.0	1460	1384	
1990-029D	COSMOS 2067	20552	USSR	06 APR	114.4	74.0	1460	1399	
1990-029E	COSMOS 2068	20553	USSR	06 APR	114.6	74.0	1460	1413	
1990-029F	COSMOS 2069	20554	USSR	06 APR	114.8	74.0	1460	1427	
1990-029G	COSMOS 2070	20555	USSR	06 APR	114.9	74.0	1461	1441	
1990-029H	COSMOS 2071	20556	USSR	06 APR	115.1	74.0	1461	1456	
1990-029J		20557	USSR	06 APR	117.7	74.0	1699	1458	
1990-030A	ASIASAT 1	20558	UK	07 APR	1436.2	0.1	35791	35784	
1990-030B		20559	PRC	07 APR	576.6	31.1	32894	244	
1990-031A		20560	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031B		20561	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031C		20562	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031D		20563	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031E		20564	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031F		20565	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031G		20575	US	11 APR	NO ELEMENTS AVAILABLE				
1990-031H		20576	US	11 APR	NO ELEMENTS AVAILABLE				
1990-034A	PALAPA B2R	20570	INDO	13 APR	1436.3	0.0	35795	35783	
1990-034B		20571	US	13 APR	103.7	22.8	1371	497	
1990-034C		20572	US	13 APR	316.9	18.6	17836	204	
1990-036A	COSMOS 2074	20577	USSR	20 APR	104.7	82.9	1001	963	
1990-036B		20578	USSR	20 APR	104.6	82.9	990	964	
1990-037B	HST	20580	US	24 APR	96.6	28.5	596	590	
1990-039A	MOLNIYA 1-77	20583	USSR	26 APR	717.9	64.2	39640	718	
1990-039D		20586	USSR	26 APR	733.0	64.3	40367	737	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1990-040A	COSMOS 2076	20596	USSR	28 APR	717.8	63.1	38843	1513	
1990-040D		20599	USSR	28 APR	707.7	63.8	38231	1623	
1990-043A	SCOUT M-1	20607	US	09 MAY	98.3	89.9	752	603	
1990-043B		20608	US	09 MAY	98.3	89.9	748	602	
1990-043C		20609	US	09 MAY	97.9	89.9	726	590	
1990-043D		20610	US	09 MAY	97.3	89.9	690	566	
1990-043E		20611	US	09 MAY	97.1	89.9	680	560	
1990-043F		20612	US	09 MAY	97.1	89.9	669	568	
1990-043H		20614	US	09 MAY	97.0	89.9	665	565	
1990-043K		20651	US	09 MAY	97.8	90.2	749	556	
1990-043L		20759	US	09 MAY	96.0	89.6	591	539	
1990-045A	COSMOS 2079	20619	USSR	19 MAY	675.7	65.3	19189	19069	
1990-045B	COSMOS 2080	20620	USSR	19 MAY	675.7	65.3	19147	19111	
1990-045C	COSMOS 2081	20621	USSR	19 MAY	675.7	65.3	19164	19094	
1990-045E		20623	USSR	19 MAY	674.7	65.3	19171	19036	
1990-045F		20630	USSR	19 MAY	339.6	65.3	18848	645	
1990-045G		20631	USSR	19 MAY	339.4	65.2	18849	632	
1990-046A	COSMOS 2082	20624	USSR	22 MAY	101.9	71.0	854	840	
1990-046B		20625	USSR	22 MAY	101.8	71.0	854	835	
1990-046C		20626	USSR	22 MAY	105.1	71.0	1153	840	
1990-046D		20627	USSR	22 MAY	105.2	71.0	1164	841	
1990-046E		20628	USSR	22 MAY	105.1	71.0	1157	839	
1990-046F		20629	USSR	22 MAY	104.9	71.0	1142	841	
1990-048A	KRISTALL	20635	USSR	31 MAY	92.4	51.6	395	388	
1990-049A	ROSAT	20638	FRG	01 JUN	95.6	53.0	558	537	
1990-050A		20641	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050B		20682	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050C		20691	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050D		20692	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050E		20642	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050F		21916	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050G		21917	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-050H		22171	US	08 JUN	NO ELEMENTS AVAILABLE				
1990-051A	INSAT-1D	20643	INDIA	12 JUN	1436.2	0.0	35799	35776	
1990-052A	MOLNIYA 3-38	20646	USSR	13 JUN	717.7	63.3	39684	668	
1990-052D		20649	USSR	13 JUN	733.6	63.3	40406	726	
1990-054A	GORIZONT 20	20659	USSR	20 JUN	1436.1	1.2	35808	35765	
1990-054D		20662	USSR	20 JUN	1432.8	1.1	35775	35668	
1990-054E		20704	USSR	20 JUN	486.1	46.7	27967	237	
1990-055A	COSMOS 2084	20663	USSR	21 JUN	97.7	62.8	755	544	
1990-055D		20666	USSR	21 JUN	97.6	62.8	740	546	
1990-056A	INTELSAT 6 F-4	20667	ITSO	23 JUN	1436.1	0.0	35790	35782	
1990-056C		20669	US	23 JUN	663.1	24.2	37271	352	
1990-057A	METEOR 2-19	20670	USSR	27 JUN	104.0	82.5	959	933	
1990-057B		20671	USSR	27 JUN	104.0	82.5	958	933	
1990-061A	COSMOS 2085	20693	USSR	18 JUL	1436.1	1.1	35795	35777	
1990-061D		20696	USSR	18 JUL	1437.1	1.1	35940	35673	
1990-061F		20698	USSR	18 JUL	517.0	47.0	29598	318	
1990-063A	TDF-2	20705	FRANCE	24 JUL	1436.1	0.1	35799	35775	
1990-063B	DFS-2	20706	FRG	24 JUL	1436.1	0.0	35793	35777	
1990-063C		20717	ESA	24 JUL	633.5	4.2	35687	421	
1990-063D		20718	ESA	24 JUL	572.2	4.4	32556	351	
1990-064A	COSMOS 2087	20707	USSR	25 JUL	716.6	65.2	38259	2036	
1990-064D		20710	USSR	25 JUL	704.0	65.3	37744	1926	
1990-065A	CRRES	20712	US	25 JUL	613.7	18.3	34773	312	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1990-065B TO 065S			US	25 JUL	SEE NOTE		35*		35*
1990-066A	COSMOS 2088	20720	USSR	30 JUL	116.0	73.6	1521	1482	
1990-066B		20721	USSR	30 JUL	116.0	73.6	1519	1481	
1990-068A		20724	US	02 AUG	718.0	54.7	20454	19909	
1990-070A	COSMOS 2090	20735	USSR	08 AUG	113.8	82.6	1410	1388	
1990-070B	COSMOS 2091	20736	USSR	08 AUG	114.0	82.6	1413	1408	
1990-070C	COSMOS 2092	20737	USSR	08 AUG	114.0	82.6	1411	1404	
1990-070D	COSMOS 2093	20738	USSR	08 AUG	113.9	82.6	1411	1397	
1990-070E	COSMOS 2094	20739	USSR	08 AUG	113.8	82.6	1410	1392	
1990-070F	COSMOS 2095	20740	USSR	08 AUG	113.7	82.6	1410	1381	
1990-070G		20741	USSR	08 AUG	114.6	82.6	1466	1410	
1990-071A	MOLNIYA 1-78	20742	USSR	10 AUG	717.7	63.5	39193	1158	
1990-071D		20745	USSR	10 AUG	732.7	63.6	39875	1211	
1990-074A	BSB-R2	20762	UK	18 AUG	1436.1	0.0	35796	35777	
1990-074B		20763	US	18 AUG	102.2	24.8	1249	476	
1990-074C		20764	US	18 AUG	669.9	20.5	37560	402	
1990-076A	COSMOS 2097	20767	USSR	28 AUG	718.0	64.7	38948	1418	
1990-076D		20770	USSR	28 AUG	707.9	65.2	38429	1434	
1990-077A	BS-3A	20771	JAPAN	28 AUG	1436.0	0.0	35798	35774	
1990-078A	COSMOS 2098	20774	USSR	28 AUG	108.1	83.0	1887	393	
1990-078B		20775	USSR	28 AUG	107.3	83.0	1828	378	
1990-079A	SKYNET 4C	20776	UK	30 AUG	1436.1	2.3	35794	35779	
1990-079B	EUTELSAT II F1	20777	ESA	30 AUG	1436.0	0.0	35921	35650	
1990-079C		20778	ESA	30 AUG	164.2	7.4	6975	131	
1990-081A	FENGYUN 1-2	20788	PRC	03 SEP	102.7	98.9	897	875	
1990-081D TO 081CH			PRC	03 SEP	SEE NOTE		32*		32*
1990-083A	COSMOS 2100	20804	USSR	14 SEP	104.8	82.9	1011	956	
1990-083B		20805	USSR	14 SEP	104.7	82.9	1001	954	
1990-084A	MOLNIYA 3-39	20813	USSR	20 SEP	717.7	63.1	39063	1287	
1990-084D		20816	USSR	20 SEP	731.7	63.1	39707	1333	
1990-086A	METEOR 2-20	20826	USSR	28 SEP	104.0	82.5	957	939	
1990-086B		20827	USSR	28 SEP	104.0	82.5	957	939	
1990-088A		20830	US	01 OCT	717.9	55.3	20361	20001	
1990-090B	ULYSSES	20842	US	06 OCT	HELIOCENTRIC ORBIT				
1990-090C		20843	US	06 OCT	551.0	28.6	31474	297	
1990-090D		20844	US	06 OCT	HELIOCENTRIC ORBIT				
1990-090E		20845	US	06 OCT	HELIOCENTRIC ORBIT				
1990-091A	SBS-6	20872	US	12 OCT	1436.0	0.0	35799	35773	
1990-091B	GALAXY VI	20873	US	12 OCT	1436.1	0.0	35797	35779	
1990-091C		20874	ESA	12 OCT	584.6	7.5	33302	260	
1990-093A	INMARSAT 2 F1	20918	UK	30 OCT	1436.1	1.7	35798	35774	
1990-093B		20919	US	30 OCT	97.5	24.7	914	368	
1990-094A	GORIZONT 21	20923	USSR	03 NOV	1436.2	0.9	35800	35776	
1990-094D		20926	USSR	03 NOV	1427.8	0.8	35769	35479	
1990-094E		20927	USSR	03 NOV	224.8	46.6	11583	155	
1990-095A		20929	US	13 NOV	NO ELEMENTS AVAILABLE				
1990-095C		20931	US	13 NOV	NO ELEMENTS AVAILABLE				
1990-095D		20932	US	13 NOV	NO ELEMENTS AVAILABLE				
1990-097B		20963	US	15 NOV	NO ELEMENTS AVAILABLE				
1990-097C		20964	US	15 NOV	NO ELEMENTS AVAILABLE				
1990-097D		20965	US	15 NOV	NO ELEMENTS AVAILABLE				
1990-099A	COSMOS 2105	20941	USSR	20 NOV	718.2	65.3	38993	1381	
1990-099D		20944	USSR	20 NOV	707.4	65.5	38400	1443	
1990-100A	SATCOM I	20945	US	20 NOV	1436.1	0.0	35799	35773	
1990-100B	GSTAR IV	20946	US	20 NOV	1436.0	0.0	35787	35784	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1990-100C		20947	ESA	20 NOV	600.4	7.1	34129	264	
1990-101A	MOLNIYA 1-79	20949	USSR	23 NOV	717.6	64.6	39378	965	
1990-101D		20952	USSR	23 NOV	730.6	64.7	40003	981	
1990-102A	GORIZONT 22	20953	USSR	23 NOV	1436.2	0.8	35798	35780	
1990-102D		21046	USSR	23 NOV	1471.4	0.8	36556	36394	
1990-103A		20959	US	26 NOV	718.0	54.9	20366	19999	
1990-103B		20960	US	26 NOV	96.0	21.4	647	483	
1990-104A	COSMOS 2106	20966	USSR	28 NOV	94.0	82.5	474	461	
1990-104B		20967	USSR	28 NOV	94.6	82.5	507	492	
1990-104G		21069	USSR	28 NOV	92.8	82.5	423	399	
1990-105A		20978	US	01 DEC	100.5	98.7	839	723	
1990-105B		20979	US	01 DEC	97.7	98.8	679	613	
1990-105M		20998	US	01 DEC	96.4	98.9	675	496	
1990-105S		21073	US	01 DEC	98.1	98.8	704	627	
1990-105Z		21080	US	01 DEC	99.4	98.8	772	684	
1990-105AA		21124	US	01 DEC	94.6	98.8	533	462	
1990-105AB		21125	US	01 DEC	95.7	98.9	614	491	
1990-105AE		21690	US	01 DEC	99.0	98.8	752	669	
1990-110A	COSMOS 2109	21006	USSR	08 DEC	675.7	64.9	19281	18977	
1990-110B	COSMOS 2110	21007	USSR	08 DEC	675.7	64.9	19222	19036	
1990-110C	COSMOS 2111	21008	USSR	08 DEC	675.7	64.9	19155	19104	
1990-110F		21011	USSR	08 DEC	675.2	65.0	19124	19110	
1990-110G		21012	USSR	08 DEC	340.1	65.3	18814	706	
1990-110H		21013	USSR	08 DEC	340.1	65.2	18824	696	
1990-111A	COSMOS 2112	21014	USSR	10 DEC	100.6	74.0	807	765	
1990-111B		21015	USSR	10 DEC	100.5	74.1	798	765	
1990-111C		21255	USSR	10 DEC	100.6	74.0	800	776	
1990-112A	RADUGA 26	21016	USSR	20 DEC	1436.0	0.8	35798	35771	
1990-112D		21019	USSR	20 DEC	1439.5	0.7	35964	35740	
1990-112F		21025	USSR	20 DEC	459.2	46.9	26408	268	
1990-114A	COSMOS 2114	21028	USSR	22 DEC	114.0	82.6	1411	1408	
1990-114B	COSMOS 2115	21029	USSR	22 DEC	113.9	82.6	1408	1404	
1990-114C	COSMOS 2116	21030	USSR	22 DEC	113.9	82.6	1408	1398	
1990-114D	COSMOS 2117	21031	USSR	22 DEC	113.8	82.6	1408	1393	
1990-114E	COSMOS 2118	21032	USSR	22 DEC	113.7	82.6	1408	1388	
1990-114F	COSMOS 2119	21033	USSR	22 DEC	113.7	82.6	1408	1382	
1990-114G		21034	USSR	22 DEC	114.6	82.6	1469	1408	
1990-116A	RADUGA 1-2	21038	USSR	27 DEC	1436.3	0.7	35799	35781	
1990-116D		21041	USSR	27 DEC	1470.2	0.7	36582	36321	
1990-116F		21045	USSR	27 DEC	282.3	46.5	15590	162	
1990-116G		21961	USSR	27 DEC	318.4	46.5	17973	164	
1991 LAUNCHES									
1991-001A	NATO IVA	21047	NATO	08 JAN	1436.2	2.8	35801	35775	
1991-001B		21048	NATO	08 JAN	121.6	18.5	2722	786	
1991-001C		21049	NATO	08 JAN	635.9	26.1	35453	782	
1991-003A	ITALSAT-1	21055	ITALY	15 JAN	1436.0	0.1	35886	35684	
1991-003B	EUTELSAT	21056	ESA	15 JAN	1436.1	0.0	35822	35750	
1991-003C		21057	ESA	15 JAN	576.6	6.7	32909	227	
1991-003D		21058	ESA	15 JAN	441.8	6.6	25417	256	
1991-006A	INFORMTR-1	21087	USSR	29 JAN	104.7	82.9	1006	954	
1991-006B		21088	USSR	29 JAN	104.6	82.9	992	957	
1991-007A	COSMOS 2123	21089	USSR	05 FEB	104.7	82.9	1004	959	
1991-007B		21090	USSR	05 FEB	104.6	82.9	993	961	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1991-007C		21091	USSR	05 FEB	104.6	82.9	996	951	
1991-009A	COSMOS 2125	21100	USSR	12 FEB	115.2	74.0	1471	1455	
1991-009B	COSMOS 2126	21101	USSR	12 FEB	115.5	74.0	1494	1464	
1991-009C	COSMOS 2127	21102	USSR	12 FEB	115.3	74.0	1475	1465	
1991-009D	COSMOS 2128	21103	USSR	12 FEB	115.0	74.0	1467	1442	
1991-009E	COSMOS 2129	21104	USSR	12 FEB	114.8	74.0	1467	1427	
1991-009F	COSMOS 2130	21105	USSR	12 FEB	114.5	74.0	1467	1398	
1991-009G	COSMOS 2131	21106	USSR	12 FEB	114.3	74.0	1466	1384	
1991-009H	COSMOS 2132	21107	USSR	12 FEB	114.7	74.0	1467	1412	
1991-009J TO 009CJ			USSR	12 FEB	SEE NOTE		33*		33*
1991-010A	COSMOS 2133	21111	USSR	14 FEB	1430.2	0.5	35797	35544	
1991-010D		21114	USSR	14 FEB	404.0	46.7	23228	219	
1991-010F		21129	USSR	14 FEB	1437.9	0.6	35891	35753	
1991-012A	MOLNIYA 1-80	21118	USSR	15 FEB	717.8	63.2	38756	1599	
1991-012D		21121	USSR	15 FEB	700.5	63.1	37928	1571	
1991-012E		21122	USSR	15 FEB	588.3	47.2	33319	437	
1991-013A	COSMOS 2135	21130	USSR	26 FEB	104.5	82.8	1019	919	
1991-013B		21131	USSR	26 FEB	104.3	82.8	1011	916	
1991-014A	RADUGA 27	21132	USSR	28 FEB	1435.8	0.8	35810	35753	
1991-014D		21135	USSR	28 FEB	1392.3	0.7	35023	34824	
1991-015A	ASTRA 1-B	21139	LUXEM	02 MAR	1436.1	0.0	35806	35766	
1991-015B	MOP-2	21140	ESA	02 MAR	1436.1	0.2	35794	35777	
1991-015C		21141	ESA	02 MAR	537.7	6.9	30796	253	
1991-015D		21142	ESA	02 MAR	375.8	6.7	21517	228	
1991-015E		21904	ESA	02 MAR	1437.9	0.7	36476	35166	
1991-017A		21147	US	08 MAR	NO ELEMENTS AVAILABLE				
1991-017B		21148	US	08 MAR	NO ELEMENTS AVAILABLE				
1991-018A	INMARSAT-2	21149	UK	08 MAR	1436.2	2.1	35812	35762	
1991-018B		21150	US	08 MAR	99.4	25.0	1049	407	
1991-018C		21151	US	08 MAR	519.2	23.6	29829	210	
1991-019A	NADEZHDA	21152	USSR	12 MAR	104.8	82.9	1016	952	
1991-019B		21153	USSR	12 MAR	104.7	82.9	1007	950	
1991-021A	COSMOS 2137	21190	USSR	19 MAR	92.1	65.8	389	365	
1991-021B		21191	USSR	19 MAR	90.1	65.8	283	274	
1991-022A	MOLNIYA 3-40	21196	USSR	22 MAR	717.6	63.1	38741	1602	
1991-022D		21199	USSR	22 MAR	700.2	63.2	37878	1605	
1991-025A	COSMOS 2139	21216	USSR	04 APR	675.7	65.1	19151	19107	
1991-025B	COSMOS 2140	21217	USSR	04 APR	675.7	65.1	19154	19104	
1991-025C	COSMOS 2141	21218	USSR	04 APR	675.7	65.1	19147	19111	
1991-025E		21221	USSR	04 APR	675.5	65.0	19131	19115	
1991-025F		21220	USSR	04 APR	339.3	65.0	18916	556	
1991-025G		21226	USSR	04 APR	339.2	64.8	18913	554	
1991-026A	ANIK E-2	21222	CANADA	05 APR	1436.1	0.0	35797	35777	
1991-026B		21223	ESA	05 APR	634.8	4.1	35748	430	
1991-027B	GRO	21225	US	05 APR	91.6	28.5	356	349	
1991-028A	ASC 2 SPACENET 5	21227	US	13 APR	1435.9	0.0	35842	35778	
1991-028B		21228	US	13 APR	115.5	24.0	2395	561	
1991-028C		21229	US	13 APR	655.6	21.7	35853	1386	
1991-029A	COSMOS 2142	21230	USSR	16 APR	104.9	83.0	1016	959	
1991-029B		21231	USSR	16 APR	104.7	83.0	1005	953	
1991-030A	METEOR 3-4	21232	USSR	24 APR	109.3	82.5	1208	1179	
1991-030B		21233	USSR	24 APR	109.3	82.6	1209	1183	
1991-031C		21262	US	28 APR	NO ELEMENTS AVAILABLE				
1991-032A	NOAA-12	21263	US	14 MAY	101.2	98.7	824	805	
1991-032B		21267	US	14 MAY	100.5	98.7	786	777	

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1991-032C		21298	US	14 MAY	100.5	98.7	787	778	
1991-033A	COSMOS 2143	21299	USSR	16 MAY	113.9	82.6	1414	1395	
1991-033B	COSMOS 2144	21300	USSR	16 MAY	114.0	82.6	1414	1408	
1991-033C	COSMOS 2145	21301	USSR	16 MAY	114.0	82.6	1414	1402	
1991-033D	COSMOS 2146	21302	USSR	16 MAY	113.8	82.6	1414	1390	
1991-033E	COSMOS 2147	21303	USSR	16 MAY	113.8	82.6	1414	1385	
1991-033F	COSMOS 2148	21304	USSR	16 MAY	113.7	82.6	1414	1379	
1991-033G		21305	USSR	16 MAY	114.7	82.6	1470	1413	
1991-035C		21479	USSR	21 MAY	85.8	82.2	90	65	
1991-037A	AURORA-II	21392	US	29 MAY	1436.1	0.1	35798	35775	
1991-037B		21393	US	29 MAY	112.4	25.0	2273	402	
1991-037C		21394	US	29 MAY	648.8	23.4	35394	1498	
1991-039A	OKEAN 3	21397	USSR	04 JUN	97.5	82.5	654	623	
1991-039B		21398	USSR	04 JUN	97.6	82.5	658	627	
1991-039C		21842	USSR	04 JUN	97.2	82.5	640	612	
1991-041A	COSMOS 2150	21418	USSR	11 JUN	100.7	74.0	805	778	
1991-041B		21419	USSR	11 JUN	100.6	74.0	799	774	
1991-041C		21420	USSR	11 JUN	100.8	74.1	803	791	
1991-041D		21711	USSR	11 JUN	100.6	74.0	798	773	
1991-042A	COSMOS 2151	21422	USSR	13 JUN	97.5	82.5	654	625	
1991-042B		21423	USSR	13 JUN	97.6	82.5	656	628	
1991-043A	MOLNIYA 1-81	21426	USSR	18 JUN	717.7	63.4	39097	1253	
1991-043D		21429	USSR	18 JUN	732.2	63.4	39785	1277	
1991-045A	REX	21527	US	29 JUN	101.3	89.6	870	765	
1991-045B		21528	US	29 JUN	101.1	89.6	856	762	
1991-045C		21529	US	29 JUN	101.2	89.6	871	764	
1991-045D		21532	US	29 JUN	101.2	89.5	873	756	
1991-045E		21691	US	29 JUN	100.4	89.8	793	760	
1991-045F		21712	US	29 JUN	101.9	89.3	958	737	
1991-046A	GORIZONT 23	21533	USSR	02 JUL	1456.0	0.3	36207	36142	
1991-046D		21536	USSR	02 JUL	1426.7	0.2	35646	35558	
1991-046E		21538	USSR	02 JUL	469.7	47.0	27019	256	
1991-047A		21552	US	04 JUL	718.0	55.6	20313	20052	
1991-047D		21555	US	04 JUL	234.6	34.5	12270	171	
1991-050A	ERS-1	21574	ESA	17 JUL	100.5	98.6	783	779	
1991-050B	UOSAT-F	21575	UK	17 JUL	100.2	98.5	771	761	
1991-050C	ORBCOMM-X	21576	US	17 JUL	100.2	98.5	770	766	
1991-050D	TUBSAT	21577	FRG	17 JUL	100.2	98.5	771	764	
1991-050E	SARA	21578	FRANCE	17 JUL	100.0	98.5	763	757	
1991-050F		21610	ESA	17 JUL	100.3	98.4	776	770	
1991-053A	MOLNIYA 1-82	21630	USSR	01 AUG	717.7	64.4	39663	685	
1991-053D		21633	USSR	01 AUG	733.1	64.4	40441	665	
1991-054B	TDRS-5	21639	US	02 AUG	1436.1	0.0	35800	35772	
1991-054C		21640	US	02 AUG	618.4	26.3	35030	299	
1991-054D		21641	US	02 AUG	1435.3	1.7	35897	35645	
1991-054E		21642	US	02 AUG	618.8	27.0	35079	271	
1991-055A	INTELSAT 6 F-5	21653	ITSO	14 AUG	1436.2	0.1	35790	35786	
1991-055B		21654	ESA	14 AUG	588.9	6.9	33533	254	
1991-056A	METEOR 3-5	21655	USSR	15 AUG	109.3	82.6	1204	1183	
1991-056B		21656	USSR	15 AUG	109.3	82.6	1205	1182	
1991-059A	COSMOS 2154	21666	USSR	22 AUG	104.8	82.9	1006	968	
1991-059B		21667	USSR	22 AUG	104.7	82.9	1001	961	
1991-060A	BS-3B	21668	JAPAN	25 AUG	1436.0	0.0	35797	35775	
1991-061A		21688	INDIA	29 AUG	103.1	99.1	916	891	
1991-061B		21689	INDIA	29 AUG	102.8	99.2	913	865	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1991-062A	SOLAR-A	21694	JAPAN	30 AUG	97.5	31.3	756	517	
1991-062B		21695	JAPAN	30 AUG	97.5	31.3	760	515	
1991-062D		21697	JAPAN	30 AUG	91.7	31.3	377	338	
1991-062F		21699	JAPAN	30 AUG	94.1	31.4	513	431	
1991-062H		21802	JAPAN	30 AUG	97.3	31.5	708	553	
1991-063B	UARS	21701	US	12 SEP	96.2	57.0	580	573	
1991-064A	COSMOS 2155	21702	USSR	13 SEP	1437.4	0.2	35833	35791	
1991-064B		21703	USSR	13 SEP	1444.6	0.2	35962	35942	
1991-065A	MOLNIYA 3-41	21706	USSR	17 SEP	717.8	63.0	39149	1204	
1991-065D		21709	USSR	17 SEP	733.2	63.0	39872	1241	
1991-067A	ANIK E1	21726	CANADA	26 SEP	1436.0	0.0	35797	35776	
1991-067B		21727	ESA	26 SEP	637.0	4.3	35889	399	
1991-068A	COSMOS 2157	21728	USSR	28 SEP	114.0	82.6	1411	1404	
1991-068B	COSMOS 2158	21729	USSR	28 SEP	113.9	82.6	1408	1400	
1991-068C	COSMOS 2159	21730	USSR	28 SEP	113.7	82.6	1407	1385	
1991-068D	COSMOS 2160	21731	USSR	28 SEP	113.8	82.6	1409	1394	
1991-068E	COSMOS 2161	21732	USSR	28 SEP	113.8	82.6	1408	1391	
1991-068F	COSMOS 2162	21733	USSR	28 SEP	114.0	82.6	1416	1405	
1991-068G		21734	USSR	28 SEP	114.7	82.6	1477	1407	
1991-074A	GORIZONT 24	21759	USSR	23 OCT	1436.1	0.2	35811	35763	
1991-074D		21762	USSR	23 OCT	1444.4	0.1	35967	35929	
1991-075A	INTELSAT F1 V1	21765	ITSO	29 OCT	1436.2	0.0	35791	35785	
1991-075B		21766	ESA	29 OCT	605.8	7.5	34437	239	
1991-076A	USA 72	21775	US	08 NOV	NO ELEMENTS AVAILABLE				
1991-076B		21776	US	08 NOV	NO ELEMENTS AVAILABLE				
1991-076C		21799	US	08 NOV	NO ELEMENTS AVAILABLE				
1991-076D	USA 76	21808	US	08 NOV	NO ELEMENTS AVAILABLE				
1991-076E	USA 77	21809	US	08 NOV	NO ELEMENTS AVAILABLE				
1991-076F		21956	US	08 NOV	NO CURRENT ELEMENTS				
1991-077A	COSMOS 2165	21779	USSR	12 NOV	113.8	82.6	1411	1391	
1991-077B	COSMOS 2166	21780	USSR	12 NOV	113.9	82.6	1411	1403	
1991-077C	COSMOS 2167	21781	USSR	12 NOV	113.9	82.6	1411	1396	
1991-077D	COSMOS 2168	21782	USSR	12 NOV	113.8	82.6	1411	1386	
1991-077E	COSMOS 2169	21783	USSR	12 NOV	113.7	82.6	1411	1379	
1991-077F	COSMOS 2170	21784	USSR	12 NOV	114.0	82.6	1411	1410	
1991-077G		21785	USSR	12 NOV	114.7	82.6	1470	1411	
1991-079A	COSMOS 2172	21789	USSR	22 NOV	1436.1	0.1	35816	35756	
1991-079D		21792	USSR	22 NOV	1460.2	0.1	36272	36240	
1991-079F		21794	USSR	22 NOV	329.6	46.7	18683	169	
1991-080B	USA 75	21805	US	25 NOV	NO ELEMENTS AVAILABLE				
1991-080C		21806	US	25 NOV	NO ELEMENTS AVAILABLE				
1991-080D		21807	US	25 NOV	NO ELEMENTS AVAILABLE				
1991-081A	COSMOS 2173	21796	USSR	26 NOV	104.7	83.0	1017	942	
1991-081B		21797	USSR	26 NOV	104.6	83.0	1005	942	
1991-082A	USA 73	21798	US	28 NOV	101.8	99.0	853	834	
1991-082B		21800	US	28 NOV	101.4	98.9	829	819	
1991-082C		21801	US	28 NOV	101.5	98.9	833	823	
1991-082D		21825	US	28 NOV	101.5	98.9	852	808	
1991-082E		21836	US	28 NOV	101.5	99.0	840	822	
1991-083A	EUTELSAT II	21803	ESA	07 DEC	1436.1	0.0	35814	35759	
1991-083B		21804	ESA	07 DEC	753.6	17.0	41236	872	
1991-084A	TELECOM 2A	21813	FRANCE	16 DEC	1436.1	0.0	35808	35766	
1991-084B	INMARSAT 2 F-3	21814	ITSO	16 DEC	1436.1	1.6	35797	35775	
1991-084C		21815	ESA	16 DEC	643.0	4.4	36224	376	
1991-084D		21818	ESA	16 DEC	619.8	4.4	35073	331	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1991-086A	INTERCOSMOS 25	21819	USSR	18 DEC	121.4	82.6	3052	434	
1991-086B		21820	USSR	18 DEC	121.5	82.6	3059	434	
1991-086C		21826	USSR	18 DEC	120.0	82.6	2934	430	
1991-086D		21827	USSR	18 DEC	120.2	82.5	2947	432	
1991-086E	MAGION 3	21835	CZECH	18 DEC	121.4	82.6	3049	435	
1991-086F		21905	USSR	18 DEC	120.9	82.6	3003	438	
1991-087A	RADUGA 28	21821	USSR	19 DEC	1436.4	0.2	35796	35789	
1991-087D		21824	USSR	19 DEC	1469.1	0.2	36493	36367	
1991-087F		21829	USSR	19 DEC	430.5	46.7	24776	237	
1991-088A	PRC 34	21833	PRC	28 DEC	632.6	31.4	33989	2076	
1992 LAUNCHES									
1992-003A	COSMOS 2176	21847	USSR	24 JAN	717.6	64.7	39214	1129	
1992-003D		21850	USSR	24 JAN	706.1	64.9	38671	1103	
1992-005A	COSMOS 2177	21853	USSR	29 JAN	675.7	64.8	19145	19113	
1992-005B	COSMOS 2178	21854	USSR	31 JAN	675.7	64.8	19172	19086	
1992-005C	COSMOS 2179	21855	USSR	29 JAN	675.7	64.8	19147	19111	
1992-005F		21858	USSR	29 JAN	675.3	65.0	19145	19094	
1992-005G		21862	USSR	29 JAN	340.1	65.0	19075	445	
1992-005H		21863	USSR	29 JAN	340.0	65.0	19088	428	
1992-006A	USA 78	21873	US	10 FEB	NO ELEMENTS AVAILABLE				
1992-006B		21874	US	10 FEB	NO ELEMENTS AVAILABLE				
1992-006C		21877	US	10 FEB	NO ELEMENTS AVAILABLE				
1992-007A	JERS-1	21867	JAPAN	11 FEB	96.0	97.7	569	566	
1992-007B		21868	JAPAN	11 FEB	93.2	97.7	466	397	
1992-008A	COSMOS 2180	21875	USSR	17 FEB	104.8	82.9	1014	957	
1992-008B		21876	USSR	17 FEB	104.7	82.9	1006	955	
1992-009A	USA 79	21890	US	23 FEB	718.0	54.4	20338	20025	
1992-009B		21891	US	23 FEB	98.3	20.0	721	631	
1992-009C		21892	US	23 FEB	305.6	34.6	17113	189	
1992-010A	SUPERBIRD B1	21893	JAPAN	26 FEB	1436.1	0.0	35807	35767	
1992-010B	ARABSAT 1C	21894	SA	26 FEB	1435.9	0.2	35798	35769	
1992-010C		21895	ESA	26 FEB	441.2	6.7	25405	232	
1992-011A	MOLNIYA 1-83	21897	USSR	04 MAR	717.7	63.0	39497	853	
1992-011D		21900	USSR	04 MAR	698.4	63.1	38555	837	
1992-012A	COSMOS 2181	21902	USSR	09 MAR	104.9	82.9	1012	968	
1992-012B		21903	USSR	09 MAR	104.7	82.9	1006	959	
1992-013A	GALAXY 5	21906	US	14 MAR	1436.1	0.0	35792	35783	
1992-013B		21907	US	14 MAR	638.5	18.8	35299	1068	
1992-017A	GORIZONT 25	21922	USSR	02 APR	1436.3	0.4	35800	35780	
1992-017D		21925	USSR	02 APR	1424.5	0.4	35637	35482	
1992-019A	USA 80	21930	US	10 APR	718.0	55.4	20350	20014	
1992-019B		21931	US	10 APR	97.1	21.2	712	532	
1992-019C		21932	US	10 APR	307.5	34.6	17218	206	
1992-020A	COSMOS 2184	21937	USSR	15 APR	104.9	82.9	1013	962	
1992-020B		21938	USSR	15 APR	104.7	82.9	1003	959	
1992-021A	TELECOM 2B	21939	FRANCE	15 APR	1436.1	0.0	35802	35772	
1992-021B	INMARSAT 2 F4	21940	IM	15 APR	1435.2	2.3	36418	35120	
1992-021C		21941	ESA	15 APR	627.6	3.5	35520	286	
1992-021D		21942	ESA	15 APR	614.6	3.5	34789	344	
1992-023A	USA 81	21949	US	25 APR	NO ELEMENTS AVAILABLE				
1992-023B		21950	US	25 APR	NO ELEMENTS AVAILABLE				
1992-027A	PALAPA-B4	21964	INDO	14 MAY	1436.2	0.1	35790	35788	
1992-027B		21965	US	14 MAY	119.3	19.7	2791	506	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1992-027C		21966	US	14 MAY	701.4	23.0	36706	2838	
1992-030A	COSMOS 2187	21976	USSR	03 JUN	114.6	74.0	1478	1399	
1992-030B	COSMOS 2188	21977	USSR	03 JUN	114.5	74.0	1476	1386	
1992-030C	COSMOS 2189	21978	USSR	03 JUN	114.8	74.0	1477	1414	
1992-030D	COSMOS 2190	21979	USSR	03 JUN	115.0	74.0	1478	1428	
1992-030E	COSMOS 2191	21980	USSR	03 JUN	115.7	74.0	1499	1471	
1992-030F	COSMOS 2192	21981	USSR	03 JUN	115.5	74.0	1483	1470	
1992-030G	COSMOS 2193	21982	USSR	03 JUN	115.1	74.0	1478	1443	
1992-030H	COSMOS 2194	21983	USSR	03 JUN	115.3	74.0	1482	1456	
1992-030J		21984	USSR	03 JUN	117.8	74.0	1680	1481	
1992-031A	EUVE	21987	US	07 JUN	95.0	28.4	525	511	
1992-032A	INTELSAT K	21989	ITSO	10 JUN	1436.2	0.0	35792	35783	
1992-032B		21990	US	10 JUN	578.6	26.5	33002	242	
1992-036A	COSMOS 2195	22006	USSR	01 JUL	104.7	82.9	1009	953	
1992-036B		22007	USSR	01 JUL	104.6	82.9	998	948	
1992-037A	USA 82	22009	US	02 JUL	NO ELEMENTS AVAILABLE				
1992-037B		22010	US	02 JUL	NO ELEMENTS AVAILABLE				
1992-037C		22011	US	02 JUL	NO ELEMENTS AVAILABLE				
1992-038A	SAMPEX	22012	US	03 JUL	96.5	81.7	675	505	
1992-038B		22013	US	03 JUL	96.6	81.7	679	508	
1992-039A	USA 83	22014	US	07 JUL	718.0	54.9	20402	19963	
1992-039B		22015	US	07 JUL	97.7	20.7	727	567	
1992-039C		22016	US	07 JUL	303.7	34.8	16979	198	
1992-040A	COSMOS 2196	22017	USSR	08 JUL	717.8	63.9	39468	885	
1992-040D		22020	USSR	08 JUL	705.7	64.2	38886	872	
1992-041A	INSAT-2A	22027	INDIA	09 JUL	1436.1	0.1	35814	35760	
1992-041B	EUTELSAT 2 F4	22028	FRANCE	09 JUL	1436.1	0.0	35808	35765	
1992-041C		22032	ESA	09 JUL	616.2	7.4	34954	263	
1992-041D		22033	ESA	09 JUL	507.7	7.1	29188	219	
1992-042A	COSMOS 2197	22034	USSR	13 JUL	113.9	82.6	1412	1395	
1992-042B	COSMOS 2198	22035	USSR	12 JUL	114.0	82.6	1413	1407	
1992-042C	COSMOS 2199	22036	USSR	13 JUL	114.2	82.6	1424	1410	
1992-042D	COSMOS 2200	22037	USSR	13 JUL	114.0	82.6	1412	1402	
1992-042E	COSMOS 2201	22038	USSR	13 JUL	114.1	82.6	1418	1409	
1992-042F	COSMOS 2202	22039	USSR	13 JUL	114.0	82.6	1414	1406	
1992-042G		22040	USSR	13 JUL	114.7	82.6	1471	1408	
1992-043A	GORIZONT 26	22041	USSR	14 JUL	1436.2	0.7	35807	35768	
1992-043D		22044	USSR	14 JUL	1471.9	0.7	37087	35881	
1992-043F		22048	USSR	14 JUL	542.7	46.4	31174	148	
1992-044A	GEOTAIL	22049	JAPAN	24 JUL	4750.6	22.4	508542	41363	
1992-047A	COSMOS 2204	22056	USSR	30 JUL	675.7	64.9	19138	19120	
1992-047B	COSMOS 2205	22057	USSR	30 JUL	675.7	64.9	19138	19120	
1992-047C	COSMOS 2206	22058	USSR	30 JUL	675.7	64.9	19157	19101	
1992-047E		22060	USSR	30 JUL	87.8	64.8	183	166	
1992-047F		22061	USSR	30 JUL	675.0	64.8	19140	19082	
1992-047G		22066	USSR	30 JUL	340.1	64.9	19115	404	
1992-047H		22067	USSR	30 JUL	340.0	64.7	19118	400	
1992-049B	EURECA-1	22065	ESA	31 JUL	94.2	28.5	487	475	
1992-050A	MOLNIYA 1-84	22068	USSR	06 AUG	717.7	63.0	39345	1006	
1992-050D		22071	USSR	06 AUG	733.3	63.0	40112	1006	
1992-052A	TOPEX	22076	US	10 AUG	112.4	66.0	1342	1330	
1992-052B	KITSAT A	22077	KOREA	10 AUG	111.9	66.1	1317	1311	
1992-052C	SSO/T	22078	FRANCE	10 AUG	111.9	66.1	1316	1310	
1992-052D		22079	FRANCE	10 AUG	112.7	66.1	1402	1295	
1992-053A	COSMOS 2208	22080	USSR	12 AUG	100.8	74.0	803	785	

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1992-053B		22081	USSR	12 AUG	100.6	74.0	803	774	
1992-054A	AUSSAT B1	22087	AUSTRL	13 AUG	1436.1	0.5	35799	35775	
1992-054C		22089	AUSTRL	13 AUG	664.2	22.9	37246	429	
1992-057A	SATCOM-C4	22096	US	31 AUG	1436.1	0.0	35798	35775	
1992-057B		22097	US	31 AUG	132.0	25.2	2642	1772	
1992-057C		22098	US	31 AUG	662.1	20.0	35713	1855	
1992-058A	USA 84	22108	US	09 SEP	718.0	54.5	20463	19900	
1992-058B		22109	US	09 SEP	98.7	19.8	728	662	
1992-058C		22110	US	09 SEP	325.2	34.7	18374	201	
1992-059A	COSMOS 2209	22112	USSR	10 SEP	1436.1	0.6	35791	35781	
1992-059D		22115	USSR	10 SEP	1442.9	0.7	35976	35861	
1992-060A	HISPASAT 1A	22116	SPAIN	10 SEP	1436.2	0.0	35795	35782	
1992-060B	SATCOM C3	22117	US	10 SEP	1436.1	0.1	35795	35777	
1992-060C		22118	SPAIN	10 SEP	364.0	7.2	20876	143	
1992-060D		22119	SPAIN	10 SEP	419.3	7.3	24196	163	
1992-063A	MARS	22136	US	25 SEP	MARS ORBIT				
1992-063C		22138	US	25 SEP	MARS ORBIT				
1992-064A	FREJA	22161	SWEDEN	06 OCT	108.9	63.0	1759	595	
1992-066A	DFS 3	22175	FRG	12 OCT	1436.1	0.0	35815	35756	
1992-066B		22176	US	12 OCT	132.7	25.1	3074	1409	
1992-066C		22177	US	12 OCT	658.5	19.6	35856	1531	
1992-067A	MOLNIYA 3-42	22178	USSR	14 OCT	NO CURRENT ELEMENTS				
1992-067D		22181	USSR	14 OCT	733.5	62.9	40272	856	
1992-068A	COSMOS 2211	22182	USSR	20 OCT	113.9	82.6	1411	1397	
1992-068B	COSMOS 2212	22183	USSR	20 OCT	114.0	82.6	1410	1406	
1992-068C	COSMOS 2213	22184	USSR	20 OCT	114.0	82.6	1412	1408	
1992-068D	COSMOS 2214	22185	USSR	20 OCT	114.1	82.6	1421	1408	
1992-068E	COSMOS 2215	22186	USSR	20 OCT	114.2	82.6	1426	1408	
1992-068F	COSMOS 2216	22187	USSR	20 OCT	114.0	82.6	1414	1407	
1992-068G		22188	USSR	20 OCT	114.7	82.6	1478	1405	
1992-069A	COSMOS 2217	22189	USSR	21 OCT	717.7	63.3	39355	993	
1992-069D		22192	USSR	21 OCT	709.9	63.7	38967	996	
1992-070B	LAGEOS II	22195	ITALY	22 OCT	222.5	52.7	5950	5617	
1992-070D		22196	US	22 OCT	151.8	41.2	5799	294	
1992-070E		22197	US	22 OCT	222.4	52.7	5948	5616	
1992-070G		22535	US	22 OCT	150.0	41.2	5652	297	
1992-072A	GALAXY VII	22205	US	28 OCT	1436.1	0.0	35795	35779	
1992-072B		22206	FRANCE	28 OCT	437.2	7.2	25194	212	
1992-072C		22670	US	28 OCT	481.7	7.2	27624	332	
1992-073A	COSMOS 2218	22207	USSR	29 OCT	104.9	82.9	1012	964	
1992-073B		22208	USSR	29 OCT	104.7	82.9	1004	958	
1992-074A	EKRAN 20	22210	USSR	30 OCT	1436.0	1.0	35800	35769	
1992-074D		22213	USSR	30 OCT	1423.8	1.0	35632	35458	
1992-074E		22215	USSR	30 OCT	507.2	46.7	29249	131	
1992-076A	COSMOS 2219	22219	USSR	17 NOV	101.9	71.0	855	844	
1992-076B		22220	USSR	17 NOV	101.7	71.0	850	828	
1992-076C		22221	USSR	17 NOV	104.7	71.0	1116	842	
1992-076D		22222	USSR	17 NOV	105.2	71.0	1166	842	
1992-076E		22223	USSR	17 NOV	104.8	71.0	1131	840	
1992-076F		22224	USSR	17 NOV	104.9	71.0	1133	842	
1992-078A	MSTI	22229	US	21 NOV	88.7	96.8	218	203	
1992-079A	USA 85	22231	US	22 NOV	NO CURRENT ELEMENTS				
1992-079B		22232	US	22 NOV	97.2	21.2	722	530	
1992-079C		22233	US	22 NOV	320.2	34.7	18067	183	
1992-080A	COSMOS 2221	22236	USSR	24 NOV	97.7	82.5	660	632	

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1992-080B		22237	USSR	24 NOV	97.6	82.5	660	631	
1992-081A	COSMOS 2222	22238	USSR	25 NOV	717.9	62.9	39372	988	
1992-081D		22241	USSR	25 NOV	707.8	63.2	38871	988	
1992-082A	GORIZONT 27	22245	USSR	27 NOV	1436.2	1.0	35800	35777	
1992-082D		22248	USSR	27 NOV	1469.1	1.0	36459	36399	
1992-082E		22249	USSR	27 NOV	584.3	46.6	33420	127	
1992-082F		22250	USSR	27 NOV	620.0	46.5	35261	151	
1992-083A	USA 86	22251	US	28 NOV	NO ELEMENTS AVAILABLE				
1992-083B		22252	US	28 NOV	NO ELEMENTS AVAILABLE				
1992-084A	SUPERBIRD A1	22253	JAPAN	01 DEC	1436.2	0.0	35807	35768	
1992-084B		22254	FRG	01 DEC	627.8	7.0	35563	251	
1992-085A	MOLNIYA 3-43	22255	USSR	02 DEC	717.9	63.1	40007	352	
1992-085D		22258	USSR	02 DEC	697.6	63.2	38991	362	
1992-086B	USA 89	22518	US	02 DEC	NO ELEMENTS AVAILABLE				
1992-086C		22519	US	02 DEC	NO ELEMENTS AVAILABLE				
1992-087A	COSMOS 2223	22260	USSR	09 DEC	89.5	64.6	271	230	
1992-088A	COSMOS 2224	22269	USSR	17 DEC	1436.2	1.9	35881	35695	
1992-088D		22272	USSR	17 DEC	1439.1	1.9	35888	35803	
1992-088E		22273	USSR	17 DEC	631.4	46.6	35799	203	
1992-088F		22274	USSR	17 DEC	609.4	46.6	34701	159	
1992-089A	USA 87	22275	US	18 DEC	718.0	54.7	20347	20019	
1992-089B		22276	US	18 DEC	98.3	20.3	739	613	
1992-089C		22277	US	18 DEC	320.0	34.9	18054	183	
1992-090A	AUSSAT B2	22278	AUSTRA	21 DEC	95.9	28.1	917	209	
1992-092A	COSMOS 2226	22282	USSR	22 DEC	116.0	73.6	1522	1477	
1992-092B		22283	USSR	22 DEC	115.3	73.6	1516	1423	
1992-092AP		22350	USSR	25 DEC	102.6	70.9	932	827	
1992-092BX		22382	USSR	25 DEC	104.5	70.9	1102	837	
1992-093A	COSMOS 2227	22284	USSR	25 DEC	101.9	71.0	853	844	
1992-093B TO 093JA			USSR	25 DEC	SEE NOTE		37*		37*
1992-094A	COSMOS 2228	22286	USSR	25 DEC	97.7	82.5	666	628	
1992-094B		22287	USSR	25 DEC	97.7	82.5	666	626	
1992-094HD		22543	USSR	25 DEC	103.9	71.4	1051	833	
1993 LAUNCHES									
1993-001A	COSMOS 2230	22307	USSR	01 JAN	104.8	82.9	1004	969	
1993-001B		22308	USSR	01 JAN	104.7	82.9	1000	957	
1993-002A	MOLNIYA 1-85	22309	USSR	13 JAN	717.7	63.2	39801	551	
1993-002D		22312	USSR	13 JAN	731.9	63.2	40515	533	
1993-003B	TDRS F6	22314	US	13 JAN	1436.3	0.4	35795	35785	
1993-003C		22315	US	13 JAN	631.0	26.7	35732	248	
1993-003D		22316	US	13 JAN	1438.7	1.8	36125	35548	
1993-005A	SOYUZ TM-16	22319	USSR	24 JAN	92.4	51.6	395	388	
1993-006A	COSMOS 2232	22321	USSR	26 JAN	717.6	62.9	39630	716	
1993-006D		22324	USSR	26 JAN	706.8	63.0	39100	711	
1993-007A	USA 88	22446	US	03 FEB	718.0	54.9	20354	20010	
1993-007B		22447	US	03 FEB	97.7	20.9	729	564	
1993-007C		22448	US	03 FEB	335.8	34.7	19052	197	
1993-008A	COSMOS 2233	22487	USSR	09 FEB	104.7	82.9	1005	951	
1993-008B		22488	USSR	09 FEB	104.5	82.9	995	950	
1993-009A	OXP-1	22489	US	09 FEB	100.1	25.0	795	731	
1993-009B	SCD 1	22490	BRAZIL	09 FEB	100.1	25.0	794	728	
1993-009C		22491	US	09 FEB	99.8	25.0	790	711	
1993-010A	COSMOS 2234	22512	USSR	17 FEB	675.7	64.8	19151	19107	

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1993-010B	COSMOS 2235	22513	USSR	17 FEB	675.7	64.8	19145	19112	
1993-010C	COSMOS 2236	22514	USSR	17 FEB	675.7	64.9	19163	19095	
1993-010F		22517	USSR	17 FEB	674.7	64.8	19117	19092	
1993-010G		22524	USSR	17 FEB	340.2	64.9	19120	409	
1993-010H		22528	USSR	17 FEB	340.2	64.9	19122	406	
1993-011A	ASTRO D	22521	JAPAN	20 FEB	96.6	31.1	648	540	
1993-011B		22522	JAPAN	22 FEB	96.1	31.1	614	529	
1993-011C		22523	JAPAN	20 FEB	95.5	31.1	573	510	
1993-011D		22534	JAPAN	20 FEB	96.3	30.9	610	549	
1993-011E		22587	JAPAN	20 FEB	95.9	31.1	599	522	
1993-011F		22628	JAPAN	20 FEB	95.9	31.1	598	522	
1993-013A	RADUGA 29	22557	USSR	25 MAR	1436.4	1.3	35912	35671	
1993-013D		22624	USSR	25 MAR	1473.1	2.0	36616	36399	
1993-013E		22569	USSR	25 MAR	646.4	47.2	36546	228	
1993-013F		22570	USSR	25 MAR	641.3	47.1	36338	175	
1993-013G		22625	USSR	25 MAR	1469.1	1.2	36514	36347	
1993-014A	START-1	22561	USSR	25 MAR	101.4	75.8	968	679	
1993-014B		22562	USSR	25 MAR	101.0	75.8	931	679	
1993-014C		22567	USSR	25 MAR	101.5	75.8	979	680	
1993-014D		22568	USSR	25 MAR	101.5	75.8	979	678	
1993-014E		22599	USSR	25 MAR	101.4	75.8	967	678	
1993-015A	UHF F1	22563	US	25 MAR	1450.9	27.2	36089	36063	
1993-015B		22564	US	25 MAR	189.1	27.2	8845	224	
1993-016A	COSMOS 2237	22565	USSR	26 MAR	101.9	71.0	855	842	
1993-016B TO 016AG			USSR	26 MAR	SEE NOTE		38*		38*
1993-017A	USA 90	22581	US	30 MAR	718.0	54.9	20291	20072	
1993-017C		22583	US	30 MAR	100.7	36.2	1279	307	
1993-017D		22584	US	30 MAR	344.1	34.8	19586	189	
1993-018A	COSMOS 2238	22585	USSR	30 MAR	92.7	65.0	415	402	
1993-019A	PROGRESS M-17	22588	USSR	31 MAR	92.4	51.6	395	388	
1993-020A	COSMOS 2239	22590	USSR	01 APR	104.7	82.9	997	961	
1993-020B		22591	USSR	01 APR	104.6	82.9	988	960	
1993-022A	COSMOS 2241	22594	USSR	06 APR	717.6	63.2	39619	725	
1993-022D		22597	USSR	06 APR	703.1	63.3	38907	722	
1993-024A	COSMOS 2242	22626	USSR	16 APR	97.7	82.5	665	629	
1993-024B		22627	USSR	16 APR	97.7	82.5	665	627	
1993-025A	MOLNIYA 3-44	22633	USSR	21 APR	717.9	62.8	39671	689	
1993-025D		22636	USSR	21 APR	734.9	62.8	40482	714	
1993-026A	ALEXIS	22638	US	25 APR	NO ELEMENTS AVAILABLE				
1993-026B		22639	US	25 APR	NO ELEMENTS AVAILABLE				
1993-029A	COSMOS 2244	22643	USSR	28 APR	92.7	65.0	416	401	
1993-030A	COSMOS 2245	22646	USSR	11 MAY	113.9	82.6	1414	1395	
1993-030B	COSMOS 2246	22647	USSR	11 MAY	113.9	82.6	1414	1398	
1993-030C	COSMOS 2247	22648	USSR	11 MAY	114.0	82.6	1414	1401	
1993-030D	COSMOS 2248	22649	USSR	11 MAY	113.9	82.6	1414	1399	
1993-030E	COSMOS 2249	22650	USSR	11 MAY	114.0	82.6	1414	1401	
1993-030F	COSMOS 2250	22651	USSR	11 MAY	113.9	82.6	1414	1398	
1993-030G		22652	USSR	11 MAY	114.0	82.6	1414	1402	
1993-031A	ASTRA-1C	22653	LUX	12 MAY	1436.3	0.0	35930	35650	
1993-031B	ARASENE	22654	FRANCE	12 MAY	1012.7	1.1	36868	17186	
1993-031C		22655	LUX	12 MAY	639.3	5.3	36125	283	
1993-031D		22656	LUX	12 MAY	622.3	5.4	35305	227	
1993-032A	USA 91	22657	US	13 MAY	717.9	55.0	20328	20032	
1993-032B		22658	US	13 MAY	96.8	21.9	736	477	
1993-032C		22659	US	13 MAY	351.2	34.9	20023	195	

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1993-034A	PROGRESS M-18	22666	USSR	22 MAY	92.4	51.6	391	389	
1993-035A	MOLNIYA 1-86	22671	USSR	26 MAY	717.7	62.8	39866	483	
1993-035D		22674	USSR	26 MAY	733.0	62.9	40621	480	
1993-036A	COSMOS 2251	22675	USSR	16 JUN	100.7	74.0	803	778	
1993-036B		22676	USSR	16 JUN	100.6	74.0	798	773	
1993-037A	STS 57	22684	US	21 JUN	93.3	28.4	484	390	
1993-038A	COSMOS 2252	22687	USSR	24 JUN	114.0	82.6	1413	1401	
1993-038B	COSMOS 2253	22688	USSR	24 JUN	114.1	82.6	1422	1407	
1993-038C	COSMOS 2254	22689	USSR	24 JUN	113.8	82.6	1411	1390	
1993-038D	COSMOS 2255	22690	USSR	24 JUN	113.9	82.6	1412	1402	
1993-038E	COSMOS 2256	22691	USSR	24 JUN	113.9	82.6	1411	1398	
1993-038F	COSMOS 2257	22692	USSR	24 JUN	114.0	82.6	1417	1406	
1993-038G		22693	USSR	24 JUN	114.7	82.6	1477	1406	
1993-039A	GALAXY 4	22694	US	25 JUN	1437.1	0.1	35911	35700	
1993-040A	RESURS F-18	22696	USSR	25 JUN	88.9	82.5	228	216	
1993-041A	RADCAL	22698	US	25 JUN	101.3	89.6	885	755	
1993-041B		22699	US	25 JUN	101.3	89.6	882	753	
1993-042A	USA 92	22700	US	26 JUN	717.2	54.7	20240	20085	
1993-042B		22701	US	26 JUN	94.4	25.7	785	194	
1993-042C		22702	US	26 JUN	354.1	34.7	20217	185	

INITIAL ELEMENTS OF THE OBJECTS WHICH WERE LAUNCHED/CATALOGED AND DECAYED WITHIN THE REPORTING PERIOD

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE (KM)	PERIGEE (KM)	NOTES
1993 LAUNCHES									
1993-021A	COSMOS 2240	22592	USSR	02 APR	90.1	62.8	380	180	
1993-021B		22593	USSR	02 APR	62.8	86.6	130	110	
1993-022B		22595	USSR	06 APR	89.5	62.8	319	180	
1993-022C		22596	USSR	06 APR	62.7	81.8	67	8	
1993-022E		22629	USSR	06 APR	62.7	85.6	75	55	
1993-022F		22630	USSR	06 APR	88.5	62.8	241	164	
1993-023A	STS 56	22621	US	08 APR	90.4	57.0	296	290	
1993-023B	SPARTAN 201	22623	US	08 APR	57.0	90.3	311	295	
1993-025B		22634	USSR	21 APR	91.3	62.8	472	204	
1993-025C		22635	USSR	21 APR	90.5	62.8	432	169	
1993-027A	STS 55	22640	US	26 APR	90.5	28.5	310	289	
1993-028A	COSMOS 2243	22641	USSR	27 APR	87.6	70.3	159	147	
1993-028B		22642	USSR	27 APR	86.8	70.3	147	117	
1993-029B		22644	USSR	28 APR	81.2	70.3	52	43	
1993-033A	RESURS F-2	22663	USSR	21 MAY	89.0	82.6	231	223	
1993-033B		22664	USSR	21 MAY	87.3	82.5	178	138	
1993-033C		22681	USSR	21 MAY	85.6	82.5	83	40	
1993-033D		22682	USSR	21 MAY	87.8	82.5	188	156	
1993-033E		22685	USSR	21 MAY	84.4	82.5	15	4	
1993-033F		22686	USSR	21 MAY	88.3	82.5	218	177	
1993-034B		22667	USSR	22 MAY	84.6	51.6	23	7	
1993-035B		22672	USSR	26 MAY	90.1	62.8	356	199	
1993-035C		22673	USSR	26 MAY	88.8	62.8	267	161	
1993-040B		22697	USSR	25 JUN	85.4	82.5	79	43	

OBJECTS DECAYED WITHIN THE REPORTING PERIOD

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1963-014U		2373	US	09 MAY	23 JUN 93	
1965-082EB		1836	US	15 OCT	17 APR 93	
1966-026F		2179	US	31 MAR	20 APR 93	
1969-082FV		4518	US	30 SEP	05 JUN 93	
1971-015C		5009	USSR	25 FEB	11 APR 93	
1972-058CH		7942	US	23 JUL	16 APR 93	
1977-054A	MOLNIYA 1-37	10092	USSR	24 JUN	20 MAY 93	
1977-061A	COSMOS 925	10134	USSR	07 JUL	29 APR 93	
1977-065DK		10313	US	14 JUL	31 MAY 93	
1978-100AJ		19578	USSR	26 OCT	23 MAY 93	
1979-057D		22139	US	27 JUN	12 MAY 93	
1981-030D		12383	USSR	24 MAR	29 JUN 93	
1982-050E		13253	USSR	28 MAY	02 APR 93	
1984-023B		14787	ESA	05 MAR	06 APR 93	
1986-017GF		22024	USSR	19 FEB	04 MAY 93	
1986-017GG		22045	USSR	19 FEB	04 MAY 93	
1986-017GW		22209	USSR	19 FEB	09 APR 93	
1986-017GX	MAK 2	22225	USSR	19 FEB	01 APR 93	
1986-017HB		22632	USSR	19 FEB	25 APR 93	
1986-017HE		22678	USSR	19 FEB	30 JUN 93	
1986-017HG		22680	USSR	19 FEB	27 JUN 93	
1987-012K		18927	JAPAN	05 FEB	13 APR 93	
1987-041G		18687	USSR	13 MAY	06 APR 93	
1991-062G		21786	JAPAN	30 AUG	09 JUN 93	
1990-104AG		22486	USSR	28 NOV	05 APR 93	
1991-062C		21696	JAPAN	30 AUG	27 JUN 93	
1991-062E		21698	JAPAN	30 AUG	11 MAY 93	
1991-088B		21834	PRC	28 DEC	12 APR 93	
1992-043E		22047	USSR	14 JUL	18 JUN 93	
1992-059F		22126	USSR	10 SEP	07 MAY 93	
1992-074F		22216	USSR	30 OCT	03 JUN 93	
1992-090B		22279	PRC	21 DEC	19 JUN 93	
1992-093HJ		22548	USSR	25 DEC	19 MAY 93	
1993-019B		22589	USSR	31 MAR	01 APR 93	
1993-021A	COSMOS 2240	22592	USSR	02 APR	07 JUN 93	
1993-021B		22593	USSR	02 APR	07 APR 93	
1993-022B		22595	USSR	06 APR	10 MAY 93	
1993-022C		22596	USSR	06 APR	22 APR 93	
1993-022E		22629	USSR	06 APR	29 APR 93	
1993-022F		22630	USSR	06 APR	05 MAY 93	
1993-023A	STS 56	22621	US	08 APR	17 APR 93	
1993-023B	SPARTAN 201	22623	US	08 APR	13 APR 93	
1993-025B		22634	USSR	21 APR	30 MAY 93	
1993-025C		22635	USSR	21 APR	12 MAY 93	
1993-027A	STS 55	22640	US	26 APR	06 MAY 93	
1993-028A	COSMOS 2243	22641	USSR	27 APR	06 MAY 93	
1993-028B		22642	USSR	27 APR	01 MAY 93	
1993-029B		22644	USSR	28 APR	28 APR 93	
1993-033A	RESURS F-2	22663	USSR	21 MAY	20 JUN 93	
1993-033B		22664	USSR	21 MAY	24 MAY 93	
1993-033C		22681	USSR	21 MAY	22 JUN 93	
1993-033D		22682	USSR	21 MAY	22 JUN 93	
1993-033E		22685	USSR	21 MAY	25 JUN 93	

OBJECTS DECAYED WITHIN THE REPORTING PERIOD

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1993-033F		22686	USSR	21 MAY	23 JUN 93	
1993-034B		22667	USSR	22 MAY	25 MAY 93	
1993-035B		22672	USSR	26 MAY	16 JUN 93	
1993-035C		22673	USSR	26 MAY	06 JUN 93	
1993-040B		22697	USSR	25 JUN	27 JUN 93	

FOOTNOTES

1* DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY LAUNCH OR COUNTRY OF ORIGIN.

2* A MANNED SPACECRAFT WHICH SUCCESSFULLY LANDED ON THE MOON AND RETURNED TO SELENOCENTRIC ORBIT.

3* DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY LAUNCH.

4* DEPLOYED FROM SPACE TRANSPORTATION VEHICLE.

5* 297 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

6* 153 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1963 014A, 1963 014B, AND 1963 014C. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

7* 29 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUCHED WITH 1964 006A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

8* 51 OBJECTS HAVE BEEN IDENTIFIED AS HABING BEEN LAUNCHED WITH 1965 027A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

9* 473 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1965 082A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

10* 111 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1968 091A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

11* 139 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1968 097A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

12* 270 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1969 082A, 1969 082B, 1969 082C, 1969 082D, 1969 082E, 1969 082F, 1969 082G, 1969 082H, 1969 082J, AND 1969 082K. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

13* 375 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970 025A AND 1970 025B. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

14* 103 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970 089A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

15* 46 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970 091A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

16* 120 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1971 015A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

FOOTNOTES

17* 229 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1972 058A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

18* 198 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1973 086A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

19* 152 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1974 089A, 1974 089B, AND 1974 089C. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

20* 208 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1975 004A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

21* 72 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 067A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

22* 159 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 077A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

23* 79 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 126A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

24* 172 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1977 065A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

25* 70 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1977 121A. THE OBJECT OF THIS SERIES THAT HAS DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

26* 210 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1978 026A AND 1978 026B. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

27* 402 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1978 100A. 1978 100B, AND 1978 100C. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT

28* 307 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1981 053A OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

29* 60 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1982 055A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

30* 499 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1986 019A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

31* 112 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1987 020A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY

FOOTNOTES

SATELLITE SITUATION REPORT.

32* 79 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1990 081A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

33* 73 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1991 009A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

34* 235 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1975 052A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

35* 16 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1990 065A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

36* 43 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1967 001A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.

37* 228 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1992-093A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-YEAR SUMMARY SATELLITE SITUATION REPORT.

38* 31 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1993-016A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-YEAR SUMMARY SATELLITE SITUATION REPORT.

39* 200 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1986-017A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-YEAR SUMMARY SATELLITE SITUATION REPORT.