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Office of Public Affairs

Satellite Situation Report

VOLUME 17, NUMBER 1

FEBRUARY 28, 1977

Goddard Space Flight Center
Greenbelt, Maryland



OK

OFFICE OF PUBLIC AFFAIRS
GODDARD SPACE FLIGHT CENTER
~~NATIONAL AERONAUTICS AND SPACE ADMINISTRATION~~

VOLUME 17 NO. 1 FEBRUARY 28, 1977

SATELLITE SITUATION REPORT

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1958 LAUNCHES										
BETA 1	VANGUARD 1	16	US	17 MAR	136.2	34.2	4299	655		
BETA 2		5	US	17 MAR	133.8	34.2	3923	649		
BETA 3		1576	US	17 MAR	131.4	34.2	3721	642		
1959 LAUNCHES										
ALPHA 1	VANGUARD 2	11	US	17 FEB	124.8	32.8	3233	556		
ALPHA 2		12	US	17 FEB	129.0	32.9	3606	547		
ALPHA 3		5807	US	17 FEB	127.0	32.8	3433	555		
ETA 1	VANGUARD 3	20	US	18 SEP	129.0	33.3	3645	510		
TOTA 1	EXPLORER 7	22	US	13 OCT	100.6	50.3	1033	547		
TOTA 2		23	US	13 OCT	99.8	50.3	957	539		
NU 1	LUNIK 1	112	USSR	2 JAN						
NU 1	PIONEER 4	113	US	3 MAR						
1960 LAUNCHES										
ALPHA 1	PIONEER 5	27	US	11 MAR						
BETA 1		28	US	1 APR	98.6	48.3	713	672		
BETA 2	TIROS 1	29	US	1 APR	90.0	48.3	735	688		
BETA 3		101	US	1 APR	97.1	48.5	652	588		
BETA 4		115	US	1 APR	99.6	48.1	792	689		
GAMMA 4		99	US	13 APR	94.3	51.2	553	423		
ETA 1	TRANSIT 2A	45	US	22 JUN	101.4	66.6	1039	607		
ETA 2	GREB	46	US	22 JUN	101.3	66.6	1038	605		
ETA 3		47	US	22 JUN	101.1	66.6	1026	603		
ETA 4		840	US	22 JUN	101.0	66.6	1011	603		
ETA 5		841	US	22 JUN	100.9	66.6	1006	603		
TOTA 1		50	US	12 AUG	118.0	47.2	1683	1501		
TOTA 2		51	US	12 AUG	118.2	47.2	1686	1516		
TOTA 3		52	US	12 AUG						
TOTA 4		53	US	12 AUG						
TOTA 5		54	US	12 AUG						
NU 1	COURTIER 1B	58	US	4 OCT	118.4	47.2	1687	1532		
NU 2		59	US	4 OCT	106.5	28.2	1207	962		
XI 1	EXPLORER 8	60	US	3 NOV	110.0	49.9	2044	414		
XI 2		62	US	3 NOV	106.9	49.9	1758	409		
PI 1	TIROS 2	63	US	23 NOV	97.9	48.5	710	600		
PI 2		64	US	23 NOV	97.1	48.5	659	579		
PI 3		74	US	23 NOV	97.5	48.5	682	598		
PI 4		75	US	23 NOV	97.7	48.5	696	602		
PI 5		5922	US	23 NOV	105.3	47.0	1038	977		
1961 LAUNCHES										
GAMMA 1	VENUS PROBE	80	USSR	12 FEB						
DELTA 1		82	US	16 FEB	118.3	38.8	2580	634		
DELTA 2		85	US	16 FEB	116.8	38.8	2426	650		
DELTA 3		3738	US	16 FEB	116.5	38.8	2421	626		
DELTA 4		3927	US	16 FEB	116.5	38.8	2410	639		
DELTA 5		4026	US	16 FEB	115.8	38.8	2378	605		
DELTA 6		1767	US	27 APR	107.1	28.7	1703	483		
DELTA 7	EXPLORER 11	3739	US	27 APR	104.7	28.8	1489	475		
NU 1		116	US	29 JUN	103.7	66.8	1983	875		
NU 2		117	US	29 JUN	103.7	66.8	1001	875		
OMICRON 1	TRANSIT 4A	162	US	29 JUN						
OMICRON 2	INJUN-SR-3	165	US	12 JUL	100.3	47.9	809	736		
OMICRON 3 - 254	TIROS 3	166	US	12 JUL	100.0	47.9	792	726		
RHO 1		166	US	12 JUL	98.3	47.9	759	598		
RHO 2		167	US	12 JUL	101.9	47.9	926	769		
RHO 3		163	US	12 JUL	161.4	91.1	3545	3344		
RHO 4	MIDAS 3	188	US	12 JUL	161.1	91.1	3544	3319		
SIGMA 1		196	US	12 JUL	161.8	91.1	3583	3340		
SIGMA 2		192	US	21 OCT	165.9	95.8	3757	3495		
SIGMA 3		194	US	21 OCT	165.5	95.8	3778	3442		
A DELTA 1	MIDAS 4	192	US	21 OCT	165.5	95.8	3778	3442		
A DELTA 2		194	US	21 OCT	165.5	95.8	3778	3442		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CAT ALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1961 LAUNCHES (CONT'D)										
A DELTA 4		195	US	21 OCT	166.3	95.8	3689	3436		
A DELTA 5		200	US	21 OCT	165.7	95.8	3733	3499		
A DELTA 6		201	US	21 OCT	165.5	95.8	4366	2875		
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.7	32.4	1104	951		
A ETA 2	TRAC	205	US	15 NOV	105.7	32.4	1105	953		
A ETA 3		204	US	15 NOV	105.6	32.4	1096	946		
1962 LAUNCHES										
ALPHA 1	RANGER 3	221	US	26 JAN						
ALPHA 2		222	US	26 JAN						
BETA 1	TIROS 4	226	US	8 FEB	100.2	48.3	836	705		
BETA 2		227	US	8 FEB	101.2	48.1	932	697		
BETA 3		228	US	8 FEB	90.2	48.4	748	603		
BETA 4		229	US	8 FEB	90.9	48.3	814	695		
ZETA 1	OSO 1	255	US	7 MAR	95.1	32.8	536	508		
KAPPA 1		271	US	9 APR	152.9	86.6	3410	2786		
KAPPA 3		273	US	9 APR	152.6	86.6	3387	2777		
KAPPA 4		274	US	9 APR	153.3	86.6	3429	2795		
KAPPA 5		494	US	9 APR	152.8	86.6	3397	2785		
MU 2		282	US	23 APR						
ALPHA 1	TIROS 5	300	US	19 JUN	100.2	58.0	950	592		
A ALPHA 2		311	US	19 JUN	99.6	58.0	902	578		
A ALPHA 3		312	US	19 JUN	101.4	58.2	1050	600		
A ALPHA 4		313	US	19 JUN	98.5	57.9	809	565		
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.7	44.8	5638	948		
A EPSILON 2		341	US	10 JUL	157.6	44.8	5624	947		
A OMICRON 1		369	US	23 AUG	99.3	98.3	842	612		
A OMICRON 2		370	US	23 AUG	96.5	98.6	641	550		
A OMICRON 3		378	US	23 AUG	100.1	98.4	925	610		
A OMICRON 4		388	US	23 AUG	99.0	98.5	822	607		
A RHO 1	MARINER 2	374	US	27 AUG						
A RHO 2		375	US	27 AUG						
A PSI 1	TIROS 6	397	US	18 SEP	98.5	58.3	697	681		
A PSI 2		398	US	18 SEP	97.9	58.3	661	657		
A PSI 3		399	US	18 SEP	99.0	58.4	749	681		
A PSI 4		400	US	18 SEP	97.4	58.1	654	616		
B ALPHA 1	ALOUETTE 1	424	CANADA	29 SEP	105.4	80.4	1032	998		
B ALPHA 2		426	US	29 SEP	105.3	80.4	1027	999		
B ALPHA 3		510	US	29 SEP	105.3	80.5	1022	998		
B ALPHA 4		511	US	29 SEP	105.4	80.4	1039	992		
B GAMMA 1	EXPLORER 14	432	US	2 OCT						
B GAMMA 2		NNA	US	2 OCT						
B ETA 1	RANGER 5	439	US	18 OCT						
B ETA 2		440	US	18 OCT						
B LAMBDA 1	EXPLORER 15	445	US	27 OCT						
B LAMBDA 2		NNA	US	27 OCT						
B MU 1	ANNA 1B	446	US	31 OCT	107.8	50.1	1182	1075		
B MU 2		447	US	31 OCT	107.6	50.1	1165	1066		
B NU 3		450	USSR	1 NOV						
B UPSILON 1	RELAY 1	503	US	13 DEC	185.0	47.5	7435	1322		
B UPSILON 2		515	US	13 DEC	184.8	47.5	7418	1322		
B CHI 1	EXPLORER 16	506	US	16 DEC	104.3	52.0	1174	748		
B PSI 1	TRANSIT 5A	509	US	19 DEC	98.3	90.6	700	666		
B PSI 3		519	US	19 DEC	98.4	90.6	704	668		
B PSI 4		523	US	19 DEC	98.7	90.5	751	651		
B PSI 5		7258	US	19 DEC	95.5	90.6	549	541		
1963 LAUNCHES										
1963 004A	SYNCOM 1	553	US	14 FEB						
1963 004B		532	US	14 FEB	318.4	32.7	1780	243		
1963 005A		534	US	19 FEB	96.7	100.4	719	485		
1963 005B		533	US	19 FEB	95.5	100.4	628	462		

SPACE OBJECTS BOX SCORE

OBJECTS IN ORBIT DECAYED OBJECTS

AUSTRALIA	1	1
CANADA	8	0
ESA	1	0
ESRO	1	0
FRANCE	54	25
FRANCE/FRG	2	0
FRG	9	3
INDIA	1	0
INDONESIA	1	0
INTERNATIONAL TELECOM- MUNICATIONS SATELLITE ORGANIZATION (ITSO)	21	0
ITALY	0	4
JAPAN	21	0
NATO	4	0
NETHERLANDS	1	3
PRC	6	14
SPAIN	1	0
UK	11	4
US	2770	1440
USSR	1308	4129
TOTAL	4221	5632

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1964 LAUNCHES											
1964 001A	GRAVITY GRADIENT 1	727	US	11 JAN	103.4	69.9	930	912			
1964 001B	EGRS 1	728	US	11 JAN	103.3	69.9	928	911			
1964 001C	SOLAR RAD.	729	US	11 JAN	103.4	69.8	929	912			
1964 001E		731	US	11 JAN	103.4	69.9	929	911			
1964 002A		733	US	19 JAN	101.1	99.0	843	789			
1964 002B		734	US	19 JAN	101.1	99.0	827	805			
1964 002C		735	US	19 JAN	101.2	99.0	831	806			
1964 003A	RELAY 2	737	US	21 JAN	194.7	46.3	7466	2032			
1964 003B		738	US	21 JAN	194.7	46.3	7473	2030			
1964 004C		741	US	25 JAN	108.8	81.4	1306	1046			
1964 004C		742	US	25 JAN	108.7	81.4	1303	1041			
1964 004C		743	US	25 JAN	108.7	81.5	1304	1030			
1964 004D		746	USSR	30 JAN	167.4	60.8	6976	399			
1964 006B	ELEKTRON 1	748	USSR	30 JAN	1356.3	64.0	60038	2382			
1964 006C	ELEKTRON 2	750	USSR	30 JAN	160.4	60.8	6405	400			
1964 006D		751	USSR	30 JAN	1384.2	62.9	67445	2085			
1964 015D	ZOND 1	785	USSR	2 APR	HELIOCENTRIC ORBIT						
1964 026A		801	US	4 JUN	102.8	90.5	940	853			
1964 026B		805	US	4 JUN	103.4	90.1	959	890			
1964 026C		806	US	4 JUN	101.8	90.8	921	772			
1964 026D		809	US	4 JUN	102.9	90.5	946	855			
1964 026E		2986	US	4 JUN	102.9	90.5	944	855			
1964 031A		812	US	18 JUN	101.5	99.8	837	827			
1964 031B		813	US	18 JUN	101.4	99.8	840	819			
1964 031C		815	US	18 JUN	101.4	99.8	840	819			
1964 035A	ELEKTRON 3	829	USSR	10 JUL	166.1	60.8	6874	395			
1964 038B	ELEKTRON 4	830	USSR	10 JUL	1313.4	69.8	63886	2813			
1964 038C		831	USSR	10 JUL	159.8	60.7	6361	386			
1964 038D		832	USSR	10 JUL	1319.0	69.6	64306	2618			
1964 040A		836	US	17 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1964 040B		837	US	17 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1964 040C		838	US	17 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1964 041B		843	US	28 JUL	BARYCENTRIC ORBIT						
1964 045B	SYNCOM 3	851	US	14 AUG	101.6	95.4	1429	250			
1964 047A		858	US	19 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1964 047B		862	US	19 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1964 049D	COSMOS 41	869	USSR	22 AUG	714.7	70.9	37894	2310			
1964 049E		868	USSR	22 AUG	718.2	70.9	38085	2290			
1964 051A	EXPLORER 20	870	US	25 AUG	103.6	79.8	1017	864			
1964 051B		871	US	25 AUG	103.7	79.9	1007	864			
1964 053A	COSMOS 44	876	USSR	28 AUG	99.3	65.0	838	617			
1964 053B		877	USSR	28 AUG	99.4	65.0	780	688			
1964 054A	OGO 1	879	US	5 SEP	CURRENT ELEMENTS NOT MAINTAINED						
1964 063A		893	US	6 OCT	106.2	89.7	1075	1037			
1964 063B		897	US	6 OCT	106.5	89.7	1079	1057			
1964 063C		900	US	6 OCT	106.3	89.7	1070	1045			
1964 063D		901	US	6 OCT	106.5	89.7	1080	1058			
1964 063E		902	US	6 OCT	106.5	89.7	1080	1058			
1964 063F		903	US	6 OCT	106.3	89.7	1068	1048			
1964 064A	EXPLORER 22	899	US	10 OCT	104.6	79.6	1074	886			
1964 064B		907	US	10 OCT	104.6	79.6	1074	887			
1964 064C		974	US	10 OCT	103.8	79.3	1050	833			
1964 064D		977	US	10 OCT	105.3	80.0	1116	907			
1964 073A	MARINER 3	923	US	15 NOV	HELIOCENTRIC ORBIT						
1964 074A	EXPLORER 23	924	US	6 NOV	97.6	51.9	842	450			
1964 076B	EXPLORER 25	932	US	21 NOV	115.8	81.3	2462	529			
1964 076C		933	US	21 NOV	115.7	81.3	2446	532			
1964 076D		934	US	21 NOV	111.1	81.3	2038	525			
1964 076E		935	US	21 NOV	111.2	81.3	2046	527			
1964 076G		937	US	21 NOV	109.4	81.3	1905	503			
1964 076J		941	US	21 NOV	112.1	81.3	2130	519			
1964 076K		960	US	21 NOV	112.0	81.3	2097	550			
1964 076N		960	US	21 NOV	108.9	81.3	1838	517			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1964 LAUNCHES (CONT'D)										
1964 077A	MARTNER 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		953	US	13 DEC	106.1	89.7	1071	1023		
1964 083B		956	US	13 DEC	106.1	89.7	1079	1021		
1964 083C		950	US	13 DEC	106.2	89.7	1083	1022		
1964 083D		965	US	13 DEC	106.2	89.7	1087	1024		
1964 083E		966	US	13 DEC	106.2	89.7	1075	1023		
1964 083F		967	US	13 DEC	106.1	89.7	1082	1022		
1964 083G		1099	US	13 DEC	106.2	89.7	1076	1022		
1964 083H		1528	US	13 DEC	104.0	89.8	997	1023		
1964 083J		1608	US	13 DEC	106.0	89.7	1071	1018		
1964 083K		2798	US	13 DEC	101.5	89.7	871	799		
1964 083L		5444	US	13 DEC	101.5	89.7	872	798		
1964 083M		5540	US	13 DEC	101.7	89.7	868	817		
1964 086A	EXPLORER 26	963	US	21 DEC		CURRENT ELEMENTS NOT MAINTAINED				
1964 086C		5992	US	21 DEC	154.9	18.0	6186	166		
1965 LAUNCHES										
1965 003A		973	US	19 JAN	94.7	98.6	594	417		
1965 004A	TIRO-S 9	978	US	22 JAN	118.1	96.3	2580	704		
1965 004B		979	US	22 JAN	119.1	96.4	2585	705		
1965 004C		1312	US	22 JAN	117.9	96.3	2503	674		
1965 007A	OSO 2	1313	US	22 JAN	120.3	96.3	2658	734		
1965 007B		987	US	3 FEB	95.9	32.8	592	528		
1965 007C		988	US	3 FEB	92.0	32.8	378	366		
1965 008A		1001	US	11 FEB	145.3	32.1	2796	2759		
1965 008B		1000	US	11 FEB	145.6	32.1	2800	2777		
1965 008C		1002	US	11 FEB	145.7	32.1	2806	2778		
1965 009A	PEGASUS 1	1085	US	16 FEB	93.6	490	690	414		
1965 009B		1088	US	16 FEB	96.2	31.7	669	482		
1965 010B	COSMUS 58	1097	USSR	17 FEB	96.3	65.0	625	545		
1965 014A		1098	USSR	26 FEB	96.1	65.0	664	485		
1965 016A	GREB	1271	US	9 MAR	103.4	70.0	938	905		
1965 016B	GRAVITY GRADIENT 2	1244	US	9 MAR	103.4	70.0	938	906		
1965 016C	GRAVITY GRADIENT 3	1292	US	9 MAR	103.3	70.0	936	903		
1965 016D	SOLAR RAD.	1291	US	9 MAR	103.4	70.0	939	906		
1965 016E	EGRS 3	1208	US	9 MAR	103.4	70.0	937	906		
1965 016F	OSCAR 3	1293	US	9 MAR	103.3	70.0	933	901		
1965 016G	SURCAL	1310	US	9 MAR	101.9	70.0	865	834		
1965 015H	DODECAHEDRON	1272	US	9 MAR	103.4	70.0	940	905		
1965 016J		1245	US	9 MAR	103.4	70.0	937	904		
1965 020D	- 020FE		USSR	15 MAR		SEE NOTE				4*
1965 021A		1273	US	18 MAR	96.8	98.9	705	513		
1965 021C		1289	US	18 MAR	95.1	99.0	591	479		
1965 021F		1463	US	18 MAR	95.7	99.0	633	480		
1965 023B		1298	US	21 MAR		HELIOCENTRIC ORBIT				
1965 027A		1314	US	3 APR	111.5	90.2	1321	1272		
1965 027B	EGRS 4	1315	US	3 APR	111.4	90.2	1319	1269		
1965 027C		1316	US	3 APR	111.1	90.2	1317	1246		
1965 027D		1389	US	3 APR	111.2	90.2	1308	1259		
1965 027E		1390	US	3 APR	101.0	90.4	868	749		
1965 028A	EARLY BIRD	1317	ITSO	6 APR	1437.1	10.3	35816	35798		
1965 028B		1318	US	6 APR		CURRENT ELEMENTS NOT MAINTAINED				
1965 030A	MOLNIYA 1	1324	USSR	23 APR	720.3	64.8	39274	1206		
1965 030D		1967	USSR	23 APR	702.5	64.9	38605	995		
1965 032A	EXPLORER 27	1328	US	29 APR	107.7	41.1	1320	927	136.740	5*
1965 032B		1358	US	29 APR	107.7	41.1	1319	927		
1965 032C		1995	US	29 APR	106.3	41.1	1359	753		
1965 032D		2011	US	29 APR	108.8	41.1	1286	1060		
1965 034A		1359	US	6 MAY	157.0	32.1	3739	2783		
1965 034B		1360	US	6 MAY	309.8	32.1	14792	2782		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1965 LAUNCHES (CONT'D)										
1965 034C		1361	US	6 MAY	145.5	32.1	2799	2774		
1965 034D		2529	US	6 MAY	309.7	32.0	14789	2783		
1965 038A		1377	US	20 MAY	99.5	98.0	928	550		
1965 038B		1376	US	20 MAY	99.3	98.0	914	547		
1965 038C		1379	US	20 MAY	98.8	98.2	869	543		
1965 038E		1461	US	20 MAY	99.9	98.2	969	542		
1965 038F		1462	US	20 MAY	96.9	98.4	713	516		
1965 038G		1475	US	20 MAY	99.1	98.0	897	540		
1965 039A	PEGASUS 2	1381	US	25 MAY	95.2	31.7	589	463		
1965 039B		1385	US	25 MAY	96.5	31.7	683	495		
1965 044A	LUNIK 6	1393	USSR	8 JUN	HELIOCENTRIC ORBIT					
1965 048A		1420	US	24 JUN	106.8	89.8	1138	1027		
1965 048B		1428	US	24 JUN	106.5	89.8	1110	1027		
1965 048C		1425	US	24 JUN	106.8	89.8	1137	1028		
1965 048D		1435	US	24 JUN	106.6	89.8	1128	1019		
1965 048E		2701	US	24 JUN	106.4	89.8	1105	1022		
1965 048F		3592	US	24 JUN	106.4	89.8	1107	1023		
1965 051A		1430	US	2 JUL	100.5	98.2	829	740		
1965 051B		1433	US	2 JUL	100.5	98.2	829	740		
1965 051C		1440	US	2 JUL	98.8	98.5	803	604		
1965 051D		1529	US	2 JUL	101.9	98.6	880	821		
1965 053B	COSMOS 72	1442	USSR	16 JUL	94.1	56.0	493	457		
1965 053D	COSMOS 74	1444	USSR	16 JUL	94.6	56.0	524	475		
1965 053E	COSMOS 75	1445	USSR	16 JUL	94.6	56.0	527	478		
1965 053F		1448	USSR	16 JUL	95.6	56.0	588	514		
1965 056A	ZOND 3	1454	USSR	18 JUL	HELIOCENTRIC ORBIT					
1965 058A		1458	US	20 JUL	CURRENT ELEMENTS NOT MAINTAINED					
1965 058B		1459	US	20 JUL	CURRENT ELEMENTS NOT MAINTAINED					
1965 059C		1460	US	20 JUL	CURRENT ELEMENTS NOT MAINTAINED					
1965 063A	EGRS-5	1506	US	10 AUG	122.2	40.2	2424	1136		
1965 063B		1502	US	10 AUG	122.2	49.2	2423	1138		
1965 064A	CENTAUR 6	1503	US	11 AUG	BARYCENTRIC ORBIT					
1965 065A		1504	US	13 AUG	109.0	90.0	1189	1083		
1965 065B		1508	US	13 AUG	107.8	89.9	1160	1096		
1965 065C		1510	US	13 AUG	107.5	90.0	1163	1063		
1965 065D		1511	US	13 AUG	108.0	90.0	1192	1084		
1965 065E		1512	US	13 AUG	108.0	90.0	1194	1085		
1965 065F		1514	US	13 AUG	108.0	90.0	1195	1083		
1965 065G		1515	US	13 AUG	107.8	90.0	1181	1075		
1965 065H		1520	US	13 AUG	108.0	90.0	1194	1083		
1965 065J		1521	US	13 AUG	108.0	90.0	1193	1085		
1965 065K		1577	US	13 AUG	108.0	90.0	1193	1083		
1965 065L		1522	US	13 AUG	108.1	90.0	1194	1084		
1965 065M		2335	US	13 AUG	106.2	89.9	1125	978		
1965 065N		3809	US	13 AUG	106.1	89.9	1025	1004		
1965 065P		3410	US	13 AUG	105.3	89.9	1060	865		
1965 065Q		5265	US	13 AUG	107.8	89.9	1161	1097		
1965 065R		5363	US	13 AUG	105.4	89.9	1065	968		
1965 065S		6290	US	13 AUG	106.1	89.9	1088	1013		
1965 070A	COSMOS 80	1570	USSR	3 SEP	114.9	56.0	1544	1363		
1965 070B	COSMOS 81	1571	USSR	3 SEP	115.3	56.0	1548	1393		
1965 070C	COSMOS 82	1572	USSR	3 SEP	115.6	56.0	1554	1418		
1965 070D	COSMOS 83	1573	USSR	3 SEP	116.0	56.0	1562	1444		
1965 070E	COSMOS 84	1574	USSR	3 SEP	116.4	56.0	1570	1469		
1965 070F		1575	USSR	3 SEP	114.5	56.1	1513	1360		
1965 070G		3045	USSR	3 SEP	116.0	55.4	1740	1264		
1965 072A		1580	US	10 SEP	101.7	98.8	1041	648		
1965 072B		1583	US	10 SEP	101.6	98.8	1029	645		
1965 072E		1931	US	10 SEP	103.0	98.8	1156	648		
1965 072F		1932	US	10 SEP	100.3	98.3	912	640		
1965 073A	COSMOS 86	1584	USSR	18 SEP	115.0	56.0	1631	1284		
1965 073B	COSMOS 87	1585	USSR	18 SEP	115.4	56.0	1640	1312		
1965 073C	COSMOS 88	1586	USSR	18 SEP	115.8	56.0	1652	1334		
1965 073D	COSMOS 89	1587	USSR	18 SEP	116.2	56.0	1665	1358		

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INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1965 LAUNCHES (CONT'D)										
1965 073E	COSMOS 90	1588	USSR	18 SEP	116.6	56.0	1678	1383		
1965 073F		1589	USSR	18 SEP	116.8	56.0	1688	1386		
1965 073G		1590	USSR	18 SEP	116.3	56.0	1655	1377		
1965 073H		1591	USSR	18 SEP	116.5	56.0	1675	1377		
1965 073J		1617	USSR	18 SEP	117.3	56.1	1760	1362		
1965 073K		1618	USSR	18 SEP	117.5	56.1	1767	1387		
1965 073L		2647	USSR	18 SEP	116.0	56.0	1653	1357		
1965 078A		1513	US	5 OCT	123.6	144.2	3270	411		
1965 078B		1616	US	5 OCT	123.2	144.2	3236	411		
1965 081A	OGO 2	1620	US	14 OCT	100.5	87.3	1166	404		
1965 081B		1625	US	14 OCT	101.4	87.3	1252	408		
1965 082B	- 082UJ		US	15 OCT	SEE NOTE	6*				6*
1965 089A	EXPLORER 29	1726	US	6 NOV	120.3	59.3	2272	1118		
1965 089B		1729	US	6 NOV	120.2	59.3	2268	1120		
1965 089C		2700	US	6 NOV	119.1	59.5	2220	1068		
1965 089D		2888	US	6 NOV	121.3	59.1	2327	1153		
1965 091A	VENERA 2	1730	USSR	12 NOV						
1965 092D		1736	USSR	16 NOV						
1965 093A	EXPLORER 30	1739	US	19 NOV	100.6	59.7	894	685		
1965 093B		1739	US	19 NOV	100.5	59.7	863	710		
1965 093C		2013	US	19 NOV	99.9	59.6	825	689		
1965 093D		2088	US	19 NOV	101.1	59.7	913	714		
1965 096A	A-1	1778	FRANCE	26 NOV	108.4	34.2	1777	525		
1965 096B		1805	FRANCE	26 NOV	108.1	34.2	1755	525		
1965 096D		1996	FRANCE	26 NOV	107.2	34.2	1669	524		
1965 098A	ALOUETTE 2	1804	CANADA	29 NOV	120.7	79.8	2922	508		
1965 098B	EXPLORER 31	1806	US	29 NOV	121.1	79.8	2957	507		
1965 098C		1807	US	29 NOV	121.8	79.8	2930	507		
1965 098D		1808	US	29 NOV	118.3	79.8	2709	510		
1965 098E		1944	US	29 NOV	118.2	79.8	2694	511		
1965 098F		1948	US	29 NOV	119.6	79.8	2820	513		
1965 098G		1951	US	29 NOV	119.5	79.7	2814	510		
1965 098H		2092	US	29 NOV	120.7	79.6	2923	509		
1965 098J		2153	US	29 NOV	120.6	79.7	2913	505		
1965 101A	FR-1	1814	FRANCE	6 DEC	99.7	75.8	739	739		
1965 101B		1815	US	6 DEC	99.7	75.8	758	742		
1965 101C		1934	FRANCE	6 DEC	98.9	76.4	733	689		
1965 101D		1935	FRANCE	6 DEC	98.2	75.2	706	647		
1965 105A	PIONEER 6	1841	US	16 DEC						
1965 106A	COSMOS 100	1843	USSR	17 DEC	97.3	65.0	711	556		
1965 106B		1844	USSR	17 DEC	97.2	64.9	639	616		
1965 108B	LES 4	1870	US	21 DEC						
1965 108C	OSCAR 4	1902	US	21 DEC						
1965 108G		4476	US	21 DEC	174.5	26.4	7797	136		
1965 109A		1864	US	22 DEC	104.9	89.0	1079	908		
1965 109B		1865	US	22 DEC	104.9	89.0	1079	909		
1965 109C		2086	US	22 DEC	103.3	89.1	953	879		
1965 109D		2226	US	22 DEC	107.1	89.0	1292	898		
1965 109E		2353	US	22 DEC	105.3	89.3	892	892		
1965 112A	COSMOS 103	1868	USSR	28 DEC	96.4	56.0	606	573		
1965 112B		1869	USSR	28 DEC	96.3	56.0	608	557		
1965 112D		1937	USSR	28 DEC	96.6	55.9	624	567		
1966 LAUNCHES										
1966 00A		2428	UNKN	UNKN	91.4	35.0	1183	184		7*
1966 00B		2429	UNKN	UNKN						7*
1966 00C		2430	UNKN	UNKN						7*
1966 00SA		1952	US	28 JAN	105.8	89.8	1207	862		
1966 00SB		1953	US	28 JAN	105.8	89.8	1208	862		
1966 00SC		2140	US	28 JAN	107.7	89.9	1381	863		
1966 00SD		2141	US	28 JAN	104.2	89.8	1077	841		
1966 00SE		2889	US	28 JAN	109.5	89.5	1338	1079		
1966 00SF		2989	US	28 JAN	104.2	89.7	1065	859		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1965 LAUNCHES (CONT'D)										
1966 005G		1587	US	28 JAN	105.9	89.8	1046	1029		
1966 006D		2001	USSR	31 JAN	BARYCENTRIC ORBIT					
1966 008A	ESSA 1	1982	US	3 FEB	100.1	97.8	835	702		
1966 008B		1983	US	3 FEB	100.3	97.7	854	698		
1965 008C		2085	US	3 FEB	98.9	97.7	738	677		
1966 008D		2118	US	3 FEB	101.1	97.0	940	691		
1965 008E		2154	US	3 FEB	100.1	97.7	820	708		
1966 013A	D-1A	2016	FRANCE	17 FEB	117.9	34.0	2673	501		
1965 013B		2017	FRANCE	17 FEB	117.7	34.0	2656	502		
1965 013F		2023	FRANCE	17 FEB	114.0	34.0	2344	477		
1965 013G		2161	FRANCE	17 FEB	117.1	34.1	2589	512		
1966 013J		3970	FRANCE	17 FEB	113.8	34.0	2313	491		
1966 013K		5420	FRANCE	17 FEB	113.7	34.0	2300	493		
1966 013L		3050	FRANCE	17 FEB	113.5	34.0	2286	489		
1966 016A	ESSA 2	2091	US	28 FEB	113.4	101.2	1416	1357		
1966 016B		2096	US	28 FEB	111.9	100.8	1417	1356		
1966 016C		2223	US	28 FEB	111.9	100.9	1367	1243		
1966 016D		2224	US	28 FEB	115.0	101.4	1566	1351		
1966 016E		6214	US	28 FEB	114.4	101.4	1522	1340		
1966 024A		2119	US	26 MAR	105.2	89.8	1118	893		
1965 024B		2120	US	26 MAR	105.2	89.8	1120	895		
1966 024C		2386	US	26 MAR	105.0	89.9	1107	892		
1965 024D		3590	US	26 MAR	99.1	89.7	761	671		
1966 025A	OV1-4	2121	US	30 MAR	104.0	144.4	1011	885		
1966 025B	OV1-5	2122	US	30 MAR	105.6	144.6	1055	986		
1966 025C		2123	US	30 MAR	105.6	144.6	1056	986		
1966 025D		2124	US	30 MAR	104.0	144.4	1011	885		
1965 025E		3611	US	30 MAR	105.0	144.5	1060	932		
1966 025F		4007	US	30 MAR	103.5	144.2	932	917		
1966 025G		5361	US	30 MAR	105.1	144.6	1030	961		
1966 025H		5509	US	30 MAR	105.1	144.5	1074	920		
1966 026A		2125	US	31 MAR	100.3	98.3	924	626		
1966 026B		2129	US	31 MAR	100.1	98.2	907	622		
1966 026C		2177	US	31 MAR	101.9	98.8	1084	624		
1966 026E		2178	US	31 MAR	97.9	98.5	718	601		
1966 026F		2179	US	31 MAR	99.7	98.1	876	618		
1966 027A	LUNA 10	2126	USSR	31 MAR	SELENOCENTRIC ORBIT					
1966 027D		2130	USSR	31 MAR	HELIOCENTRIC ORBIT					
1966 027E		2131	USSR	31 MAR	BARYCENTRIC ORBIT					
1966 027F		2132	USSR	31 MAR	BARYCENTRIC ORBIT					
1966 031A	0A0 1	2142	US	8 APR	100.8	35.0	602	789		
1966 031B		2144	US	8 APR	100.7	35.0	798	782		
1966 031C		2145	US	8 APR	99.7	35.0	751	739		
1966 034A	OV3-1	2150	US	22 APR	147.5	82.4	5399	349		
1965 034B		2167	US	22 APR	142.2	82.4	4948	349		
1966 034D		2200	US	22 APR	135.4	82.3	4384	332		
1965 038A	COSMOS 118	2168	USSR	11 MAY	96.5	65.0	607	580		
1966 038B		2169	USSR	11 MAY	96.4	64.9	646	532		
1966 040A	NIMBUS 2	2173	US	15 MAY	106.0	100.5	1182	1096		
1966 040B		2174	US	15 MAY	107.8	100.4	1174	1083		
1966 041A		2176	US	19 MAY	103.2	89.7	975	856		
1966 041B		2180	US	19 MAY	103.3	89.7	979	857		
1966 041C		2225	US	19 MAY	100.9	89.7	845	766		
1966 041D		2644	US	19 MAY	105.5	89.7	1193	845		
1966 041E		3591	US	19 MAY	103.3	89.7	573	856		
1966 041F		4555	US	19 MAY	103.2	89.7	972	851		
1966 045A	EXPLORER 32	2183	US	25 MAY	107.6	64.6	1984	253		
1966 045B		2187	US	20 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 049A	DGO 3	2105	US	7 JUN	BARYCENTRIC ORBIT					
1966 052A		2201	US	10 JUN	43.0	40.8	4726	639		
1966 052B		2206	US	10 JUN	143.0	40.8	4718	640		
1966 052C		2438	US	10 JUN	140.5	40.6	4568	584		
1966 052D		2516	US	10 JUN	145.1	41.0	4835	704		
1966 053A		2207	US	16 JUN	1333.9	4.2	33877	33645		

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INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1966 LAUNCHES (CONT'D)										
1966 053B		2215	US	16 JUN	134.6	4.1	3387	3383		
1966 053C		2216	US	16 JUN	136.4	4.0	3392	3370		
1966 053D		2217	US	16 JUN	138.5	4.2	3404	3369		
1966 053E		2218	US	16 JUN	140.8	4.2	3412	3368		
1966 053F		2219	US	16 JUN	143.0	4.2	3419	3373		
1966 053G		2220	US	16 JUN	144.2	4.2	3426	3374		
1966 053H		2221	US	16 JUN	145.4	4.2	3433	3374		
1966 053J		2222	US	16 JUN	146.6	4.2	3440	3374		
1966 053K		2223	US	16 JUN	147.8	4.2	3447	3374		
1966 056A	PAGEOS 1	2254	US	24 JUN	180.1	84.6	5849	2528		8*
1966 056B	- 056CF	2255	US	24 JUN	180.1	84.6	5849	2528		8*
1966 057A	COSMOS 122	2254	USSR	25 JUN	96.5	64.9	612	571		
1966 057B		2257	USSR	25 JUN	96.2	64.9	642	519		
1966 058A	EXPLORER 33	2258	US	1 JUL	96.2	64.9	642	519		
1966 058C		2260	US	1 JUL	96.2	64.9	642	519		
1966 063A	OVI-8	2324	US	14 JUL	97.2	144.1	639	615		
1966 063B		2327	US	14 JUL	104.9	144.2	1006	978		
1966 063C		2328	US	14 JUL	105.2	144.2	1011	995		
1966 063D		2329	US	14 JUL	105.2	144.2	1007	909		
1966 063E		2337	US	14 JUL	105.2	144.2	1009	1001		
1966 070A	OV3-3	2389	US	4 AUG	132.6	81.4	4117	356		
1966 070B		2404	US	4 AUG	127.3	81.4	3660	358		
1966 070D		2400	US	4 AUG	135.8	81.4	4334	421		
1966 073B	PIONEER 7	2395	US	10 AUG						
1966 075A		2398	US	17 AUG						
1966 075C		2402	US	17 AUG						
1966 076A		2401	US	18 AUG	106.7	89.8	1100	1052		
1966 0763		2413	US	18 AUG	106.7	89.8	1100	1054		
1966 076C		2580	US	18 AUG	105.2	89.1	1085	930		
1966 076D		2702	US	18 AUG	108.3	88.8	1218	1080		
1966 076E		7558	US	18 AUG	106.3	88.8	1082	1036		
1966 076F		8060	US	18 AUG	106.4	88.8	1085	1039		
1966 076G		9401	US	18 AUG	106.6	88.8	1102	1044		
1966 077A	EGRS 7	2403	US	19 AUG	167.4	89.9	3707	3666		
1966 077B	ERS 15	2411	US	19 AUG	167.5	89.9	3703	3674		
1966 077C		2412	US	19 AUG	167.6	89.8	3702	3684		
1966 078A	LUNA 11	2406	USSR	24 AUG	100.7	98.5	894	693		
1966 082A		2418	US	16 SEP	100.7	98.5	893	694		
1966 082B		2422	US	16 SEP	100.7	98.5	893	694		
1966 084B	ESSA 3	2426	US	20 SEP	114.5	101.0	1488	1387		
1966 087A		2435	US	2 OCT	114.5	101.0	1489	1385		
1966 087B		2436	US	2 OCT	115.9	100.7	1562	1434		
1966 087C		2518	US	2 OCT	113.2	101.6	1475	1282		
1966 087D		2775	US	2 OCT	114.2	101.5	1467	1378		
1966 087E		6213	US	2 OCT	114.6	101.4	1552	1328		
1966 087F		8791	US	5 OCT	167.5	90.3	3698	3685		
1966 089A		2481	US	5 OCT	167.6	90.3	3696	3691		
1966 089B	EGRS 8	2520	USSR	22 OCT						
1966 094A	LUNA 12	2508	USSR	22 OCT						
1966 095B		2513	USSR	25 OCT						
1966 096A	INTELSAT 2 F-1	2514	US	26 OCT	718.0	17.5	37286	3079		5*
1966 110A	ATS 1	2608	US	27 DEC	1436.2	8.0	35792	35783		
1966 111A	OVI-9	2610	US	11 DEC	141.6	99.1	4775	477		
1966 111B	OVI-10	2611	US	11 DEC	98.5	93.3	750	627		
1966 111C		2631	US	11 DEC	98.5	93.3	758	633		
1966 111D		2622	US	11 DEC	141.5	99.1	4762	478		
1967 LAUNCHES										
1967 001A	INTELSAT 2 F-2	2639	US	11 JAN	1436.9	6.5	35849	35755		9*
1967 001B	- 001X	2645	US	11 JAN	1329.5	3.8	33823	33523		
1967 003A		2648	US	18 JAN	1329.9	3.6	33831	33532		
1967 003B		2650	US	18 JAN	1330.6	3.6	33898	33494		
1967 003C		2651	US	18 JAN	1332.1	3.6	33875	33576		

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INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1967 LAUNCHES (CONT'D)										
1967 003E		2652	US	18 JAN	1334.1	3.7	33972	33559		
1967 003F		2653	US	18 JAN	1336.5	3.7	34014	33615		
1967 003G		2654	US	18 JAN	1339.5	3.8	34112	33636		
1967 003H		2655	US	18 JAN	1343.0	3.8	34237	33651		
1967 003J		2660	US	18 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1967 006A	ESSA-4	2667	US	26 JAN	113.4	101.0	1442	1327		
1967 006B		2661	US	26 JAN	113.6	101.0	1444	1343		
1967 006C		2706	US	26 JAN	114.2	102.1	1451	1395		
1967 006E		5971	US	26 JAN	112.6	101.7	1484	1233		
1967 010A		2669	US	26 JAN	113.1	101.9	1459	1284		
1967 010B		2741	US	8 FEB	101.4	99.0	871	787		
1967 011A	DIADEME 1	2674	FRANCE	8 FEB	103.7	39.9	1305	562		
1967 011B		2671	FRANCE	8 FEB	103.9	39.9	1332	563		
1967 011G		2688	FRANCE	8 FEB	101.0	40.0	1071	542		
1967 011H		2689	FRANCE	8 FEB	103.6	39.9	1320	535		
1967 011L		2692	FRANCE	8 FEB	101.8	39.9	1145	549		
1967 011M		2900	FRANCE	8 FEB	101.1	39.9	1080	543		
1967 011N		2990	FRANCE	8 FEB	100.8	39.9	1055	541		
1967 011P		3742	FRANCE	8 FEB	101.3	39.9	1003	544		
1967 011Q		4009	FRANCE	8 FEB	108.2	39.4	1738	572		
1967 014A	DIADEME 2	2680	FRANCE	15 FEB	104.8	39.4	1450	588		
1967 014B		2682	FRANCE	15 FEB	110.0	39.4	1806	589		
1967 014C		2684	FRANCE	15 FEB	109.4	39.9	1816	587		
1967 014E		2683	FRANCE	15 FEB	108.1	39.4	1710	572		
1967 014F		2685	FRANCE	15 FEB	109.1	38.9	1799	577		
1967 014G		3589	FRANCE	15 FEB	115.2	38.8	2320	611		
1967 014H		3935	FRANCE	15 FEB	108.4	39.4	1734	572		
1967 018A	COSMOS 144	2695	USSR	28 FEB	96.1	81.1	597	555		
1967 018B		2696	USSR	28 FEB	96.3	81.2	662	508		
1967 020A	OSO 3	2703	US	8 MAR	94.8	32.8	521	500		
1967 026A	INTELSAT 2 F-3	2717	ITSO	23 MAR	1434.6	7.2	35841	35672		
1967 027A	COSMOS 151	2720	USSR	24 MAR	96.7	56.0	623	580		
1967 027B		2721	USSR	24 MAR	96.6	56.0	617	575		
1967 034A		2754	US	14 APR	106.4	90.2	1070	1048		
1967 034C		2755	US	14 APR	106.5	90.2	1081	1051		
1967 034D		2777	US	14 APR	104.0	90.3	1066	1040		
1967 034E		4843	US	14 APR	108.6	90.1	1266	1067		
1967 034F		6718	US	14 APR	104.7	90.2	993	971		
1967 034G		7670	US	14 APR	106.1	90.2	1066	968		
1967 035B		2764	US	17 APR	106.1	90.2	1066	1029		
1967 035A	ESSA 5	2757	US	20 APR	113.5	101.8	1423	1356		
1967 036B		2758	US	20 APR	113.5	101.8	1422	1359		
1967 036C		2976	US	20 APR	112.3	102.1	1414	1260		
1967 036J		2972	US	20 APR	114.6	101.0	1485	1393		
1967 039A	COSMOS 156	2762	USSR	27 APR	96.4	81.1	610	537		
1967 039B		2763	USSR	27 APR	96.7	81.1	674	530		
1967 040A		2765	US	28 APR	96.9	37.3	11965	102991		
1967 040B	ERS 18	2766	US	28 APR	6708.7	37.3	12349	9054		
1967 040D	ERS 20	2767	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED					
1967 040E	ERS 27	2769	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED					
1967 040F		2770	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED					
1967 043B		2780	US	9 MAY	97.8	84.9	768	548		
1967 045A	COSMOS 158	2801	USSR	15 MAY	100.4	74.0	822	736		
1967 045B		2802	USSR	15 MAY	100.5	74.0	844	728		
1967 045C		2823	USSR	15 MAY	100.2	74.0	817	724		
1967 045D		3737	USSR	15 MAY	100.1	74.0	820	715		
1967 046A	COSMOS 159	2805	USSR	17 MAY	1173.3	53.2	60042	901		
1967 046F		2924	USSR	17 MAY	1171.0	53.0	60048	801		
1967 048A		2807	US	18 MAY	1106.9	89.6	1102	1069		
1967 048B		2811	US	18 MAY	106.9	89.6	1102	1070		
1967 053A		2826	US	31 MAY	103.2	69.9	919	903		

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INTER-NATIONAL DESIGNATION	NAME	CAT LOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES	
1967 LAUNCHES (CONT'D)											
1967 C53B		2825	US	1 MAY	103.3	69.9	922	915			
1967 C53C	GRAVITY GRADIENT 4	2826	US	31 MAY	103.3	69.9	924	915			
1967 C53D	GRAVITY GRADIENT 5	2827	US	31 MAY	103.3	69.9	921	913			
1967 C53E		2872	US	31 MAY	103.3	69.9	922	914			
1967 C53G		2873	US	31 MAY	103.3	69.9	924	914			
1967 C53H		2874	US	31 MAY	103.3	69.9	924	914			
1967 C53J		2909	US	31 MAY	103.0	69.9	908	902			
1967 C60A	MARTNER 5	2845	US	14 JUN	HELIOCENTRIC ORBIT						
1967 C60B		2846	US	14 JUN	HELIOCENTRIC ORBIT						
1967 C65A	EGRS 9	2861	US	29 JUN	172.1	89.7	3938	3804			
1967 C65B	AURORA 1	2876	US	29 JUN	172.1	89.7	3922	3824			
1967 C65C		2877	US	29 JUN	172.1	89.7	3922	3824			
1967 C66A	TITAN 3 C-14	2862	US	1 JUL	1309.7	3.7	33567	32983			
1967 C66B		2863	US	1 JUL	1310.3	3.7	33588	32986			
1967 C66C		2864	US	1 JUL	1313.6	4.3	33558	33148			
1967 C66D		2865	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 C66E		2866	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 C66F		2867	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 C66G	DODGE	2868	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 C68B		2883	US	14 JUL	BARYCENTRIC ORBIT						
1967 C70A	EXPLORER 35	2894	US	19 JUL	SELENGENTRIC ORBIT						
1967 C72C		2897	US	27 JUL	90.7	101.5	313	310			
1967 C72D	OV1-12	2901	US	27 JUL	94.4	101.6	497	486			
1967 C75B		2908	US	1 AUG	BARYCENTRIC ORBIT						
1967 C80A		2920	US	23 AUG	102.1	98.6	890	831			
1967 C80B		2940	US	23 AUG	102.1	98.6	890	830			
1967 C84B		2918	US	8 SEP	BARYCENTRIC ORBIT						
1967 C92A		2965	US	25 SEP	106.7	89.2	1114	1038			
1967 C92B		2967	US	25 SEP	106.7	89.2	1113	1039			
1967 C92C		2994	US	25 SEP	104.3	89.4	1047	885			
1967 C92D		3122	US	25 SEP	109.1	89.0	1334	1043			
1967 C94A	INTLSAT 2 F-4	2969	USSR	26 SEP	1437.7	7.3	35820	35816			
1967 C94C		2971	US	28 SEP	CURRENT ELEMENTS NOT MAINTAINED						
1967 C96A		2980	US	11 OCT	99.9	99.2	854	663			
1967 C96B		2985	US	11 OCT	99.9	99.2	851	664			
1967 C10A	OSD 4	3000	US	18 OCT	95.0	32.9	531	505			
1967 C10B		3004	US	12 OCT	94.5	32.0	503	483			
1967 C12A	COSMOS 184	3010	USSR	24 OCT	96.5	81.1	612	582			
1967 C12B		3011	USSR	24 OCT	96.8	81.1	685	531			
1967 C14B		3019	USSR	27 OCT	98.2	64.0	981	466			
1967 C18A	COSMOS 189	3021	USSR	30 OCT	92.8	73.9	423	406			
1967 C18B		3023	USSR	30 OCT	94.4	73.9	508	478			
1967 C18H		5697	USSR	30 OCT	92.0	73.9	380	368			
1967 C11A	ATS 3	3029	US	5 NOV	1437.1	6.4	35888	35720	136.470.137.350	5*	
1967 C11B		3034	US	7 NOV	BARYCENTRIC ORBIT						
1967 C114A	ESSA 6	3035	US	10 NOV	114.8	102.2	1487	1410			
1967 C114B		3036	US	10 NOV	114.8	102.2	1487	1412			
1967 C114C		3051	US	10 NOV	114.1	101.3	1486	1348			
1967 C114D		3123	US	10 NOV	115.4	102.4	1499	1453			
1967 C114E		5443	US	10 NOV	114.6	101.4	1488	1391			
1967 C116A	COSMOS 192	3047	USSR	23 NOV	99.7	74.0	751	741			
1967 C116B		3048	USSR	23 NOV	99.7	74.0	754	741			
1967 C13A	BIKNEER 8	3066	USSR	13 DEC	HELIOCENTRIC ORBIT						
1967 C127A	COSMOS 198	3081	USSR	27 DEC	103.4	65.1	946	898			
1968 LAUNCHES											
1968 C01B		3092	US	7 JAN	BARYCENTRIC ORBIT						
1968 C02A	EXPLORER 36	3093	US	11 JAN	112.2	105.7	1577	1083	136.320	5*	
1968 C02B		3094	US	11 JAN	112.1	105.8	1570	1083			
1968 C02C		3126	US	11 JAN	112.3	106.0	1587	1086			
1968 C02D		3127	US	11 JAN	112.1	105.3	1576	1078			
1968 C05C		3103	USSR	19 JAN	94.2	73.9	507	463			

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1963 LAUNCHES (CONT'D)										
1963 011A	COSMOS 203	3129	USSR	20 FEB	109.2	74.0	1204	1185		
1963 011B		3131	USSR	20 FEB	109.3	74.0	1207	1185		
1963 011C		3147	USSR	20 FEB	103.2	74.0	1102	1025		
1963 012A		3133	US	2 MAR	106.9	89.9	1142	1027		
1963 012B		3137	US	2 MAR	106.9	89.9	1142	1027		
1963 012C		3213	US	2 MAR	105.1	89.8	1109	892		
1963 012D		3214	US	2 MAR	108.8	90.1	1322	1028		
1963 013A	ZOND 4	3134	USSR	2 MAR	CURRENT ELEMENTS NOT MAINTAINED					
1963 014A	OGO 5	3138	US	4 MAR	CURRENT ELEMENTS NOT MAINTAINED					
1963 014B		3145	US	4 MAR	CURRENT ELEMENTS NOT MAINTAINED					
1963 017A	EXPLORER 37	3141	US	5 MAR	97.8	59.3	834	480		
1963 017B		3146	US	5 MAR	97.1	59.3	769	477		
1963 017C		3328	US	5 MAR	99.8	59.5	878	628		
1963 017E		5743	US	5 MAR	93.6	50.2	537	367		
1963 019A	COSMOS 206	3150	USSR	14 MAR	96.5	81.2	611	579		
1963 019B		3151	USSR	14 MAR	96.8	81.2	687	534		
1963 023A	COSMOS 209	3158	USSR	22 MAR	103.1	85.3	932	862		
1963 025A	OVI-13	3173	US	6 APR	199.4	99.9	9285	579		
1963 026B	OVI-14	3174	US	6 APR	207.7	99.9	9941	545		
1963 026C		3177	US	6 APR	207.9	99.9	9968	534		
1963 026D		3212	US	6 APR	199.4	99.9	9278	579		
1963 027A	LUNA 14	3178	USSR	7 APR	SELENOCENTRIC ORBIT					
1963 040A		3229	USSR	7 MAY	98.9	74.0	749	672		
1963 040B	COSMOS 220	3230	USSR	7 MAY	98.9	74.0	751	671		
1963 040C		3231	USSR	7 MAY	98.6	74.0	733	654		
1963 042A		3266	US	23 MAY	102.0	98.6	900	817		
1963 042B		3271	US	23 MAY	102.1	98.6	900	818		
1963 049A	COSMOS 226	3282	USSR	12 JUN	96.3	81.1	609	557		
1963 049B		3283	USSR	12 JUN	96.6	81.2	683	517		
1963 050A		3284	US	13 JUN	1335.2	2.4	33847	33728		
1963 050B		3285	US	13 JUN	1335.5	2.4	33855	33735		
1963 050C		3286	US	13 JUN	1336.3	2.3	33902	33719		
1963 050D		3287	US	13 JUN	1337.8	2.4	33962	33717		
1963 050E		3288	US	13 JUN	1339.8	2.4	34044	33716		
1963 050F		3289	US	13 JUN	1342.2	2.4	34112	33742		
1963 050G		3290	US	13 JUN	1345.3	2.4	34260	33721		
1963 050H		3291	US	13 JUN	1348.7	2.3	34345	33772		
1963 050J		3292	US	13 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1963 055A	EXPLORER 38	3315	US	4 JUL	224.2	120.8	5873	5827		
1963 055B		3316	US	4 JUL	156.6	120.5	5931	566		
1963 055C		3348	US	4 JUL	224.1	120.8	5865	5823		
1963 055D		4841	US	4 JUL	156.3	120.6	5926	548		
1963 063A		3334	US	6 AUG	CURRENT ELEMENTS NOT MAINTAINED					
1963 066A	EXPLORER 39	3337	US	8 AUG	114.4	80.6	2174	684		
1963 066B	EXPLORER 40	3338	US	8 AUG	118.2	80.6	2527	681		
1963 066C		3341	US	8 AUG	118.2	80.6	2523	685		
1963 066D		3342	US	8 AUG	117.3	80.7	2439	688		
1963 066E		3343	US	8 AUG	117.6	80.6	2478	674		
1963 066F		3390	US	8 AUG	117.4	80.6	2438	699		
1963 066G		3391	US	8 AUG	117.5	80.7	2462	682		
1963 066H		3392	US	8 AUG	117.5	80.7	2435	709		
1963 066J		3397	US	8 AUG	117.3	80.6	2436	688		
1963 069A	ESSA 7	3345	US	16 AUG	114.9	102.0	1475	1432		
1963 069B		3346	US	16 AUG	114.8	101.9	1468	1420		
1963 069C		3416	US	16 AUG	113.7	101.6	1489	1305		
1963 069D		3417	US	16 AUG	116.1	102.0	1562	1459		
1963 069E		3974	US	16 AUG	114.9	102.0	1483	1425		
1963 069F		3975	US	16 AUG	114.9	101.9	1487	1418		
1963 069G		4499	US	16 AUG	115.1	102.1	1485	1439		
1963 070A	COSMOS 236	3347	USSR	27 AUG	96.5	56.0	603	579		
1963 070B		3349	USSR	27 AUG	96.2	56.0	596	558		
1963 081A	OV2-5	3428	US	26 SEP	CURRENT ELEMENTS NOT MAINTAINED					
1963 081B	ERS 28	3429	US	26 SEP	CURRENT ELEMENTS NOT MAINTAINED					
1963 081C	ERS 21	3430	US	26 SEP	CURRENT ELEMENTS NOT MAINTAINED					

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1968 LAUNCHES (CONT'D)										
1968 081D	LES 6	3431	US	26 SEP	CURRENT ELEMENTS NOT MAINTAINED					
1968 081E		3432	US	26 SEP	CURRENT ELEMENTS NOT MAINTAINED					
1963 090A	COSMOS 248	3503	USSR	20 OCT	93.6	62.2	487	415		
1968 091A	COSMOS 249	3504	USSR	19 OCT	112.0	62.3	2119	520		10*
1968 091B	- 091CK		USSR	20 OCT	SEE NOTE	10*				
1968 092A		3510	US	23 OCT	101.3	98.6	847	800		
1968 092B		3522	US	23 OCT	101.3	98.6	846	799		
1968 095A	COSMOS 250	3526	USSR	30 OCT	92.2	73.9	388	380		
1968 095B		3527	USSR	30 OCT	93.0	74.0	431	422		
1963 097A	COSMOS 252	3530	USSR	1 NOV	112.3	62.3	2116	557		
1963 097B	- 097DU		USSR	1 NOV	SEE NOTE	11*				11*
1963 100A	PIONEER 9	3533	US	8 NOV	HELIOCENTRIC ORBIT					
1963 100B	TETR 2	3534	US	8 NOV	94.8	32.8	670	352		
1968 106A	COSMOS 256	3576	USSR	30 NOV	109.3	74.0	1225	1174		
1968 106B		3577	USSR	30 NOV	109.2	74.0	1220	1168		
1963 110A	0AO-A2	3597	US	7 DEC	100.2	34.9	773	764		
1963 110B		3598	US	7 DEC	100.1	34.9	808	717		
1963 112B		3605	US	12 DEC	114.4	80.3	1474	1386		
1968 112C		3617	US	12 DEC	114.0	80.1	1452	1377		
1968 112D		3618	US	12 DEC	114.7	80.5	1512	1379		
1968 112E		3640	US	12 DEC	114.5	80.6	1461	1407		
1963 114A	ESSA 8	3615	US	15 DEC	114.6	101.4	1465	1416		
1963 114B		3616	US	15 DEC	115.1	101.5	1472	1450		
1963 114C		3611	US	15 DEC	112.8	101.9	1469	1252		
1963 114D		3612	US	15 DEC	116.3	101.7	1575	1463		
1963 116A	INTELSAT 3 F-2	3623	ITSO	19 DEC	1435.6	6.3	35815	35740		
1968 118B		3627	US	21 DEC	HELIOCENTRIC ORBIT					
1963 LAUNCHES										
1969 006A	OSO 5	3663	US	22 JAN	95.2	32.9	539	519		
1967 006B		3664	US	22 JAN	94.4	32.9	499	483		
1969 009A	ISIS 1	3669	CANADA	30 JAN	128.2	88.4	3517	578	136.080.136.410, 136.590.137.350, 401.750	5* 5*
1969 009B		3670	US	30 JAN	128.0	88.4	3495	578		
1969 010B		3673	US	5 FEB	114.1	80.3	1436	1307		
1969 010C		3681	US	5 FEB	113.7	80.1	1425	1375		
1969 011A	INTELSAT 3 F-3	3674	ITSO	6 FEB	1436.1	4.6	35796	35778		
1969 011B		3697	US	9 FEB	517.9	26.6	29814	352		
1969 013A		3691	US	9 FEB	1435.9	1.0	35803	35765		
1969 013B		3692	US	9 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1969 014A	MARINER 6	3759	US	25 FEB	HELIOCENTRIC ORBIT					
1969 014B		3760	US	25 FEB	HELIOCENTRIC ORBIT					
1963 016A	ESSA 9	3764	US	26 FEB	115.2	102.1	1507	1427		
1969 016B		3767	US	26 FEB	115.1	102.1	1503	1423		
1969 018B		3770	US	3 MAR	HELIOCENTRIC ORBIT					
1969 018C		3771	US	3 MAR	133.1	28.9	4295	222		
1969 021A	LM/ASCENT COSMOS 269	3775	USSR	5 MAR	93.1	74.0	434	429		
1963 021B		3776	USSR	5 MAR	93.1	74.1	433	428		
1969 0211		3844	USSR	5 MAR	95.2	74.1	543	518		
1963 024A	COSMOS 272	3818	USSR	17 MAR	109.3	73.9	1209	1181		
1969 024B		3819	USSR	17 MAR	109.2	73.9	1199	1182		
1963 024C		3829	USSR	17 MAR	109.1	73.9	1196	1182		
1963 025C		3825	US	18 MAR	153.2	104.7	5744	470		
1969 025E	OV1-19	3827	US	18 MAR	152.8	104.7	5711	475		
1963 025F		3828	US	18 MAR	93.3	98.8	468	409		
1969 029A	METEOR	3835	USSR	26 MAR	97.7	81.1	674	625		
1969 029B	- 029AP		USSR	26 MAR	SEE NOTE	12*				12*
1963 030A	MARINER 7	3837	US	27 MAR	HELIOCENTRIC ORBIT					
1968 030B		3845	US	27 MAR	HELIOCENTRIC ORBIT					
1969 036A		3899	US	13 APR	CURRENT ELEMENTS NOT MAINTAINED					
1969 037A	NIMBUS 3	3890	US	14 APR	107.3	99.6	1135	1074		

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INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1963 LAUNCHES (CONT'D)											
1963 037B	EGRS 13	3891	US	14 APR	107.2	99.6	1133	1072			
1963 037C		3892	US	14 APR	107.4	99.6	1139	1079			
1963 043B	LM/DESCENT	3943	US	18 MAY	HELIOCENTRIC ORBIT						
1963 043C	LM/ASCENT	3948	US	18 MAY	SELENOCENTRIC ORBIT						
1963 043D	LM/ASCENT	3949	US	18 MAY	SELENOCENTRIC ORBIT						
1963 045A	INTELSAT 3 F-4	3947	USSR	22 MAY	143.9	6.0	35810	35755			
1963 045B		5976	US	22 MAY	113.5	28.0	2652	123			
1963 046A	OV5-5/ERS-29	3950	US	23 MAY	CURRENT ELEMENTS NOT MAINTAINED						
1963 046B	OV5-6	3951	US	23 MAY	3115.5	50.7	122260	6307			
1963 046C	OV5-9	3952	US	23 MAY	3114.9	32.9	113065	15483			
1963 046D		3954	US	23 MAY	6701.7	34.9	111910	110829			
1963 046E		3955	US	23 MAY	6695.1	34.9	111945	110639			
1963 046F		3956	US	23 MAY	CURRENT ELEMENTS NOT MAINTAINED						
1963 051A	060-6	3986	US	6 JUN	96.7	81.0	825	381			
1963 051B		3987	US	5 JUN	97.2	81.0	854	399			
1963 053B		3993	US	21 JUN	CURRENT ELEMENTS NOT MAINTAINED						
1963 059B		4000	US	16 JUL	HELIOCENTRIC ORBIT						
1963 059C	LUNAR MODULE	4041	US	16 JUL	SELENOCENTRIC ORBIT						
1963 062A		4047	US	23 JUL	101.2	98.4	854	785		13*	
1963 062B		4048	US	23 JUL	101.2	98.4	854	785			
1963 064A		4051	US	26 JUL	132.8	30.3	4223	264			
1963 064C	INTELSAT 3 F-5	4053	USSR	26 JUL	141.4	30.3	4961	265			
1963 068A		4065	US	9 AUG	94.3	32.9	508	464			
1963 068B	OSO 6	4066	US	9 AUG	90.6	32.9	310	301			
1963 068C	PAC 1	4068	US	12 AUG	1434.9	3.9	35792	35732		136.470.137.350	
1963 069A	ATS 5	4069	US	12 AUG	703.3	17.6	37312	2326		5*	
1963 069B		5991	US	12 AUG	679.8	17.5	37069	1395			
1963 069C		5991	US	12 AUG	679.8	17.5	37069	1395			
1963 070A	COSMOS 292	4070	USSR	13 AUG	99.8	74.0	762	743			
1963 070B		4071	USSR	13 AUG	99.7	74.0	759	733			
1963 070C		4084	USSR	13 AUG	100.0	74.0	777	742			
1963 082B		4256	US	30 SEP	103.4	70.0	936	906			
1963 082C		4257	US	30 SEP	103.4	70.0	937	906			
1963 082D		4259	US	30 SEP	103.4	70.0	938	906			
1963 082E		4237	US	30 SEP	103.4	70.0	938	906			
1963 082F		4247	US	30 SEP	103.4	70.0	938	906			
1963 082G		4295	US	30 SEP	103.4	70.0	937	906			
1963 082H		4168	US	30 SEP	103.4	70.0	937	906			
1963 082J		4166	US	30 SEP	103.2	70.0	927	895			
1963 082K	082KK	4132	US	30 SEP	103.3	70.0	933	901		14*	
1963 082L	METEOR	4119	USSR	6 OCT	97.4	81.2	662	615			
1963 084B		4120	USSR	6 OCT	97.5	81.2	744	544			
1963 091A	COSMOS 304	4138	USSR	21 OCT	69.8	74.0	760	741			
1963 091B		4139	USSR	21 OCT	69.6	74.0	746	737			
1963 097A	GRS-A/AZUR	4221	FRG	8 NOV	120.3	102.6	3004	387			
1963 097B		4222	US	8 NOV	119.0	102.8	2894	385			
1963 097C		4242	FRG	8 NOV	114.8	102.7	2518	381			
1963 097D		4243	FRG	8 NOV	114.5	103.0	2490	380			
1963 097E		4261	FRG	8 NOV	112.8	103.6	2337	382			
1963 097F		4265	FRG	8 NOV	108.5	102.2	1956	365			
1963 099B		4226	US	14 NOV	CURRENT ELEMENTS NOT MAINTAINED						
1963 101A	SKYNET A	4250	UK	22 NOV	1436.0	3.8	35820	35749			
1963 101B		4251	US	22 NOV	CURRENT ELEMENTS NOT MAINTAINED						
1963 103A	COSMOS 312	425A	USSR	24 NOV	108.5	74.0	1178	1143			
1963 103B		4255	USSR	24 NOV	108.3	74.0	1161	1144			
1963 107A	COSMOS 315	4273	USSR	20 DEC	93.7	74.0	467	453			
1963 107B		4274	USSR	20 DEC	93.6	74.0	465	446			
1970 LAUNCHES											
1970 003A	INTELSAT 3 F-6	4297	USSR	15 JAN	1436.0	5.0	35851	35720			
1970 003B		4298	US	15 JAN	609.0	27.9	34537	306			
1970 008A	ITOS 1	4320	US	23 JAN	115.0	102.0	1482	1435			
1970 008B	OSCAR 5	4321	AUSTRAL	23 JAN	115.0	102.0	1480	1435			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CA. ALOS NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. - NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1970 LAUNCHES (CONT'D)										
1970 008C		4322	US	23 JAN	115.0	102.0	1481	1435		
1970 009A	SERT 2	4327	US	4 FEB	106.1	99.2	1050	1045	136.230, 136.920	5*
1970 011A	OHSUMI	4330	JAPAN	11 FEB	139.4	31.1	4720	334		
1970 012A		4331	US	11 FEB	101.2	98.7	869	771		
1970 012B		4332	US	11 FEB	101.2	98.8	871	771		
1970 017A	DIAL-WIKA	4344	FRG	10 MAR	96.5	5.3	884	291		
1970 019A	METEOR	4349	USSR	17 MAR	95.8	81.1	602	522		
1970 019B		4350	USSR	17 MAR	95.9	81.1	675	460		
1970 021A	NATC 1	4353	NATO	20 MAR	1436.1	3.0	35823	35750		
1970 021B		4354	US	20 MAR	626.3	25.1	35449	290		
1970 021C		5975	US	20 MAR	638.4	25.3	35993	367		
1970 024A	COSMOS 330	4360	USSR	7 APR	94.0	74.0	470	467		
1970 024B		4361	USSR	7 APR	94.1	74.0	493	464		
1970 025A	NIMBUS-A	4362	US	8 APR	107.1	99.7	1103	1091	136.500, 136.950	5*
1970 025B	TOPO 1	4363	US	8 APR	106.9	99.8	1090	1087	401.500, 1702.500	5*
1970 025C	- 025NN		US	8 APR	SEE NOTE	15*				15*
1970 027A		4366	US	8 APR	6701.0	33.4	111587	111135		
1970 027B		4368	US	8 APR	6698.1	33.3	111587	111068		
1970 028A	COSMOS 332	4369	USSR	11 APR	99.9	74.0	760	752		
1970 028B		4370	USSR	11 APR	99.8	74.0	763	737		
1970 032A	INTELSAT 3 F-7	4376	USSR	23 APR						
1970 032B		4377	USSR	23 APR						
1970 034A		4382	US	24 APR	113.7	68.4	2362	437		
1970 034B		4392	PRC	24 APR	112.5	68.4	2269	436		
1970 034C		4400	PRC	24 APR	110.4	68.5	2071	425		
1970 036A	COSMOS 336	4383	USSR	25 APR	116.2	74.0	1487	1465		
1970 036B		4384	USSR	25 APR	116.2	74.0	1554	1476		
1970 036C	COSMOS 338	4385	USSR	25 APR	115.8	74.0	1519	1469		
1970 036D	COSMOS 339	4386	USSR	25 APR	115.0	74.0	1471	1447		
1970 036E	COSMOS 340	4387	USSR	25 APR	114.6	74.0	1471	1409		
1970 036F	COSMOS 341	4388	USSR	25 APR	113.9	74.0	1471	1344		
1970 036G	COSMOS 342	4389	USSR	25 APR	113.5	74.0	1470	1312		
1970 036H	COSMOS 343	4390	USSR	25 APR	114.2	74.0	1470	1376		
1970 039J		4391	USSR	25 APR	116.6	74.0	1590	1469		
1970 037A	METEOR	4393	USSR	28 APR	97.9	81.2	699	623		
1970 037B		4394	USSR	28 APR	98.1	81.2	775	568		
1970 037C		4398	USSR	28 APR	96.7	81.2	630	576		
1970 046A		4418	US	19 JUN						
1970 046B		4511	US	19 JUN						
1970 047A	METEOR	4419	USSR	23 JUN	102.0	81.2	888	828		
1970 047B		4420	USSR	23 JUN	102.2	81.2	920	813		
1970 055A	INTELSAT 3 F-8	4478	USSR	23 JUL						
1970 055B		4486	USSR	23 JUL						
1970 062A	SKYNET B	4493	UK	19 AUG						
1970 064A	COSMOS 358	4497	USSR	20 AUG	94.0	74.0	523	510		
1970 064B		4498	USSR	20 AUG	94.0	74.0	485	456		
1970 067A	NNSS 0-19	4507	US	27 AUG	106.9	90.1	1218	956		
1970 067B		4515	US	27 AUG	106.9	90.1	1219	956		
1970 067C		5036	US	27 AUG	104.4	90.0	991	945		
1970 067D		5447	US	27 AUG	109.6	90.0	1465	955		
1970 067E		6372	US	27 AUG	106.1	90.0	1137	963		
1970 069A		4510	US	1 SEP						
1970 070A		4512	US	1 SEP	101.1	98.8	871	761		
1970 070B		4513	US	3 SEP	101.1	98.9	873	760		
1970 079A	COSMOS 367	4564	USSR	3 OCT	104.5	65.2	1014	931		
1970 083A	COSMOS 371	4576	USSR	12 OCT	99.8	73.9	754	749		
1970 083B		4579	USSR	12 OCT	99.7	74.0	757	737		
1970 085A	METEOR	4583	USSR	15 OCT	97.3	81.2	639	623		
1970 085B		4584	USSR	15 OCT	97.4	81.2	726	546		
1970 085C		6330	USSR	15 OCT	97.3	81.2	723	546		
1970 086A	COSMOS 372	4588	USSR	16 OCT	100.7	74.0	805	783		
1970 086B		4589	USSR	16 OCT	100.6	74.0	806	772		
1970 086C		5357	USSR	16 OCT	100.6	74.0	800	781		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1970 LAUNCHES (CONT'D)										
1970 C86D		535R	USSR	16 OCT	100.9	74.0	811	800		
1970 C87A	COSMOS 373	4590	USSR	20 OCT	93.8	62.9	486	438		
1970 C89A	COSMOS 374	4594	USSR	23 OCT	111.6	62.9	2011	595		
1970 C89B	- 089CU		USSR	23 OCT	SEE NOTE	16*				16*
1970 C91A	COSMOS 375	4558	USSR	30 OCT	111.7	62.8	2045	572		
1970 C91B	- 091AG		USSR	30 OCT	SEE NOTE	17*				17*
1970 C93A		4630	US	6 NOV	CURRENT ELEMENTS NOT MAINTAINED					
1970 C93B		4632	US	6 NOV	CURRENT ELEMENTS NOT MAINTAINED					
1970 C98A		4722	US	18 NOV	91.6	83.1	359	350		
1970 C98B	COSMOS 379	4760	USSR	24 NOV	189.0	51.6	8892	174		
1970 C102A	COSMOS 381	4783	USSR	2 DEC	104.8	74.0	1012	967		
1970 C102B		4784	USSR	2 DEC	104.7	74.0	1005	964		
1970 C102C		4840	USSR	2 DEC	104.4	74.0	991	952		
1970 C102D		5228	USSR	2 DEC	104.6	74.0	992	962		
1970 C102E		8764	USSR	2 DEC	104.5	74.0	994	958		
1970 C102F		9794	USSR	2 DEC	104.7	74.0	1004	962		
1970 C103A	COSMOS 382	4786	USSR	2 DEC	171.0	55.8	5187	2466		
1970 C103B		4789	USSR	2 DEC	158.8	51.5	5085	1586		
1970 C103C		4790	USSR	2 DEC	159.1	51.5	5085	1611		
1970 C103D		5316	USSR	2 DEC	164.3	56.2	4264	2854		
1970 C106A	NOAA 1	4793	US	11 DEC	114.8	102.0	1476	1426		
1970 C106B		4794	US	11 DEC	114.8	102.0	1477	1423		
1970 C107A	EXPLORER 42	8828	US	11 DEC	116.5	101.8	1549	1508		
1970 C107B		4797	US	12 DEC	94.5	3.0	505	478		
1970 C107C		4798	US	12 DEC	CURRENT ELEMENTS NOT MAINTAINED					
1970 C108A	COSMOS 385	4799	USSR	12 DEC	104.7	74.0	985	978		
1970 C108B		4800	USSR	12 DEC	104.6	74.0	983	970		
1970 C109A	PEOPLE	4801	FRANCE	12 DEC	96.6	15.0	691	495		
1970 C109B		4802	FRANCE	12 DEC	98.5	15.0	743	631		
1970 C109C		4803	FRANCE	12 DEC	96.6	15.0	691	495		
1970 C109D		4839	FRANCE	12 DEC	95.8	14.9	636	475		
1970 C109E		5264	FRANCE	12 DEC	95.6	15.0	642	477		
1970 C111A	COSMOS 387	4806	USSR	16 DEC	94.6	73.9	504	497		
1970 C111B		4807	USSR	16 DEC	94.5	74.0	505	485		
1970 C113A	COSMOS 389	4813	USSR	18 DEC	97.9	81.1	685	636		
1970 C113B		4814	USSR	18 DEC	97.9	81.1	726	598		
1971 LAUNCHES										
1971 C00A		4924	US	UNKN	275.6	18.0	14918	380		18*
1971 C00B		4925	US	UNKN	279.1	19.8	19306	228		18*
1971 C00C		4926	US	UNKN	309.2	19.8	17283	250		18*
1971 C00E		5310	US	UNKN	1435.7	4.8	35795	35763		18*
1971 C03A	METEOR	4849	USSR	20 JAN	97.4	81.2	648	627		
1971 C03B		4850	USSR	20 JAN	97.6	81.2	729	561		
1971 C06A	INTELSAT A-F-2	4881	ITSO	26 JAN	1436.0	0.0	35793	35778		
1971 C06B		4882	US	26 JAN	654.4	28.1	36510	670		
1971 C09A	NATO 2	4902	NATO	3 FEB	1436.1	2.3	35804	35769		
1971 C09B		4903	US	3 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1971 C09D		5286	US	9 FEB	575.0	26.0	31967	1133		
1971 C10A	COSMOS 394	4922	USSR	9 FEB	96.4	65.8	606	573		
1971 C10B		4923	USSR	9 FEB	96.2	65.8	599	557		
1971 C10C		4927	USSR	9 FEB	96.1	65.8	588	562		
1971 C11A	TANSEI	4952	JAPAN	16 FEB	106.0	29.6	1103	983		
1971 C11B		5126	JAPAN	16 FEB	104.7	29.6	992	974		
1971 C11C		5419	JAPAN	16 FEB	100.4	30.4	1028	526		
1971 C12A		4953	US	17 FEB	100.0	98.5	832	766		
1971 C12B		4954	US	17 FEB	100.8	98.4	833	769		
1971 C12C		4957	US	17 FEB	100.6	98.5	822	754		
1971 C12D		4958	US	17 FEB	100.5	98.5	821	752		
1971 C12E		4963	US	17 FEB	100.6	98.5	821	762		
1971 C13A	COSMOS 395	4955	USSR	17 FEB	94.8	74.0	521	500		
1971 C13B		4956	USSR	17 FEB	94.8	74.0	524	496		
1971 C15A	COSMOS 397	4964	USSR	25 FEB	113.4	65.7	2208	565		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1971 LAUNCHES (CONT'D)										
1971 0158	0158L		USSR	25 FEB	195.4	51.6	9339	218		19*
1971 016A	COSMOS 398	4966	USSR	29 FEB	SEE NOTE	19*				
1971 018A		5007	PRC	13 MAR	99.1	65.8	1188	253		
1971 019C		5045	US	13 MAR	CURRENT ELEMENTS NOT MAINTAINED					
1971 020A	COSMOS 400	5050	USSR	18 MAR	104.9	65.8	1005	803		
1971 020B		5061	USSR	18 MAR	104.8	65.8	992	845		
1971 020C		5052	USSR	18 MAR	105.0	65.8	1005	984		
1971 021A		5053	US	21 MAR	CURRENT ELEMENTS NOT MAINTAINED					
1971 021B		5054	US	21 MAR	CURRENT ELEMENTS NOT MAINTAINED					
1971 024A	ISIS 2	5104	CANADA	1 APR	113.6	RR.1	1427	1359	136.080,136.410. 136.590,137.950 401.750	5* 5* 5*
1971 024B		5106	US	1 APR	113.5	RR.1	1424	1358		
1971 024C		5340	US	1 APR	113.6	RR.2	1425	1362		
1971 025A	COSMOS 402	5107	USSR	1 APR	104.9	64.9	1034	949		
1971 028A	COSMOS 405	5117	USSR	7 APR	98.2	81.2	978	671		
1971 028B		5118	USSR	7 APR	98.3	81.2	745	671		
1971 028D		5724	FRANCE	7 APR	98.2	81.2	677	671		
1971 030A	TOURNESOL	5128	FRANCE	15 APR	95.4	46.3	633	445		
1971 030B		5135	FRANCE	15 APR	95.0	46.3	610	431		
1971 030D		5140	FRANCE	15 APR	92.3	46.3	411	364		
1971 031A	METEOR	5142	USSR	17 APR	96.0	81.2	627	603		
1971 031B		5143	USSR	17 APR	97.1	81.2	700	550		
1971 035A	COSMOS 407	5174	USSR	23 APR	100.9	74.0	818	789		
1971 035B		5175	USSR	23 APR	100.8	74.0	823	773		
1971 035C		5300	USSR	23 APR	101.2	74.0	833	806		
1971 035D		5301	USSR	23 APR	101.3	74.0	840	806		
1971 035E		5778	USSR	23 APR	101.2	74.0	833	805		
1971 035F		5958	USSR	23 APR	101.2	74.0	827	805		
1971 035G		6660	USSR	23 APR	101.1	74.0	830	782		
1971 038A	COSMOS 409	5180	USSR	28 APR	109.3	74.0	1213	1178		
1971 038B		5181	USSR	28 APR	109.1	73.9	1209	1171		
1971 039A		5204	US	5 MAY	CURRENT ELEMENTS NOT MAINTAINED					
1971 039B		5205	US	5 MAY	CURRENT ELEMENTS NOT MAINTAINED					
1971 041A	COSMOS 411	5210	USSR	7 MAY	113.8	74.0	1492	1317		
1971 041B	COSMOS 412	5211	USSR	7 MAY	116.1	74.0	1536	1481		
1971 041C	COSMOS 413	5212	USSR	7 MAY	115.7	74.0	1509	1475		
1971 041D	COSMOS 414	5213	USSR	7 MAY	115.1	74.0	1495	1428		
1971 041E	COSMOS 415	5214	USSR	7 MAY	115.4	74.0	1502	1452		
1971 041F	COSMOS 416	5215	USSR	7 MAY	114.4	74.0	1493	1373		
1971 041G	COSMOS 417	5216	USSR	7 MAY	114.1	74.0	1494	1345		
1971 041H	COSMOS 418	5217	USSR	7 MAY	114.8	74.0	1494	1401		
1971 041J		5218	USSR	7 MAY	116.8	74.0	1593	1490		
1971 045A	MARS 2	5234	USSR	19 MAY	AREOCENTRIC ORBIT					
1971 046A	COSMOS 422	5238	USSR	22 MAY	105.0	74.0	1010	987		
1971 046B		5239	USSR	22 MAY	104.9	74.0	1003	984		
1971 049A	MARS 3	5252	USSR	28 MAY	AREOCENTRIC ORBIT					
1971 050A	COSMOS 425	5253	USSR	29 MAY	94.6	74.0	514	487		
1971 050B		5254	USSR	29 MAY	94.5	74.0	521	472		
1971 051A	MARTINER 9	5261	US	30 MAY	AREOCENTRIC ORBIT					
1971 051B		5267	US	30 MAY	AREOCENTRIC ORBIT					
1971 052A	COSMOS 426	5281	USSR	4 JUN	108.4	74.0	1931	385		
1971 052B		5282	USSR	4 JUN	108.4	74.0	1926	386		
1971 052C		5056	USSR	4 JUN	97.0	73.9	885	352		
1971 054A		5285	US	8 JUN	95.6	90.1	567	533		
1971 058A	EXPLORER 44	5317	US	8 JUL	94.5	51.0	573	423		
1971 059A	METEOR	5327	USSR	16 JUL	97.1	91.1	636	610		
1971 059B		5328	USSR	16 JUL	97.3	91.2	713	550		
1971 060A		5329	US	16 JUL	93.2	74.9	438	430		
1971 063D	APOLLO 15 SUBSATELLITE MOLNIYA 1	5377	US	26 JUL	SELENOCENTRIC ORBIT					
1971 064A		5367	USSR	28 JUL	717.3	65.0	40065	268		
1971 067B	OV1-21	5397	US	28 JUL	700.2	65.0	39220	267		
1971 067B		5397	US	7 AUG	101.9	67.6	914	790		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES	
1971 LAUNCHES (CONT'D)											
1971 067E		5398	US	7 AUG	101.9	87.6	911	791			
1971 067S		5401	US	7 AUG	100.4	87.6	837	728			
1971 067H		5406	US	7 AUG	100.9	87.6	862	746			
1971 067J		5405	US	7 AUG	101.6	87.6	905	771			
1971 067K		5395	US	7 AUG	101.9	87.6	912	791			
1971 067L		5399	US	7 AUG	101.7	87.6	907	782			
1971 067M		5400	US	7 AUG	101.7	87.6	904	781			
1971 067N		5384	US	7 AUG	101.8	87.6	912	782			
1971 067P		5410	US	7 AUG	101.5	87.6	891	772			
1971 069A	COSMOS 434	5407	USSR	12 AUG	171.7	51.5	7542	172			
1971 071A	EOLE 1	5435	FRANCE	16 AUG	100.6	50.1	902	674			
1971 071B		5438	US	16 AUG	100.6	50.1	902	672			
1971 071C		5440	US	16 AUG	100.1	50.7	885	644			
1971 071D		5426	US	16 AUG	101.0	49.5	921	695			
1971 073B		5449	USSR	2 SEP	SELENOCENTRIC ORBIT						
1971 074A	COSMOS 436	5461	USSR	7 SEP	94.5	74.0	509	489			
1971 074B		5462	USSR	7 SEP	94.4	74.0	506	478			
1971 075A	COSMOS 437	5466	USSR	10 SEP	94.7	74.0	521	496			
1971 075B		5467	USSR	10 SEP	94.6	74.0	537	471			
1971 080A	SHINSEI	5485	JAPAN	28 SEP	113.0	32.0	1865	868			
1971 080B		5498	JAPAN	28 SEP	111.8	32.0	1756	865			
1971 082A	LUNA 19	5488	USSR	28 SEP	SELENOCENTRIC ORBIT						
1971 082C		5490	USSR	28 SEP	SELENOCENTRIC ORBIT						
1971 083B		5492	US	29 SEP	92.7	33.0	454	363			
1971 086A	COSMOS 444	5547	USSR	13 OCT	114.1	74.0	1510	1323			
1971 086B	COSMOS 445	5548	USSR	13 OCT	114.4	74.0	1513	1352			
1971 086C	COSMOS 446	5549	USSR	13 OCT	114.8	74.0	1513	1383			
1971 086D	COSMOS 447	5550	USSR	13 OCT	115.1	74.0	1516	1412			
1971 086E	COSMOS 448	5551	USSR	13 OCT	115.5	74.0	1518	1441			
1971 086F	COSMOS 449	5552	USSR	13 OCT	116.3	74.0	1544	1484			
1971 086G	COSMOS 450	5553	USSR	13 OCT	116.9	74.0	1531	1463			
1971 086H	COSMOS 451	5554	USSR	13 OCT	116.6	74.0	1490	1460			
1971 086J		5555	USSR	13 OCT	117.4	74.0	1625	1505			
1971 087A		5557	US	14 OCT	101.5	99.0	878	792			
1971 087B		5556	US	14 OCT	101.6	99.0	888	792			
1971 089A		5560	US	17 OCT	100.5	92.7	802	769			
1971 091D		5576	US	21 OCT	105.3	103.4	1394	628			
1971 093A	PROSPERO	5580	UK	28 OCT	106.3	82.0	1572	546			
1971 093B		5581	UK	28 OCT	104.3	82.0	1581	546			
1971 093C		5582	UK	28 OCT	104.3	82.1	1400	534			
1971 095A		5587	US	3 NOV	143.8	2.1	35768	35772			
1971 095B		5588	US	3 NOV	144.8	2.1	35913	35886			
1971 095C		5589	US	3 NOV	CURRENT ELEMENTS NOT MAINTAINED						
1971 096A	EXPLORER 45	5598	US	15 NOV	396.2	3.6	22684	292			
1971 096B		5573	US	15 NOV	356.4	3.6	20291	251			
1971 096A	COSMOS 457	5614	USSR	20 NOV	109.4	74.0	1221	1184			
1971 099B		5615	USSR	20 NOV	109.3	74.0	1214	1179			
1971 103A	COSMOS 460	5628	USSR	30 NOV	94.7	73.9	511	500			
1971 103B		5629	USSR	30 NOV	94.7	74.0	523	487			
1971 105A	COSMOS 461	5643	USSR	2 DEC	93.6	69.2	458	447			
1971 105B		5644	USSR	2 DEC	93.6	69.2	467	440			
1971 109A	ARIEL 4	5675	UK	11 DEC	94.0	82.9	512	438			
1971 109B		5676	US	11 DEC	93.7	82.9	490	427			
1971 110A		5678	US	14 DEC	104.0	69.9	905	985			
1971 110B		5679	US	14 DEC	104.1	69.9	962	947			
1971 110C		5680	US	14 DEC	104.0	69.9	995	985			
1971 110D		5681	US	14 DEC	104.9	69.9	995	985			
1971 111E		5682	US	14 DEC	104.9	69.9	995	985			
1971 111A	COSMOS 465	5683	USSR	15 DEC	104.9	74.0	1011	970			
1971 111B		5685	USSR	15 DEC	104.7	74.0	1002	967			
1971 114A	COSMOS 468	5705	USSR	17 DEC	100.7	74.0	806	786			
1971 114B		5707	USSR	17 DEC	100.7	74.0	812	775			
1971 114C		8756	USSR	17 DEC	101.1	74.0	821	811			
1971 114D		8757	USSR	17 DEC	101.0	74.0	817	805			

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1971 LAUNCHES (CONT'D)										
1971 114E	MOLNIYA 1	9704	USSR	17 DEC	101.1	74.0	817	807		
1971 115A		5712	USSR	19 DEC	717.1	64.8	40'33	193		
1971 115B		5713	USSR	20 DEC	657.7	65.1	39190	173		
1971 116A	INTELSAT 4 F-3	5709	ITSO	19 DEC	1436.1	0.1	35793	35780		
1971 117A	COSMOS 469	5721	USSR	25 DEC	104.7	64.4	1027	935		
1971 118A	PROGNZ 1	5720	USSR	27 DEC	114.1	73.0	2436	300		
1971 119B		5730	USSR	27 DEC	113.9	73.9	2417	399		
1971 119C		5962	USSR	27 DEC	94.5	73.9	521	475		
1971 119E		6190	USSR	27 DEC	93.7	74.0	480	440		
1971 120A	METEOR	5731	USSR	29 DEC	102.6	81.2	927	843		
1971 120B		5732	USSR	29 DEC	102.2	81.2	873	858		
1971 120C		8826	USSR	29 DEC	102.5	81.2	903	860		
1971 120D		8827	USSR	29 DEC	102.3	81.2	875	865		
1971 123E		9800	USSR	29 DEC	102.7	81.2	901	875		
1972 LAUNCHES										
1972 002D		5772	US	20 JAN	93.9	96.5	497	442		
1972 003A	INTELSAT 4 F-4	5775	ITSO	23 JAN	1436.1	0.2	35797	35776		
1972 003B		5816	US	23 JAN	654.4	28.2	36548	636		
1972 005B		5815	US	31 JAN	95.1	89.7	754	298		
1972 005C		5817	US	31 JAN						CURRENT ELEMENTS NOT MAINTAINED
1972 007B		5836	USSR	14 FEB	104.7	74.0	1001	967		
1972 009A	COSMOS 475	5846	USSR	25 FEB	104.5	74.0	997	953		
1972 009B		5847	USSR	25 FEB	104.5	74.0	997	953		
1972 010A		5851	US	1 MAR						CURRENT ELEMENTS NOT MAINTAINED
1972 010B		5852	US	1 MAR						CURRENT ELEMENTS NOT MAINTAINED
1972 011A	COSMOS 476	5952	USSR	1 MAR	97.0	81.2	628	614		
1972 011B		5853	USSR	1 MAR	97.2	81.2	687	565		
1972 012A	PIONEER 10	5860	US	3 MAR						SOLAR SYSTEM ESCAPE TRAJECTORY
1972 012B		5861	US	3 MAR						HELIOCENTRIC ORBIT
1972 014A	TD-1A	5870	ESRD	12 MAR	94.9	97.5	526	511		
1972 014B		5880	US	12 MAR	94.9	97.5	522	509		
1972 014C		5880	USSR	22 MAR	94.7	74.0	516	499		
1972 017B	COSMOS 479	5895	USSR	22 MAR	94.6	74.0	524	484		
1972 018A		5903	US	24 MAR	101.7	98.8	884	800		
1972 018B		5904	US	24 MAR	101.6	98.8	874	800		
1972 019A	COSMOS 480	5905	USSR	25 MAR	109.1	82.9	1203	1173		
1972 019B		5907	USSR	25 MAR	109.0	82.9	1199	1164		
1972 022A	METEOR	5917	USSR	30 MAR	102.6	81.2	890	866		
1972 023A		5919	USSR	30 MAR	102.6	81.2	929	842		
1972 023D	COSMOS 482	5923	USSR	31 MAR	170.7	52.1	6742	205		
1972 023E		6073	USSR	31 MAR	193.2	52.1	7425	211		
1972 025E	SPEIT 1	5928	FRANCE	4 APR	193.2	52.1	9164	225		
1972 029A	PROGNZ	5941	USSR	14 APR						CURRENT ELEMENTS NOT MAINTAINED
1972 031C	LUNAR MODULE	6005	US	16 APR						SELENOCENTRIC ORBIT
1972 035A	COSMOS 489	6019	USSR	16 MAY	104.7	74.0	1003	966		
1972 035B		6020	USSR	16 MAY	104.6	74.0	990	954		
1972 037A	MOLNIYA 2	6031	USSR	19 MAY	684.5	64.9	39069	132		
1972 037G		6034	USSR	19 MAY	700.8	64.9	39287	229		
1972 041A	INTELSAT 4 F-5	6052	ITSO	13 JUN	1436.2	0.1	35790	35787		
1972 041B		6058	US	13 JUN	653.6	26.2	36632	508		
1972 043A	COSMOS 494	6050	USSR	23 JUN	100.7	74.0	803	759		
1972 043B		6061	USSR	23 JUN	100.6	74.0	802	777		
1972 043C		6063	USSR	23 JUN	101.1	74.0	822	802		
1972 043D		6065	USSR	23 JUN	101.2	74.0	836	802		
1972 043E		6162	USSR	23 JUN	100.6	74.0	814	765		
1972 049A	PROGNZ 2	6068	USSR	29 JUN						CURRENT ELEMENTS NOT MAINTAINED
1972 049A	METEOR	5079	USSR	30 JUN	102.8	81.2	904	887		
1972 049B		5080	USSR	30 JUN	102.9	81.2	938	864		
1972 052C		5086	US	7 JUL	103.2	96.1	436	432		
1972 053A	COSMOS 500	6097	USSR	10 JUL	94.7	74.0	524	493		
1972 053B		5098	USSR	10 JUL	94.7	74.0	526	484		

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1972 LAUNCHES (CONT'D)										
1972 057A	COSMOS 504	6117	USSR	20 JUL	113.9	74.0	1497	1323		
1972 057B	COSMOS 505	6118	USSR	20 JUL	114.3	74.0	1498	1353		
1972 057C	COSMOS 506	6119	USSR	20 JUL	114.6	74.0	1498	1384		
1972 057D	COSMOS 507	6120	USSR	20 JUL	114.9	74.0	1498	1413		
1972 057E	COSMOS 508	6121	USSR	20 JUL	115.3	74.0	1497	1445		
1972 057F	COSMOS 509	6122	USSR	20 JUL	115.6	74.0	1499	1475		
1972 057G	COSMOS 510	6123	USSR	20 JUL	116.0	74.0	1511	1497		
1972 057H	COSMOS 511	6124	USSR	20 JUL	116.4	74.0	1546	1497		
1972 057J		6125	USSR	20 JUL	117.0	74.0	1603	1494		
1972 058A	LANDSAT 1	6126	US	23 JUL	103.2	98.8	918	905	137.850, 2229.500, 5*	
									2265.500, 5*	
									2287.500, 5*	
										20*
1972 058B	058HW		US	23 JUL	SEE NOTE	20*				
1972 061A	EXPLORER 46	6142	US	13 AUG	97.0	37.6	751	482		
1972 061B		6145	US	13 AUG	96.8	37.6	736	472		
1972 061C		6146	US	13 AUG	95.2	37.6	628	427		
1972 062A	COSMOS 514	6148	USSR	16 AUG	104.3	82.9	972	959		
1972 062B		6149	USSR	16 AUG	104.3	82.9	969	956		
1972 062C		6277	USSR	16 AUG	104.1	82.8	960	954		
1972 062D	DENPA	7560	USSR	16 AUG	103.2	82.9	972	85F		
1972 064A		6152	JAPAN	19 AUG	134.4	31.0	4394	227		
1972 064B		6332	JAPAN	18 AUG	140.5	30.9	4917	232		
1972 065A	COPERNICUS	6153	US	21 AUG	99.6	35.0	744	734	136.260, 136.440, 5*	
									400.550, 5*	
1972 065B		6155	US	21 AUG	99.5	35.0	777	695		
1972 065C		6156	US	21 AUG	99.4	35.0	737	726		
1972 066A	COSMOS 516	6154	USSR	21 AUG	104.5	64.8	1040	908		
1972 069A	TRIAD OI-IX	6173	US	2 SEP	100.6	90.0	839	739		
1972 069C		6190	US	2 SEP	100.6	90.0	838	739		
1972 069C		6250	US	2 SEP	100.1	80.7	830	707		
1972 072A	COSMOS 520	6192	USSR	19 SEP	715.0	65.1	37244	2976		
1972 072E		6302	USSR	19 SEP	706.0	65.1	36848	2957		
1972 073A	EXPLORER 47	6197	US	23 SEP	17714.5	34.4	233608	203841	136.690, 137.920, 5*	
1972 074A	COSMOS 521	6206	USSR	29 SEP	104.9	65.8	1008	978		
1972 074B		6207	USSR	29 SEP	104.9	65.8	995	979		
1972 074C		6210	USSR	29 SEP	104.9	65.8	1011	978		
1972 075A	MOLNIYA 2	6208	USSR	30 SEP	717.7	65.2	39829	523		
1972 075D		6303	USSR	30 SEP	700.5	65.3	39019	481		
1972 076A		6212	US	2 OCT	99.5	98.4	747	727		
1972 076B		6217	US	2 OCT	99.5	98.4	749	728		
1972 076C		6218	US	2 OCT	99.5	98.4	751	729		
1972 076D		6221	US	2 OCT	99.5	98.4	751	728		
1972 076E		6224	US	2 OCT	99.3	98.4	741	715		
1972 079C		6822	US	10 OCT	114.7	95.6	1468	1422		
1972 079D		6823	US	10 OCT	114.8	95.7	1489	1409		
1972 079E		6824	US	10 OCT	114.8	95.5	1447	1438		
1972 081A	MOLNIYA 1	6231	USSR	14 OCT	717.4	64.5	39998	339		
1972 082A	NOAA 2	6235	US	15 OCT	114.9	101.5	1457	1451		
1972 082B	AMSAT-OSCAR 6	6236	US	15 OCT	114.9	101.5	1457	1450		
1972 082C		6237	US	15 OCT	109.3	102.7	1473	918		
1972 085A	METEOR	6256	USSR	26 OCT	102.5	81.2	891	865		
1972 085B		6257	USSR	26 OCT	102.6	81.2	891	839		
1972 087A	COSMOS 528	6262	USSR	1 NOV	114.1	74.0	1469	1368		
1972 087B	COSMOS 529	6264	USSR	1 NOV	114.5	74.0	1469	1404		
1972 087C	COSMOS 530	6265	USSR	1 NOV	113.8	74.0	1469	1334		
1972 087D	COSMOS 531	6266	USSR	1 NOV	114.7	74.0	1471	1422		
1972 087E	COSMOS 532	6267	USSR	1 NOV	113.4	74.0	1469	1302		
1972 087F	COSMOS 533	6268	USSR	1 NOV	113.6	74.0	1469	1318		
1972 087G	COSMOS 534	6269	USSR	1 NOV	113.9	74.0	1469	1351		
1972 087H	COSMOS 535	6270	USSR	1 NOV	114.3	74.0	1470	1385		
1972 087J		5271	USSR	1 NOV	116.6	74.0	1595	1468		
1972 088A	COSMOS 536	6272	USSR	3 NOV	94.9	74.0	539	495		
1972 088B		5273	USSR	3 NOV	94.8	74.0	538	486		
1972 088D		5700	USSR	3 NOV	95.2	74.0	547	515		

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1972 LAUNCHES (CONT'D)										
1972 089A		6275	US	9 NOV	101.7	98.6	871	810		
1972 089B		5276	US	9 NOV	101.7	98.6	871	814		
1972 090A	ANIK 1	6278	CANADA	10 NOV	1436.1	0.1	35797	35778		
1972 091A	EXPLORER 4B	5282	US	15 NOV	94.6	1.9	573	422		
1972 091B		6800	US	15 NOV	94.5	1.9	568	421		
1972 097A	NIMBUS 6	6306	US	11 DEC	107.2	99.8	1106	1092	136.500-1702.500, 5*	
									2208.500	5*
1972 097B		6306	US	11 DEC	111.8	99.8	1519	1103		
1972 101A		6317	US	20 DEC						CURRENT ELEMENTS NOT MAINTAINED
1972 101B		6318	US	20 DEC						CURRENT ELEMENTS NOT MAINTAINED
1972 102A	COSMOS 539	6319	USSR	21 DEC	112.9	74.0	1381	1343		
1972 102B		6320	USSR	21 DEC	112.8	74.0	1375	1338		
1972 104A	COSMOS 540	6323	USSR	25 DEC	100.7	74.0	808	780		
1972 104B		6324	USSR	25 DEC	100.6	74.0	787	770		
1972 104C		6391	USSR	25 DEC	100.8	74.1	809	787		
1972 104D		6396	USSR	25 DEC	100.8	74.0	815	783		
1972 104E		5829	USSR	25 DEC	101.5	74.0	852	813		
1972 106A	COSMOS 542	6328	USSR	28 DEC	96.2	81.2	635	521		
1972 106B		6329	USSR	28 DEC	96.2	81.2	652	507		
1973 LAUNCHES										
1973 003A	COSMOS 544	6343	USSR	20 JAN	94.9	74.0	528	505		
1973 003B		6344	USSR	20 JAN	94.7	74.0	525	493		
1973 005A	COSMOS 546	6350	USSR	26 JAN	96.5	50.6	612	574		
1973 005B		6351	USSR	26 JAN	96.4	50.6	614	558		
1973 007A	MOL NIYA 1	6356	USSR	3 FEB	717.6	64.8	40051	295		
1973 007E		6368	USSR	3 FEB	702.3	64.9	39246	346		
1973 009A	PROGN0Z 3	6364	USSR	15 FEB						CURRENT ELEMENTS NOT MAINTAINED
1973 010A	COSMOS 549	6373	USSR	28 FEB	94.9	74.0	525	510		
1973 010B		6374	USSR	28 FEB	94.8	74.0	539	487		
1973 013A		6380	US	6 MAR						CURRENT ELEMENTS NOT MAINTAINED
1973 015A	METEOR	6392	USSR	20 MAR	102.5	81.2	890	873		
1973 015B		6393	USSR	102.7	81.2	932	843	843		
1973 018A	MOL NIYA 2	6418	USSR	5 APR	717.5	65.4	39198	1145		
1973 018D		6439	USSR	5 APR	699.0	65.4	38324	1100		
1973 019A	PIONEER 11	6421	US	6 APR						SOLAR SYSTEM ESCAPE TRAJECTORY
1973 019B		6425	US	6 APR						HELIOCENTRIC ORBIT
1973 023A	ANIK 2	6437	CANADA	20 APR	1436.1	0.0	35791	35785		
1973 027A	SKYLAB 1	6633	US	14 MAY	92.9	50.0	425	408		
1973 034A	METEOR	6659	USSR	29 MAY	102.4	81.2	898	850		
1973 034B		6660	USSR	29 MAY	102.6	81.2	920	850		
1973 037A	COSMOS 564	6675	USSR	8 JUN	114.6	74.0	1482	1396		
1973 037B	COSMOS 565	6676	USSR	8 JUN	115.3	74.0	1491	1450		
1973 037C	COSMOS 566	6677	USSR	8 JUN	115.0	74.0	1484	1434		
1973 037D	COSMOS 567	6678	USSR	8 JUN	114.8	74.0	1485	1414		
1973 037E	COSMOS 568	6679	USSR	8 JUN	114.4	74.0	1482	1377		
1973 037F	COSMOS 565	6680	USSR	8 JUN	114.2	74.0	1482	1358		
1973 037G	COSMOS 570	6681	USSR	8 JUN	114.0	74.0	1482	1339		
1973 037H	COSMOS 571	6682	USSR	8 JUN	113.7	74.0	1481	1321		
1973 037J		6683	USSR	8 JUN	116.0	74.0	1604	1481		
1973 039A	EXPLORER 49	6686	US	10 JUN	222.0	85.7	1162	968	136.860.400.950.5* 21*	
1973 039B		6687	US	10 JUN						CURRENT ELEMENTS NOT MAINTAINED
1973 039D		6689	US	10 JUN						CURRENT ELEMENTS NOT MAINTAINED
1973 039F		6725	US	10 JUN						SELENOCENTRIC ORBIT
1973 039G		6726	US	10 JUN						SELENOCENTRIC ORBIT
1973 050A		5691	US	12 JUN						CURRENT ELEMENTS NOT MAINTAINED
1973 042A	COSMOS 574	5707	USSR	20 JUN	105.0	82.9	1014	984		
1973 042B		5708	USSR	20 JUN	104.9	82.9	1007	981		
1973 045A	MOL NIYA 2	6722	USSR	11 JUL	717.7	65.1	39654	656		
1973 045D		6741	USSR	11 JUL	702.1	65.2	38902	677		
1973 047A	MARS A	5742	USSR	21 JUL						HELIOCENTRIC ORBIT
1973 049A	MARS 5	6754	USSR	25 AUG						ARFOCENTRIC ORBIT
1973 052A	MARS 6	6768	USSR	5 AUG						HELIOCENTRIC ORBIT

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INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1973 LAUNCHES (CONT'D)										
1973 053A	MARS 7	6776	USSR	9 AUG	HELIOCENTRIC ORBIT					
1973 053D	CAPSULE	7224	USSR	9 AUG	HELIOCENTRIC ORBIT					
1973 054A		5757	US	17 AUG	101.4	98.6	852	807		
1973 054B		6788	US	17 AUG	101.4	98.6	851	806		
1973 056A		5791	US	21 AUG			35793	35782		
1973 0668	INTELSAT 4 F-7	6752	US	21 AUG	1436.2	0.5	36687	527		
1973 058A		5796	US	23 AUG	655.0	27.5	529	514		
1973 058B		5797	US	23 AUG	95.0	74.0	531	508		
1973 060A	COSMOS 582	6802	USSR	28 AUG	95.0	74.0	537	500		
1973 060B		6804	USSR	28 AUG	94.9	74.0				
1973 060C		5805	USSR	30 AUG	717.7	65.5	39140	1213		
1973 061A	MOLNIYA 1	6815	USSR	30 AUG	678.1	65.3	37321	1060		
1973 061F		6825	USSR	30 AUG	113.5	74.0	1405	1377		
1973 064A	COSMOS 585	6825	USSR	8 SEP	113.4	74.0	1407	1362		
1973 064B		6826	USSR	8 SEP	101.0	74.1	827	795		
1973 064C		6827	USSR	8 SEP	104.8	82.9	1000	966		
1973 065A	COSMOS 586	6828	USSR	14 SEP	104.7	82.9	1000	965		
1973 065B		6829	USSR	14 SEP	104.7	82.9	1000	965		
1973 069A	COSMOS 588	6845	USSR	2 OCT	115.3	73.0	1495	1450		
1973 069B	COSMOS 589	6846	USSR	2 OCT	114.9	73.9	1490	1416		
1973 069C	COSMOS 590	6847	USSR	2 OCT	115.1	73.9	1489	1435		
1973 069D	COSMOS 591	6848	USSR	2 OCT	114.1	73.9	1487	1348		
1973 069E	COSMOS 592	6849	USSR	2 OCT	113.9	73.9	1486	1332		
1973 069F	COSMOS 593	6850	USSR	2 OCT	114.3	73.9	1487	1365		
1973 069G	COSMOS 594	6851	USSR	2 OCT	114.5	73.9	1487	1382		
1973 069H	COSMOS 595	6852	USSR	2 OCT	114.7	73.9	1487	1400		
1973 069J		6853	USSR	2 OCT	117.1	73.9	1623	1487		
1973 076A	MOLNIYA 2	5877	USSR	19 OCT	732.6	64.8	40353	730		
1973 076B		6898	USSR	19 OCT	733.0	64.9	40377	728		
1973 078A	EXPLORER 50	5803	US	26 OCT	17470.2	22.7	236634	196666	136.800+137.980	5*
1973 078C		6895	US	26 OCT	111.0	28.8	2271	358		
1973 078D		6896	US	26 OCT						
1973 080A	COSMOS 604	6907	USSR	29 OCT	97.1	81.2	636	610		
1973 080B		6908	USSR	29 OCT	97.1	81.2	674	573		
1973 081A	NNSS D-20	5909	US	30 OCT	105.5	90.1	1145	897		
1973 081B		6910	US	30 OCT	105.5	90.1	1144	895		
1973 082A	INTERCOSMOS 10	6911	USSR	30 OCT	92.8	73.9	596	232		
1973 082B		6912	USSR	30 OCT	93.0	73.9	702	234		
1973 084A	COSMOS 606	6916	USSR	2 NOV	716.8	65.3	37957	2349		
1973 084D		6939	USSR	2 NOV	706.5	65.1	37520	2278		
1973 085A	MARTNER 10	6979	US	3 NOV						
1973 086A	NOAA 3	6920	US	6 NOV	116.1	101.8	1512	1504		
1973 086B	- 086GD		US	6 NOV						22*
1973 088B		6931	US	10 NOV	93.9	96.3	478	460		
1973 088D		6938	US	10 NOV	114.6	96.9	1458	1418		
1973 088E		7530	US	10 NOV	114.7	96.7	1482	1406		
1973 089A	MOLNIYA 1	6932	USSR	14 NOV	717.6	65.2	39312	1038		
1973 089E	COSMOS 610	6940	USSR	14 NOV	698.5	65.2	38371	1028		
1973 093A		6950	USSR	27 NOV	95.0	74.0	536	508		
1973 093B		6951	USSR	27 NOV	94.8	74.0	535	492		
1973 097A	MOLNIYA 1	6958	USSR	30 NOV	717.6	63.5	39844	505		
1973 097D		7178	USSR	30 NOV	734.7	63.5	40635	555		
1973 098A	COSMOS 614	6965	USSR	4 DEC	100.6	74.0	806	770		
1973 098B		6966	USSR	4 DEC	100.5	74.0	804	768		
1973 098C		6967	USSR	4 DEC	100.7	74.0	810	775		
1973 100A		6972	US	13 DEC	1436.1	0.3	35795	35778		
1973 100B		6974	US	13 DEC	1436.3	0.4	35804	35777		
1973 100D		6976	US	13 DEC						
1973 101A	EXPLORER 51	6977	US	16 DEC	91.8	67.9	370	357	137.230+2269.500	5*
1973 101A	COSMOS 617	5985	USSR	19 DEC	114.0	74.0	1485	1336		
1973 104A	COSMOS 618	5986	USSR	19 DEC	115.2	74.0	1488	1445		
1973 104B	COSMOS 619	5987	USSR	19 DEC	115.0	74.0	1489	1425		
1973 104C	COSMOS 620	5988	USSR	19 DEC	115.4	74.0	1495	1460		
1973 104D	COSMOS 621	5989	USSR	19 DEC	114.8	74.0	1486	1408		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLT- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1973 LAUNCHES (CONT'D)										
1973 104F	COSMOS 622	6990	USSR	19 DEC	114.3	74.0	1466	1371		
1973 104G	COSMOS 623	6991	USSR	19 DEC	114.5	74.0	1486	1389		
1973 104H	COSMOS 624	6992	USSR	19 DEC	114.2	74.0	1487	1353		
1973 104J	MOL NIYA 2	6993	USSR	19 DEC	117.0	74.0	1624	1477		
1973 106A		7000	USSR	25 DEC	717.6	63.5	39885	462		
1973 1060		7372	USSR	26 DEC	733.6	63.6	40624	507		
1973 107A	DREOL 2	7003	USSR	18.9	73.9	73.9	1955	400		
1973 107B		7004	USSR	26 DEC	108.7	74.0	1949	394		
1973 108A	COSMOS 626	7005	USSR	27 DEC	104.0	65.4	980	918		
1973 109A	COSMOS 627	7008	USSR	29 DEC	105.0	82.9	1020	972		
1973 109B		7009	USSR	29 DEC	104.7	82.9	999	967		
1974 LAUNCHES										
1974 001A	COSMOS 628	7094	USSR	17 JAN	104.8	82.9	1016	957		
1974 001B		7095	USSR	17 JAN	104.6	82.9	1007	950		
1974 005A	COSMOS 631	7100	USSR	6 FEB	95.1	74.0	545	505		
1974 005B		7110	USSR	6 FEB	95.0	74.0	526	512		
1974 005C		7111	USSR	6 FEB	93.5	74.1	488	406		
1974 005E		7257	USSR	6 FEB	94.4	74.0	515	466		
1974 008A	TANSEI 2	7122	JAPAN	16 FEB	118.6	31.2	2953	281		
1974 008B		7123	JAPAN	16 FEB	119.0	31.2	2997	278		
1974 011A	METEOR	7200	USSR	5 MAR	102.1	81.2	898	827		
1974 011B		7210	USSR	5 MAR	102.1	81.2	925	802		
1974 013A	UK-X4	7213	UK	9 MAR	101.1	97.8	923	703		
1974 013B		7228	UK	9 MAR	101.1	97.8	914	714		
1974 013C		7215	UK	9 MAR	100.9	97.2	899	714		
1974 013D		7214	UK	9 MAR	101.2	98.4	933	703		
1974 015A		7218	US	16 MAR	101.4	98.9	879	779		
1974 015B		7219	US	16 MAR	101.5	98.9	886	782		
1974 017A	COSMOS 637	7229	USSR	26 MAR	1428.8	2.1	35822	35467		
1974 020B		7244	US	10 APR	101.0	94.5	830	785		
1974 020C		7247	US	10 APR	94.7	93.9	519	497		
1974 022A	WESTAR 1	7250	US	13 APR	1436.1	0.0	35793	35780		
1974 023A	MOL NIYA 1	7260	USSR	20 APR	717.7	64.7	39606	746		
1974 023E		7264	USSR	20 APR	734.4	64.8	40447	727		
1974 024A	COSMOS 641	7265	USSR	23 APR	114.5	74.0	1484	1388		
1974 024B	COSMOS 642	7266	USSR	23 APR	113.7	74.0	1482	1320		
1974 024C	COSMOS 643	7267	USSR	23 APR	114.1	74.0	1483	1354		
1974 024D	COSMOS 644	7268	USSR	23 APR	113.9	74.0	1485	1334		
1974 024E	COSMOS 645	7269	USSR	23 APR	114.3	74.0	1484	1370		
1974 024F	COSMOS 646	7270	USSR	23 APR	114.7	74.0	1487	1424		
1974 024G	COSMOS 647	7271	USSR	23 APR	114.9	74.0	1485	1424		
1974 024H	COSMOS 648	7272	USSR	23 APR	115.1	74.0	1491	1459		
1974 024J		7273	USSR	23 APR	116.9	74.0	1611	1477		
1974 025A	METEOR	7274	USSR	24 APR	102.5	81.2	894	864		
1974 025B		7275	USSR	24 APR	102.6	81.2	925	841		
1974 026A	MOL NIYA 2	7276	USSR	26 APR	717.8	63.6	38946	1411		
1974 026E		7373	USSR	26 APR	732.6	63.7	39660	1426		
1974 028A	COSMOS 650	7281	USSR	29 APR	113.4	74.0	1402	1369		
1974 028B		7284	USSR	29 APR	113.2	74.0	1394	1363		
1974 028C		7291	USSR	15 MAY	103.4	64.9	962	883		
1974 029A	COSMOS 651	7297	USSR	17 MAY	104.4	64.9	1024	913		
1974 032A	COSMOS 654	7297	USSR	17 MAY	104.4	64.9	1024	913		
1974 033A	SMS 1	7298	US	17 MAY	1436.1	2.4	35797	35776	136.360.468-825.	5*
									1682.500	5*
1974 034A	INTERCOSMOS 11	7299	USSR	17 MAY	94.4	50.6	501	485		
1974 034B		7302	USSR	17 MAY	94.2	50.6	503	462		
1974 035A	COSMOS 655	7306	USSR	21 MAY	95.1	74.0	540	514		
1974 035B		7307	USSR	21 MAY	95.0	74.0	531	514		
1974 035C		7515	USSR	21 MAY	95.1	73.9	542	515		
1974 035D		7516	USSR	21 MAY	95.6	73.9	564	533		
1974 035E		7517	USSR	21 MAY	95.6	74.0	592	511		
1974 035F		7518	USSR	21 MAY	94.6	74.0	515	485		
1974 035G		7519	USSR	21 MAY	94.5	74.0	513	481		

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1974 LAUNCHES (CONT'D)										
1974 035H	LUNA 22	8778	USSR	21 MAY	94.3	74.0	506	474		
1974 037A	ATS 6	7315	USSR	29 MAY	SELENOCENTRIC ORBIT					
1974 039A		7318	US	30 MAY	1436.2	0.4	35797	35778	136.230,137.110	5*
1974 040A	EXPLORER 52	7324	US	3 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1974 040B		7325	US	3 JUN	3085.8	86.4	123947	3722	136.290,400.650	5*
1974 044A	COSMOS 660	7326	US	3 JUN	92.8	80.6	519			
1974 044B		7327	USSR	18 JUN	108.9	82.9	1959	395		
1974 045A	COSMOS 661	7328	USSR	18 JUN	108.7	82.9	1936	402		
1974 045B		7329	USSR	21 JUN	95.0	74.0	542	502		
1974 045C		7340	USSR	21 JUN	94.8	74.0	534	493		
1974 048A	COSMOS 663	7341	USSR	21 JUN	94.4	73.9	512	476		
1974 048B		7349	USSR	27 JUN	104.8	82.9	1007	967		
1974 050A	COSMOS 665	7350	USSR	27 JUN	104.6	82.9	995	965		
1974 050C		7352	USSR	29 JUN	717.9	65.8	38753	1612		
1974 052A	METFOR	7363	USSR	9 JUL	103.0	81.2	38283	1561		
1974 052B		7364	USSR	9 JUL	102.6	81.2	918	891		
1974 054A		7369	US	14 JUL	468.7	124.7	13749	13471		
1974 054B		7370	US	14 JUL	227.9	125.2	11732	234		
1974 054C		7376	US	14 JUL	468.7	124.7	13734	13487		
1974 056A	MOLNIYA 2	8509	USSR	23 JUL	717.7	63.2	38948	1406		
1974 060A	MOLNIYA 1-S	7382	USSR	23 JUL	733.0	63.1	39655	1495		
1974 060D		7399	USSR	29 JUL	CURRENT ELEMENTS NOT MAINTAINED					
1974 060E		7400	USSR	29 JUL	292.9	46.9	16326	136		
1974 063A		7411	US	9 AUG	619.4	48.6	33660	1722		
1974 063B		7412	US	9 AUG	101.6	98.7	876	803		
1974 066A	COSMOS 673	7417	USSR	16 AUG	97.0	81.2	634	606		
1974 066B		7418	USSR	16 AUG	97.2	81.2	676	607		
1974 069A	COSMOS 675	7424	USSR	16 AUG	97.0	81.2	633	578		
1974 070A	ANS	7427	METH	29 AUG	113.6	74.0	1425	1365		
1974 071A	COSMOS 676	7427	USSR	29 AUG	92.6	74.0	1425	1353		
1974 071B		7433	USSR	11 SEP	100.9	74.0	973	704		
1974 072A	COSMOS 677	7434	USSR	11 SEP	100.8	74.0	817	784		
1974 072B	COSMOS 678	7435	USSR	19 SEP	114.4	74.0	1468	1398		
1974 072C	COSMOS 679	7436	USSR	19 SEP	115.7	74.0	1534	1468		
1974 072D	COSMOS 680	7437	USSR	19 SEP	115.7	74.0	1512	1468		
1974 072E	COSMOS 681	7438	USSR	19 SEP	115.5	74.0	1493	1469		
1974 072F	COSMOS 682	7439	USSR	19 SEP	115.3	74.0	1473	1467		
1974 072G	COSMOS 683	7441	USSR	19 SEP	115.1	74.0	1468	1454		
1974 072H	COSMOS 684	7442	USSR	19 SEP	114.9	74.0	1468	1436		
1974 075A	WESTAR 2	7443	USSR	19 SEP	117.7	74.0	1690	1417		
1974 075B		7466	US	10 OCT	1436.1	0.0	35794	1473		
1974 075C	COSMOS 687	7467	US	10 OCT	112.9	27.2	2501	221		
1974 077A	ARIEL 5	7471	USSR	10 OCT	607.0	24.7	34506	229		
1974 077B		7472	UK	15 OCT	92.3	73.9	511	272	137.680	5*
1974 079A	COSMOS 689	7476	US	15 OCT	95.1	2.8	544	500		
1974 081A	MOLNIYA 1	7477	USSR	18 OCT	105.0	82.9	535	494		
1974 081B		7480	USSR	18 OCT	104.9	82.9	1022	974		
1974 081C		7485	USSR	24 OCT	717.6	63.8	39604	743		
1974 083A	METFOR	7490	USSR	24 OCT	732.0	63.8	40293	761		
1974 083B		7493	USSR	28 OCT	102.5	81.1	908	840		
1974 085B		7496	US	28 OCT	102.4	81.1	915	843		
1974 089A	NOAA 4	7529	US	29 OCT	95.0	96.0	528	513		
1974 089B	AMSAT-OSCAR 7	7530	US	15 NOV	114.9	101.6	1461	1447	136.770,137.140,	5*
1974 089C	INTASAT	7531	SPAIN	15 NOV	114.8	101.5	1461	1442	137.500,137.620,	5*
1974 089D - 089FA			US	15 NOV	SEE NOTE	63.8				
1974 092A	MOLNIYA 3	7540	USSR	21 NOV	717.6	63.8	39643	706		23*

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1974 LAUNCHES (CONT'D)											
1974 092E		7546	USSR	21 NOV	733.7	63.8	40430	710			
1974 093A	INTELSAT 4 F-8	7544	USSR	21 NOV	1436.2	0.2	35792	35785			
1974 093B		7545	US	21 NOV	654.4	26.3	36578	601			
1974 094A	SKYNET 2B	7547	UK	23 NOV	1435.4	0.9	35785	35760			
1974 094D		7550	US	23 NOV	122.2	28.2	3284	310			
1974 097A	HEL-10S-1	7567	FRG	10 DEC	HELIOCENTRIC ORBIT						
1974 097B		7568	US	10 DEC	CURRENT ELEMENTS NOT MAINTAINED						
1974 097C		7569	US	10 DEC	HELIOCENTRIC ORBIT						
1974 097D		7570	FRG	10 DEC	HELIOCENTRIC ORBIT						
1974 099A	METEOR	7574	USSR	17 DEC	102.3	81.2	900	839			
1974 099B		7575	USSR	17 DEC	102.3	81.2	924	815			
1974 100A	COSMOS 698	7576	USSR	18 DEC	95.1	74.0	546	512			
1974 100B		7577	USSR	18 DEC	95.1	74.0	546	503			
1974 100C		7582	USSR	18 DEC	91.3	74.0	345	334			
1974 100D		7636	USSR	18 DEC	94.7	74.0	556	460			
1974 100E		7695	USSR	18 DEC	94.1	74.0	403	461			
1974 100F		7722	USSR	18 DEC	94.7	73.9	548	463			
1974 100G		7723	USSR	18 DEC	95.2	73.9	553	511			
1974 100H		7724	USSR	18 DEC	95.1	73.9	542	516			
1974 100J		9793	USSR	18 DEC	92.4	74.0	402	391			
1974 101A	SYMPHONIE-A	7578	FR/FRG	19 DEC	1436.1	0.2	35804	35773			
1974 101B		7579	US	15 DEC	95.6	77.0	819	274			
1974 101C		7580	US	19 DEC	92.1	27.0	501	255			
1974 101E		8739	US	19 DEC	94.1	26.9	685	269			
1974 101F		8740	US	19 DEC	95.4	27.0	803	275			
1974 101G		9330	US	19 DEC	683.0	13.1	38220	405			
1974 102A	MOLNIYA 2	7583	USSR	21 DEC	717.5	64.4	39521	823			
1974 102D		7586	USSR	21 DEC	734.0	64.5	40346	809			
1974 103A	COSMOS 699	7587	USSR	24 DEC	92.1	65.0	389	373			
1974 103B	103BC		USSR	24 DEC	SEE NOTE 24*					24*	
1974 105A	COSMOS 700	7593	USSR	26 DEC	104.7	82.9	999	966			
1974 105B		7594	USSR	26 DEC	104.6	82.9	989	967			
1975 LAUNCHES											
1975 004A	LANDSAT 2	7615	US	22 JAN	103.2	98.9	922	901	137.360,2229.500, 5*		
									2265.500, 5*		
									2287.500, 5*		
1975 004B	004HB		US	22 JAN	SEE NOTE 25*					25*	
1975 007A	COSMOS 706	7625	USSR	30 JAN	716.7	63.1	38990	1314			
1975 007B		7626	USSR	30 JAN	716.7	63.2	38965	1316			
1975 008A	COSMOS 707	7637	USSR	5 FEB	95.0	74.0	545	495			
1975 008B		7638	USSR	5 FEB	94.9	74.0	544	486			
1975 008D		7645	USSR	5 FEB	92.6	73.9	414	396			
1975 008E		7677	USSR	5 FEB	92.5	73.9	412	390			
1975 009A	MOLNIYA 2	7641	USSR	6 FEB	717.5	63.8	39207	638			
1975 009D		7653	USSR	6 FEB	733.3	63.8	40472	647			
1975 010A	STARLETTE	7646	FRANCE	6 FEB	104.1	49.8	1107	805			
1975 010B		7647	FRANCE	6 FEB	104.4	49.8	1137	803			
1975 010C		7654	FRANCE	6 FEB	104.0	49.8	1094	805			
1975 010D		7655	FRANCE	6 FEB	104.1	49.8	1101	804			
1975 010E		7659	FRANCE	6 FEB	104.3	49.8	1119	805			
1975 011A	SMS 2	7648	US	6 FEB	1436.2	0.6	35797	35781	136.380,468.825, 5*		
1975 011B		7650	US	6 FEB	119.6	27.6	3051	276			
1975 012A	COSMOS 708	7663	USSR	12 FEB	113.5	69.2	1411	1370			
1975 012B		7665	USSR	12 FEB	113.4	69.2	1399	1368			
1975 014A	SRATS (TAIYO)	7671	JAPAN	24 FEB	31.5	27.8	2788	248			
1975 014B		7674	JAPAN	24 FEB	116.1	27.7	2767	247			
1975 016A	COSMOS 711	7678	USSR	28 FEB	115.4	74.0	1894	1463			
1975 016B	COSMOS 712	7679	USSR	28 FEB	114.9	73.9	1491	1413			
1975 016C	COSMOS 713	7680	USSR	28 FEB	114.7	73.9	1488	1397			
1975 015D	COSMOS 714	7681	USSR	28 FEB	115.2	73.9	1492	1446			
1975 016E	COSMOS 715	7682	USSR	28 FEB	115.7	74.0	1504	1471			

OBJECTS IN ORBIT										
INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1975 LAUNCHES (CJNT'D)										
1975 015F	COSMOS 716	7683	USSR	28 FEB	115.9	74.0	1515	1481		
1975 016G	COSMOS 717	7684	USSR	28 FEB	115.1	74.0	1537	1481		
1975 016H	COSMOS 718	7685	USSR	28 FEB	118.0	74.0	1491	1430		
1975 016J		7686	USSR	28 FEB	118.0	74.0	1706	1480		
1975 017A		7687	US	10 MAR						CURRENT ELEMENTS NOT MAINTAINED
1975 017B		7688	US	10 MAR						CURRENT ELEMENTS NOT MAINTAINED
1975 022A	INTERCOSMOS 13	7710	USSR	27 MAR	103.5	82.9	1572	287		
1975 022B		7711	USSR	27 MAR	103.2	82.9	1543	282		
1975 023A	METEOR	7714	USSR	1 APR	102.5	81.2	895	865		
1975 023B		7715	USSR	1 APR	102.5	81.2	921	843		
1975 024A	COSMOS 723	7718	USSR	2 APR	103.7	64.7	983	886		
1975 025A	COSMOS 724	7727	USSR	7 APR	103.0	65.5	943	863		
1975 027A	GEOS 3	7734	US	9 APR	101.7	114.9	861	825	136.320.2247.000	5*
1975 027B		7735	US	9 APR	101.7	114.9	860	822		
1975 028A	COSMOS 726	7736	USSR	11 APR	104.6	82.9	997	958		
1975 028B		7737	USSR	11 APR	104.5	82.9	987	958		
1975 029A	MOLNIYA 3	7738	USSR	14 APR	717.7	64.3	39528	826		
1975 029D		7741	USSR	14 APR	733.0	64.2	40291	814		
1975 033A	ARIAREAT	7752	INDIA	19 APR	96.4	50.6	609	568		
1975 033B		7753	USSR	19 APR	96.3	50.6	622	540		
1975 033C		8058	USSR	19 APR	95.5	50.6	567	523		
1975 033D		8039	USSR	19 APR	93.1	50.5	454	400		
1975 034A	COSMOS 729	7768	USSR	22 APR	104.9	82.9	1010	978		
1975 034B		7769	USSR	22 APR	104.8	82.9	1003	977		
1975 036A	MOLNIYA 1	7780	USSR	29 APR	717.7	63.2	39054	1297		
1975 036D		7800	USSR	29 APR	732.8	63.1	39781	1315		
1975 037A	EXPLORER 53	7788	US	7 MAY	94.5	2.9	497	491	136.680	5*
1975 037B		7789	US	7 MAY	94.5	2.9	495	488		
1975 038A	ANIK 3	7790	US	7 MAY	1436.1	0.0	35794	35779		
1975 038B		7790	CANADA	7 MAY	1436.1	0.0	35794	35779		
1975 038D		7790	US	7 MAY	1436.1	0.0	35794	35779		
1975 039B	CASTOR	7802	FRANCE	17 MAY	98.3	29.9	1090	268	136.250	5*
1975 039G		8035	FRANCE	17 MAY	96.2	29.9	890	260		
1975 042A	INTELSAT 4 F-1	7815	ITSO	22 MAY	1476.2	0.1	35789	35786		
1975 042B		7902	US	22 MAY	655.2	25.5	36579	644		
1975 043A		7816	US	24 MAY	101.9	98.8	894	808		
1975 043B		7817	US	24 MAY	101.8	98.8	890	807		
1975 045A	COSMOS 732	7820	USSR	28 MAY	114.6	74.0	1472	1405		
1975 045B		7822	USSR	28 MAY	116.2	74.0	1555	1471		
1975 045C	COSMOS 733	7823	USSR	28 MAY	115.0	74.0	1473	1445		
1975 045D	COSMOS 734	7824	USSR	28 MAY	115.2	74.0	1475	1463		
1975 045E	COSMOS 735	7825	USSR	28 MAY	115.5	74.0	1488	1471		
1975 045F	COSMOS 736	7826	USSR	28 MAY	115.9	74.0	1530	1472		
1975 045G	COSMOS 737	7827	USSR	28 MAY	115.7	74.0	1510	1471		
1975 045H	COSMOS 738	7827	USSR	28 MAY	115.7	74.0	1510	1471		
1975 045I	COSMOS 739	7828	USSR	28 MAY	114.8	74.0	1474	1424		
1975 045J		7831	USSR	28 MAY	118.0	73.9	1696	1488		
1975 049A	MOLNIYA 1	7903	USSR	5 JUN	717.6	63.0	39457	892	137.530	
1975 049B	SRE T 2	7910	FRANCE	5 JUN	736.4	63.0	40345	923		
1975 049F		8548	USSR	5 JUN	730.5	63.0	40058	925		
1975 050A	VENERA 9	7915	USSR	8 JUN	113.6	95.0	1399	1388		
1975 051C	SSU 1	7937	US	8 JUN	113.2	94.9	1408	1349		
1975 051D		7939	US	8 JUN	113.9	95.1	1430	1388		
1975 051E		7939	US	8 JUN	113.9	95.1	1430	1388		
1975 052A	NIMBUS 6	7924	US	12 JUN	107.4	99.9	1117	1105	136.500.401.200.	5*
1975 052B		7946	US	12 JUN	107.2	99.9	1105	1096	1702.500.	5*
1975 054A	VENERA 10	7947	USSR	14 JUN	107.2	99.9	1105	1096	2253.000	5*
1975 055A		7963	US	18 JUN						CIRCUM-VENEREAN ORBIT
1975 055B		7964	US	18 JUN						CURRENT ELEMENTS NOT MAINTAINED
1975 056A	COSMOS 744	7968	USSR	20 JUN	97.0	81.2	638	598		
1975 056B		7969	USSR	20 JUN	97.2	81.2	669	585		
1975 057A	OSO 8	7970	US	21 JUN	95.5	32.9	553	538	136.920.2212.500	5*
1975 057B		7971	US	21 JUN	95.5	32.9	551	537		
1975 062A	COSMOS 749	8009	USSR	4 JUL	95.1	74.0	554	498		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1975 LAUNCHES (CONT'D)										
1975 062B		8010	USSR	4 JUL	95.0	74.0	550	494		
1975 062C		8017	USSR	4 JUL	94.6	74.1	542	466		
1975 063A	MOLNIYA 2	8015	USSR	8 JUL	718.9	63.1	39179	1234		
1975 063D		8018	USSR	8 JUL	732.9	63.1	39859	1242		
1975 064A	METEOR 2	8066	USSR	11 JUL	102.4	81.2	892	855		
1975 064B		8027	USSR	11 JUL	102.6	81.3	820	840		
1975 064C		8039	USSR	11 JUL	102.4	81.2	893	854		
1975 064D		8110	USSR	11 JUL	102.2	81.3	899	837		
1975 067A	COSMOS 75C	8036	USSR	17 JUL	92.5	71.0	547	256		
1975 069A	COSMOS 752	8043	USSR	24 JUL	94.4	65.8	510	478		
1975 069B		8044	USSR	24 JUL	94.3	65.8	508	465		
1975 072A	COS-B	8062	FSA	9 AUG	2204.1	94.6	93537	5914	136.950	5*
1975 072B		8063	US	9 AUG	139.1	89.2	4705	331		
1975 074A	COSMOS-756	8032	USSR	14 AUG	104.8	82.6	1013	972		
1975 074B		8073	USSR	14 AUG	104.9	82.9	1006	966		
1975 075A	VIKING ORBITER 1	8108	US	20 AUG	AREOCENTRIC ORBIT					
1975 075B		8111	US	20 AUG	HELIOCENTRIC ORBIT					
1975 076A	COSMOS 756	8127	USSR	22 AUG	97.2	81.2	633	620		
1975 076B		8129	USSR	22 AUG	97.3	81.2	678	588		
1975 077A	SYMPHONIE-B	8132	FR/FRG	27 AUG	1436.1	0.2	35828	35747		
1975 077C		8134	US	27 AUG	109.6	25.3	2010	407		
1975 079A	MOLNIYA 1	8147	USSR	2 SEP	717.7	63.7	38025	384		
1975 079E		8274	USSR	2 SEP	735.9	63.7	40603	643		
1975 081A	MOLNIYA 2	8195	USSR	9 SEP	733.7	63.1	39184	1169		
1975 081D		8418	USSR	9 SEP	105.9	62.1	39069	1170		
1975 082A	KIKU	8197	JAPAN	9 SEP	105.9	46.9	1102	975		
1975 082B		8352	JAPAN	9 SEP	105.9	46.9	1103	975		
1975 083A	VIKING ORBITER 2	8199	US	9 SEP	AREOCENTRIC ORBIT					
1975 083B		8212	US	9 SEP	HELIOCENTRIC ORBIT					
1975 086A	COSMOS 761	8285	USSR	17 SEP	114.6	74.0	1483	1401		
1975 086B	COSMOS 762	8286	USSR	17 SEP	115.1	74.0	1486	1440		
1975 086C	COSMOS 763	8287	USSR	17 SEP	115.8	74.0	1512	1475		
1975 086D	COSMOS 764	8288	USSR	17 SEP	116.0	74.0	1528	1480		
1975 086E	COSMOS 765	8289	USSR	17 SEP	116.3	74.0	1552	1479		
1975 086F	COSMOS 766	8290	USSR	17 SEP	114.9	74.0	1486	1420		
1975 086G	COSMOS 767	8291	USSR	17 SEP	115.3	74.0	1488	1457		
1975 086H	COSMOS 768	8292	USSR	17 SEP	115.5	74.0	1493	1472		
1975 086J		8265	USSR	17 SEP	117.4	74.0	1685	1482		
1975 087A	METEOR	8293	USSR	18 SEP	102.3	81.2	912	825		
1975 087B		8294	USSR	18 SEP	102.4	81.2	922	829		
1975 089A	COSMOS 770	8325	USSR	24 SEP	109.1	82.9	1212	1166		
1975 089B		8326	USSR	24 SEP	109.0	82.9	1202	1163		
1975 091A	INTELSAT 4A F-1	8330	ITSO	26 SEP	1436.1	0.0	35790	35785		
1975 0913		8331	US	26 SEP	656.7	22.2	36782	517		
1975 092A	O2-B	8332	FRANCE	27 SEP	96.7	37.1	708	499		
1975 092B		8333	FRANCE	27 SEP	96.8	37.1	715	499		
1975 092C		8336	FRANCE	27 SEP	96.3	37.1	671	493		
1975 092D		8337	FRANCE	27 SEP	96.7	37.0	689	510		
1975 092E		8340	FRANCE	27 SEP	96.2	37.1	669	490		
1975 092F		8341	FRANCE	27 SEP	96.7	37.1	700	501		
1975 092G		8342	FRANCE	27 SEP	96.5	37.1	695	493		
1975 094A	COSMOS 773	8343	USSR	30 SEP	100.8	74.0	807	790		
1975 094B		8344	USSR	30 SEP	100.7	74.0	809	774		
1975 094C		8346	USSR	30 SEP	100.6	74.0	806	774		
1975 097A	COSMOS 775	8357	USSR	8 OCT	1434.1	1.0	35814	35683		
1975 097D		8414	USSR	8 OCT	630.0	46.8	409	409		
1975 097E		8415	USSR	8 OCT	632.4	46.9	35600	457		
1975 099A	TIP 2	8361	US	12 OCT	98.8	90.3	827	581		
1975 099B		8364	US	12 OCT	94.2	90.7	618	348		
1975 099C		8409	US	12 OCT	95.7	90.8	709	400		
1975 100A	GOES 1	8366	US	16 OCT	1436.1	0.1	35799	35774	136.380.468.825.	5*
1975 100C		8368	US	16 OCT	569.0	23.7	32591	144	1682.500	5*

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1975 LAUNCHES (CONT'D)										
1975 1029	- 1028P		USSR	29 OCT	SEE NOTE	26*				26*
1975 103A	COSMOS 778	8419	USSR	4 NOV	104.8	82.9	1007	973		
1975 103B		8421	USSR	4 NOV	104.7	82.9	999	970		
1975 105A	MOLNIYA 3	8425	USSR	14 NOV	717.7	62.9	39222	1130		
1975 105D		8462	USSR	20 NOV	733.8	62.9	40009	1135		
1975 107A	EXPLORER 55	8440	US	14 NOV	89.4	19.6	244	241	137-230-2289-500	5*
1975 109A	COSMOS 781	8444	USSR	21 NOV	95.1	74.0	545	506		
1975 109B		8445	USSR	21 NOV	95.0	74.0	553	490		
1975 109C		8447	USSR	21 NOV	94.3	73.9	509	464		
1975 109D		8448	USSR	21 NOV	93.9	74.0	496	442		
1975 109E		8449	USSR	21 NOV	93.7	73.9	479	442		
1975 109F		8776	USSR	21 NOV	94.0	74.0	491	453		
1975 109G		8777	USSR	21 NOV	94.1	74.0	504	454		
1975 109H		8778	USSR	21 NOV	93.6	74.0	474	431		
1975 112A	COSMOS 783	8458	USSR	28 NOV	100.9	74.0	815	794		
1975 112B		8459	USSR	28 NOV	100.8	74.0	813	785		
1975 112C		9572	USSR	28 NOV	101.0	74.0	814	800		
1975 114B		8468	US	4 DEC	99.5	96.2	1249	253		
1975 115A	INTERCOSMOS 14	8471	USSR	11 DEC	104.9	73.9	1656	333		
1975 115B		8472	USSR	11 DEC	104.7	74.0	1644	324		
1975 115C		8474	USSR	11 DEC	106.2	73.0	1737	370		
1975 115D		8475	USSR	11 DEC	106.3	73.4	1661	456		
1975 115E		8765	USSR	11 DEC	106.2	72.3	1703	409		
1975 115F		8766	USSR	11 DEC	103.7	72.6	1498	373		
1975 116A	COSMOS 785	8473	USSR	12 DEC	104.2	65.0	1012	908		
1975 117A	RCA-SATCOM-1	8476	US	13 DEC	0.0	0.0	35792	35788		
1975 117C		8479	US	13 DEC	136.3	26.6	34916	283		
1975 118A		8482	US	14 DEC	615.4	26.6				
1975 118C		8516	US	14 DEC						
1975 118D		8517	US	14 DEC						
1975 121A	MOLNIYA 2	8492	USSR	17 DEC	717.7	63.0	39693	662		
1975 121D		8529	USSR	17 DEC	732.3	62.9	40405	666		
1975 125A	PROGNOZ 4	8510	USSR	22 DEC						
1975 125A	RADUGA	8513	USSR	22 DEC						
1975 123D		8546	USSR	22 DEC	477.1	46.3	27489	208		
1975 123E		9547	USSR	22 DEC	570.6	46.3	32625	194		
1975 124A	METEOR	8519	USSR	25 DEC	102.3	81.2	902	841		
1975 124B		8520	USSR	25 DEC	102.4	81.2	913	837		
1975 125A	MOLNIYA 3	8521	USSR	27 DEC	717.7	63.0	39676	675		
1975 125F		9600	USSR	27 DEC	731.1	62.9	40344	667		
1976 LAUNCHES										
1976 001A	COSMOS 787	8530	USSR	6 JAN	95.2	74.0	545	516		
1976 001B		8531	USSR	6 JAN	95.1	74.0	550	501		
1976 001C		8549	USSR	6 JAN	94.2	74.0	504	460		
1976 001D		8550	USSR	6 JAN	92.3	73.9	403	382		
1976 001E		9731	USSR	6 JAN	94.4	73.9	511	469		
1976 001F		9790	USSR	6 JAN	93.5	74.0	471	428		
1976 001G		9791	USSR	6 JAN	94.1	74.0	503	458		
1976 001H		9792	USSR	6 JAN	94.2	74.0	509	461		
1976 001J		9837	USSR	6 JAN	93.5	73.9	470	424		
1976 001K		9838	USSR	6 JAN	93.4	74.0	464	421		
1976 003A	HELICS-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	1436.1	0.2	35791	35781	2277.500	5*
1976 004D		8598	US	17 JAN	627.6	25.3	35570	234		
1976 005A	COSMOS 789	8591	USSR	20 JAN	104.9	82.9	1016	974		
1976 005B		8597	USSR	20 JAN	104.8	82.9	1009	971		
1976 006A	MOLNIYA 1	8601	USSR	22 JAN	717.7	63.2	39472	862		
1976 006D		8701	USSR	22 JAN	695.4	63.1	38378	866		
1976 007A	COSMOS 790	8604	USSR	22 JAN	95.1	74.0	555	500		
1976 007B		9605	USSR	22 JAN	94.9	74.0	538	499		

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INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1976 LAUNCHES (CCAT'D)										
1976 008A	COSMOS 791	8607	USSR	28 JAN	114.7	74.0	1488	1403		
1976 008B	COSMOS 792	8608	USSR	28 JAN	115.1	74.0	1492	1437		
1976 008C	COSMOS 793	8609	USSR	28 JAN	114.9	74.0	1492	1419		
1976 008D	COSMOS 794	8610	USSR	28 JAN	115.3	74.0	1495	1453		
1976 008E	COSMOS 795	8611	USSR	28 JAN	115.6	74.0	1499	1469		
1976 008F	COSMOS 796	8612	USSR	28 JAN	116.8	74.0	1517	1473		
1976 008G	COSMOS 797	8613	USSR	28 JAN	116.0	74.0	1530	1481		
1976 008H	COSMOS 798	8614	USSR	28 JAN	116.3	74.0	1555	1481		
1976 008J		8615	USSR	28 JAN	117.9	74.0	1697	1485		
1976 010A	INTELSAT 4A F-2	8620	ITSO	29 JAN	1436.1	0.1	35791	35782		
1976 010B		8621	US	29 JAN	655.2	21.1	36619	604		
1975 011A	COSMOS 800	8645	USSR	3 FEB	105.0	82.9	1013	985		
1976 011B		8646	USSR	3 FEB	104.9	82.9	1005	981		
1976 012A	COSMOS-801	8658	USSR	5 FEB	93.5	70.9	641	261		
1976 012B		8659	USSR	5 FEB	91.0	70.9	401	250		
1976 012C		8660	USSR	5 FEB	92.3	71.2	492	287		
1976 014A	COSMOS 803	8688	USSR	12 FEB	96.3	65.8	615	555		
1976 014B		8689	USSR	12 FEB	96.2	65.8	616	544		
1976 014C		8690	USSR	12 FEB	96.3	65.8	615	553		
1976 017A	MARISAT 1	8697	US	19 FEB	1436.2	1.6	35801	35774		
1976 017C		8702	US	19 FEB	624.0	25.1	75311	310		
1976 019A	UME	8700	JAPAN	29 FEB	105.1	69.6	1013	994		
1976 019B		8710	JAPAN	29 FEB	105.1	69.6	1014	994		
1976 021A	MOLNIYA 1	8741	USSR	11 MAR	717.7	63.3	39903	449		
1976 021D		8741	USSR	11 MAR	731.0	63.3	40566	443		
1976 022A	COSMOS 807	8744	USSR	12 MAR	109.0	82.9	1967	399		
1976 022B		8745	USSR	12 MAR	108.8	82.9	1958	393		
1976 023A	LES 8	8746	US	15 MAR			CURRENT ELEMENTS NOT MAINTAINED			
1976 023B	LES 9	8747	US	15 MAR			CURRENT ELEMENTS NOT MAINTAINED			
1976 023C	SOLRAD 11A	8748	US	15 MAR	733.8	26.7	119246	118076		
1976 023F	SOLRAD 11B	8751	US	15 MAR	734.6	26.8	118946	118344	136.530	5*
1976 023G		8752	US	15 MAR	1464.8	25.4	37169	35525		
1976 023J		8753	US	15 MAR			CURRENT ELEMENTS NOT MAINTAINED			
1976 023H		8932	US	15 MAR			CURRENT ELEMENTS NOT MAINTAINED			
1976 024A	COSMOS 808	8754	USSR	16 MAR	97.0	81.2	634	602		
1976 024B		8755	USSR	16 MAR	97.1	81.2	676	566		
1976 026A	MOLNIYA 1	8762	USSR	19 MAR	717.6	63.2	39853	492		
1976 029A	RCA-SATCOM-II	8792	USSR	19 MAR	696.5	63.2	38967	333		
1976 029C		8793	US	26 MAR	1436.1	0.0	35789	35784		
1976 031A	COSMOS 812	8794	USSR	26 MAR	610.3	26.6	34689	221		
1976 031B		8795	USSR	6 APR	95.1	74.0	544	509		
1976 031C		8836	USSR	6 APR	95.0	74.0	543	498		
1976 032A	METEOR	8799	USSR	7 APR	94.1	81.2	508	447		
1976 032B		8800	USSR	7 APR	102.3	81.2	896	838		
1976 035A	NATO III-A	8808	NATO	22 APR	1436.2	2.4	35796	35781		
1976 035C		8810	US	22 APR	593.3	26.5	33825	196		
1976 037A	COSMOS-816	8812	USSR	28 APR	94.5	65.8	518	472		27*
1976 037B	- 037AA		USSR	28 APR	94.5	65.8	518	472		27*
1975 038A		8818	US	30 APR	107.4	63.4	1142	1079		
1976 038B	SSU-1	8819	US	30 APR	107.3	63.4	1135	1077		
1976 038C		8835	US	30 APR	107.5	63.4	1137	1085		
1976 038D	SSU-2	8836	US	30 APR	107.5	63.4	1137	1085		
1976 038E		8839	US	30 APR	107.6	63.4	1150	1086		
1976 038F		8842	US	30 APR	107.3	63.4	1133	1079		
1976 038G		8843	US	30 APR	107.6	63.4	1149	1067		
1976 038H		8859	US	30 APR	107.1	63.4	1115	1072		
1976 038J	SSU-3	8884	US	30 APR	107.5	63.4	1142	1080		
1976 038K		8946	US	30 APR	107.1	63.4	1115	1072		
1976 038L	LAGEOS	8820	US	4 MAY	225.4	109.8	5946	5837		
1976 039A		8821	US	4 MAY	152.7	109.8	5870	5870		
1976 039C		8822	US	4 MAY	152.7	109.8	5945	5837		
1976 041A	MOLNIYA 3	8833	USSR	12 MAY	717.6	63.4	39783	564		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1975 LAUNCHES (CONT'D)										
1976 041D		8844	USSR	12 MAY	733.4	63.4	40570	555		
1976 042A	COMSTAR 1	8838	US	13 MAY	1436.3	0.0	35792	35787		
1976 042B		9840	US	13 MAY	649.4	21.6	36312	617		
1976 043A	METEOR	8845	USSR	15 MAY	845	81.2	892	841		
1976 043B		8846	USSR	15 MAY	102.2	81.2	915	836		
1976 044A	COSMOS 818	8851	USSR	18 MAY	80.2	71.0	260	212		
1976 047A	P 76-5	8860	US	22 MAY	105.6	99.6	1059	995		
1976 047B		8861	US	22 MAY	105.6	99.6	1058	995		
1976 047C		8867	US	22 MAY	106.5	92.3	1126	1012		
1976 047D		8868	US	22 MAY	104.9	99.9	1034	953		
1976 049A	COSMOS 822	8865	USSR	28 MAY	93.9	74.0	665	275		
1976 049B		8866	USSR	28 MAY	93.4	74.0	617	271		
1976 050A		8871	US	2 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 050B		8872	US	2 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 051A	COSMOS 823	8873	USSR	2 JUN	104.9	82.9	1009	980		
1976 051B		8874	USSR	2 JUN	104.8	82.9	1001	978.5		
1976 053A	MARISAT 2	8882	US	10 JUN	1436.0	2.0	35779	35779		
1976 053B		8883	US	10 JUN	92.4	28.5	524	263		
1976 053F		8883	US	10 JUN	629.9	26.1	35757	164		
1976 054A	COSMOS 825	8889	USSR	15 JUN	114.7	73.9	1488	1397		
1976 054B	COSMOS 826	8890	USSR	15 JUN	116.2	73.9	1546	1483		
1976 054C	COSMOS 827	8891	USSR	15 JUN	114.9	73.9	1491	1415		
1976 054D	COSMOS 828	8892	USSR	15 JUN	115.1	73.9	1490	1434		
1976 054E	COSMOS 829	8893	USSR	15 JUN	115.3	73.9	1492	1452		
1976 054F	COSMOS 830	8894	USSR	15 JUN	115.5	73.9	1494	1470		
1976 054G	COSMOS 831	8895	USSR	15 JUN	115.8	73.9	1509	1476		
1976 054H	COSMOS 832	8896	USSR	15 JUN	116.0	73.9	1522	1483		
1976 054J		8897	USSR	15 JUN	117.9	73.9	1691	1487		
1976 056A	INTERCOSMOS 15	8903	USSR	15 JUN	94.5	74.0	514	483		
1976 056B		8904	USSR	19 JUN	94.4	74.0	516	473		
1976 057A	SALYUT 5	8911	USSR	22 JUN	89.5	51.5	252	248		
1976 059A		8916	US	26 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 059C		8918	US	26 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 059D		8919	US	26 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 061A	COSMOS 836	8923	USSR	29 JUN	100.9	74.0	818	789		
1976 061B		8924	USSR	29 JUN	100.8	74.0	811	787		
1976 062A	COSMOS 837	8927	USSR	1 JUL	98.4	62.7	938	435		
1976 062E		8931	USSR	1 JUL	98.3	62.7	926	437		
1976 063A	COSMOS 838	8932	USSR	2 JUL	93.2	65.0	446	424		
1976 065B		9007	US	8 JUL	177.6	97.5	7941	240		
1976 065C		9008	US	8 JUL	97.2	96.3	670	628		
1976 066A	PALAPA 1	9009	INDONESIA	8 JUL	1436.2	0.0	35795	35782		
1976 066C		9017	US	8 JUL	636.2	21.8	36030	219		
1976 067A	COSMOS 839	9011	USSR	8 JUL	116.8	65.8	2092	988		
1976 067B		9013	USSR	8 JUL	116.6	65.8	2086	976		
1976 067C		9016	USSR	8 JUL	116.8	65.8	2092	991		
1976 069A	COSMOS 841	9022	USSR	15 JUL	100.7	74.0	808	785		
1976 069B		9023	USSR	15 JUL	100.7	74.0	808	777		
1976 070A	COSMOS 842	9025	USSR	21 JUL	104.9	82.9	1013	968		
1976 070B		9044	USSR	21 JUL	104.7	82.9	1002	968		
1976 073A	COMSTAR 2	9047	US	22 JUL	1436.1	0.0	35801	35774		
1976 073B		9329	US	22 JUL	648.3	22.0	36313	556		
1976 074A	MOLNIYA 1	9049	USSR	23 JUL	717.6	63.0	39661	688		
1976 074E		9269	USSR	23 JUL	698.4	62.9	38726	668		
1976 075A	COSMOS 845	9053	USSR	27 JUL	95.1	74.0	549	508		
1976 075B		9054	USSR	27 JUL	95.0	74.0	550	498		
1976 075C		9056	USSR	27 JUL	94.6	74.0	531	475		
1976 075D		9267	USSR	27 JUL	96.9	73.9	732	499		
1976 075E		9268	USSR	27 JUL	97.1	74.0	735	509		
1976 075F		9665	USSR	27 JUL	94.7	73.9	533	481		
1976 075G		9718	USSR	27 JUL	94.7	74.1	532	478		
1976 075H		9789	USSR	27 JUL	94.8	74.0	536	487		
1976 076A	INTERCOSMOS 16	9055	USSR	27 JUL	94.4	50.5	518	461		
1976 076B		9056	USSR	27 JUL	94.2	50.5	509	458		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUNBR	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1975 LAUNCHES (CONT'D)										
1976 077A	N0AA 5	9057	US	29 JUL	116.2	102.0	1522	1507	136.770-137.140, 137.500, 137.620, 1697.500	5* 5* 5*
1976 077B		9063	US	29 JUL	116.2	102.0	1522	1507		
1975 078A	COSMOS 846	9061	USSR	29 JUL	104.7	82.9	1017	951		
1976 078B		9062	USSR	29 JUL	104.6	82.9	1004	952		
1975 080A		9270	US	6 AUG	CURRENT ELEMENTS NOT MAINTAINED					
1975 080B		9271	US	6 AUG	CURRENT ELEMENTS NOT MAINTAINED					
1976 083A	COSMOS 849	9382	USSR	18 AUG	95.0	70.9	783	261		
1976 083B		9383	USSR	18 AUG	94.2	70.9	699	266		
1976 084A	COSMOS 850	9387	USSR	26 AUG	90.9	70.9	386	254		
1976 085A	COSMOS 851	9389	USSR	27 AUG	96.6	81.1	639	564		
1976 085B		9390	USSR	27 AUG	96.7	81.2	664	544		
1976 087A		9394	PRC	30 AUG	106.8	69.1	1866	104		
1976 087B		9395	PRC	30 AUG	104.8	69.1	1788	188		
1976 088C		9400	USSR	1 SEP	90.3	62.7	345	242		
1976 089A	TIP 3	9403	US	1 SEP	97.9	89.2	866	454		
1976 089B		9404	US	1 SEP	95.5	90.2	747	347		
1976 089C		9409	US	1 SEP	94.9	90.1	698	332		
1976 089D		9410	US	1 SEP	95.7	90.4	762	348		
1976 091A		9415	US	11 SEP	101.5	98.6	848	817		
1976 091B		9420	US	11 SEP	101.5	98.6	847	817		
1976 091C		9474	US	11 SEP	101.5	98.7	848	818		
1976 091D		9474	US	11 SEP	101.5	98.7	849	816		
1976 091E		9483	US	11 SEP	101.5	98.6	854	816		
1976 091F		9484	US	11 SEP	101.6	98.6	855	816		
1976 091G		9518	US	11 SEP	101.5	98.6	848	817		
1976 092A	RADUGA	9416	USSR	11 SEP	CURRENT ELEMENTS NOT MAINTAINED					
1976 092D		9440	USSR	11 SEP	627.3	46.7	35618	177		
1976 092E		9441	USSR	11 SEP	592.9	46.7	33856	143		
1976 098A	COSMOS 858	9443	USSR	29 SEP	100.8	74.0	812	791		
1976 098B		9444	USSR	29 SEP	100.7	74.0	813	780		
1976 101A	MARTSAT 3	9478	US	14 OCT	1436.2	26.0	35796	35782		
1976 101E	METFOR	9542	US	15 OCT	102.4	81.2	891	857		
1976 102B		9482	USSR	15 OCT	102.5	81.2	923	836		
1976 103A	COSMOS 860	9486	USSR	17 OCT	104.3	64.6	1014	913		
1976 104A	COSMOS 861	9494	USSR	21 OCT	104.3	64.8	1002	922		
1976 105A	COSMOS 862	9495	USSR	22 OCT	718.5	63.1	39651	742		
1976 105D		9506	USSR	22 OCT	711.7	62.9	39258	799		
1976 107A	EKRAN	9503	USSR	26 OCT	CURRENT ELEMENTS NOT MAINTAINED					
1976 107D		9540	USSR	26 OCT	625.0	46.7	35449	223		
1976 107E		9541	USSR	26 OCT	618.1	46.8	35157	159		
1976 108A	COSMOS 864	9510	USSR	29 OCT	104.7	82.9	1009	966		
1976 108B		9510	USSR	29 OCT	104.7	82.9	998	966		
1976 111F		9582	USSR	23 NOV	91.8	62.8	300	345		
1976 111G		9583	USSR	23 NOV	91.4	62.8	359	332		
1976 111H		9584	USSR	23 NOV	92.4	62.8	437	355		
1976 111J		9585	USSR	23 NOV	91.9	62.7	363	358		
1976 111K		9586	USSR	23 NOV	89.9	62.8	275	272		
1976 112A	PROGNOS 5	9557	USSR	25 NOV	5728.0	65.9	197754	1584		
1976 113A	COSMOS 868	9561	USSR	26 NOV	93.3	65.0	446	430		
1976 115A	COSMOS 870	9573	USSR	2 DEC	95.2	74.0	549	511		
1976 115B		9576	USSR	2 DEC	95.1	74.0	555	495		
1976 115C		9577	USSR	2 DEC	94.4	73.9	506	481		
1976 116A	MOLNIYA 2	9574	USSR	2 DEC	717.5	63.0	39746	597		
1976 116B		9575	USSR	2 DEC	89.6	62.8	319	193		
1976 116C		9579	USSR	2 DEC	731.9	63.0	40458	504		
1976 118A	COSMOS 871	9588	USSR	7 DEC	114.7	74.0	1465	1420		
1976 118B	COSMOS 872	9589	USSR	7 DEC	114.4	74.0	1466	1400		
1976 118C	COSMOS 873	9590	USSR	7 DEC	115.5	74.0	1497	1466		
1976 118D	COSMOS 874	9591	USSR	7 DEC	115.7	74.0	1517	1466		
1976 118E	COSMOS 875	9592	USSR	7 DEC	114.9	74.0	1466	1438		
1976 118F	COSMOS 876	9593	USSR	7 DEC	116.0	74.0	1540	1466		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CAT ALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1976 LAUNCHES (CCNT'D)										
1976 118G	COSMOS 877	9594	USSR	7 DEC	115.1	74.0	1466	1456		
1976 118H	COSMOS 878	9595	USSR	7 DEC	115.3	74.0	1476	1466		
1976 118J	COSMOS 878	9598	USSR	7 DEC	117.6	74.0	1689	1465		
1976 120A	COSMOS 880	9601	USSR	9 DEC	96.4	65.8	621	555		
1976 120B	COSMOS 880	9604	USSR	9 DEC	96.3	65.8	621	543		
1976 120C	COSMOS 880	9605	USSR	9 DEC	96.4	65.8	622	555		
1976 122A	COSMOS 883	9610	USSR	15 DEC	104.8	82.9	1014	959		
1976 122B	COSMOS 883	9613	USSR	15 DEC	104.6	82.9	1001	960		
1976 124A	COSMOS 885	9615	USSR	17 DEC	94.3	65.8	515	482		
1976 124B	COSMOS 885	9625	USSR	17 DEC	94.2	65.8	511	453		
1976 124C	COSMOS 885	9626	USSR	17 DEC	94.3	65.8	505	467		
1976 125A	COSMOS 886	9627	US	19 DEC	93.2	66.9	529	343		
1976 125B	COSMOS 886	9628	US	19 DEC	91.4	66.9	448	245		
1976 126A	COSMOS 886	9634	USSR	27 DEC	114.3	65.8	2252	55.9		28*
1976 126B	- 126A0	9635	USSR	27 DEC	SEE NOTE	28*				
1976 127A	MOLNIYA 3	9636	USSR	28 DEC	71.7	62.9	39717	634		
1976 127B	MOLNIYA 3	9636	USSR	28 DEC	90.7	62.8	415	208		
1976 127E	COSMOS 887	9647	USSR	28 DEC	732.4	62.8	40439	637		
1976 128A	COSMOS 887	9637	USSR	28 DEC	104.7	82.9	1019	951		
1976 128B	COSMOS 887	9638	USSR	28 DEC	104.6	82.9	1008	950		
1977 LAUNCHES										
1977 002A	METEOR 2	9661	USSR	6 JAN	102.9	81.2	904	890		
1977 002B	METEOR 2	9662	USSR	6 JAN	102.9	81.2	941	861		
1977 002C	METEOR 2	9663	USSR	6 JAN	102.8	81.2	898	890		
1977 002D	METEOR 2	9664	USSR	6 JAN	102.8	81.2	902	890		
1977 004A	COSMOS 890	9737	USSR	20 JAN	105.1	82.9	1019	982		
1977 004B	COSMOS 890	9738	USSR	20 JAN	104.9	82.9	1008	981		
1977 005A	NATO III-B	9785	NATO	28 JAN	1432.3	22.8	35862	35463		
1977 005B	NATO III-B	9786	US	28 JAN	104.2	28.0	1299	617		
1977 005C	NATO III-B	9787	US	28 JAN	632.4	26.9	35870	180		
1977 005D	NATO III-B	9809	US	28 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1977 005E	NATO III-B	9810	US	28 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1977 005F	NATO III-B	9811	US	28 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1977 006A	COSMOS 891	9801	USSR	2 FEB	94.4	65.8	516	471		
1977 006B	COSMOS 891	9802	USSR	2 FEB	94.3	65.8	516	463		
1977 007A	COSMOS 891	9803	USSR	6 FEB	114.5	65.8	2310	556		
1977 010A	MOLNIYA 2	9829	USSR	11 FEB	718.1	62.8	39888	484		
1977 010B	MOLNIYA 2	9830	USSR	11 FEB	90.4	62.8	395	202		
1977 010C	MOLNIYA 2	9831	USSR	11 FEB	90.0	62.8	377	176		
1977 010E	MOLNIYA 2	9850	USSR	11 FEB	731.2	62.8	40526	491		
1977 011A	COSMOS 893	9833	USSR	15 FEB	105.2	73.9	1679	331		
1977 011B	COSMOS 893	9834	USSR	15 FEB	105.1	73.9	1674	330		
1977 012A	TANSEI 3	9841	JAPAN	19 FEB	134.1	65.7	3814	795		
1977 012B	TANSEI 3	9842	JAPAN	19 FEB	95.8	65.4	792	328		
1977 012C	TANSEI 3	9843	JAPAN	19 FEB	134.2	65.7	3816	794		
1977 012D	TANSEI 3	9844	JAPAN	19 FEB	104.9	65.0	1241	732		
1977 013A	COSMOS 894	9846	USSR	21 FEB	104.8	82.9	1012	971		
1977 013B	COSMOS 894	9848	USSR	21 FEB	104.8	82.9	1003	970		
1977 014A	KIKU 2	9852	JAPAN	23 FEB	1390.8	0.5	35736	34005		136.112.1705.000 5*
1977 015A	COSMOS 895	9853	USSR	26 FEB	97.1	81.2	634	609		
1977 015B	COSMOS 895	9854	USSR	26 FEB	97.2	81.2	687	562		

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

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	NOTES
1966 056AK-056CF		9739-9783	US	24 JUN	89.4	65.0	318	168	
1977 001A	COSMOS 888	9658	USSR	6 JAN	89.4	65.0	316	169	
1977 001B		9659	USSR	6 JAN	89.9	65.0	368	168	
1977 001C		9660	USSR	6 JAN	89.1	65.0	296	164	
1977 001D		9732	USSR	6 JAN	89.3	65.0	312	166	
1977 001E		9733	USSR	6 JAN	89.1	64.9	295	165	
1977 001F		9734	USSR	6 JAN	89.6	71.4	309	205	
1977 003A	COSMOS 889	9735	USSR	20 JAN	89.6	71.4	308	205	
1977 003B		9736	USSR	20 JAN	89.6	71.4	308	205	
1977 007B		9808	US	6 FEB	INITIAL ELEMENTS NOT AVAILABLE				29*
1977 008A	SOYUZ 24	9804	USSR	7 FEB	89.5	51.6	323	173	
1977 008B		9805	USSR	7 FEB	89.4	51.6	318	173	
1977 008C		9806	USSR	7 FEB	90.1	51.6	377	180	
1977 009A	COSMOS 892	9812	USSR	9 FEB	90.4	72.9	428	157	
1977 009B		9813	USSR	9 FEB	90.3	72.9	421	157	
1977 009C		9814	USSR	9 FEB	89.7	72.9	363	154	
1977 009D		9845	USSR	9 FEB	89.5	72.9	322	174	
1977 009E		9847	USSR	9 FEB	89.2	72.9	307	163	
1977 009F		9849	USSR	9 FEB	89.4	72.9	324	165	
1977 009G		9851	USSR	9 FEB	89.0	72.9	291	163	
1977 010D		9832	USSR	11 FEB	91.4	62.8	490	199	

OBJECTS DECAYED WITHIN THE REPORTING PERIOD

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1961	OMICRON 237	5747	US	29 JUN	3 JAN 77	
1963	014AM	2533	US	9 MAY	3 JAN 77	
1963	014CP	5500	US	9 MAY	23 JAN 77	
1963	014CQ	5503	US	9 MAY	3 JAN 77	
1965	082RX	3839	US	15 OCT	23 FEB 77	
1966	056P	8080	US	24 JUN	21 JAN 77	
1966	056AK- 056CF	9739-9783	USSR	20 JUN	20 JAN 77	
1968	091BD	3706	USSR	20 OCT	23 JAN 77	
1968	097D5	5891	USSR	1 NOV	31 JAN 77	
1968	097J1	5866	USSR	1 NOV	31 JAN 77	
1969	082JJ	5750	US	30 SEP	23 JAN 77	
1969	082JT	5791	US	30 SEP	3 JAN 77	
1970	103E	5326	USSR	2 DEC	3 JAN 77	
1971	103F	6072	USSR	2 DEC	3 JAN 77	
1971	030F	5164	FRANCE	15 APR	3 FEB 77	
1971	075C	8775	USSR	10 SEP	23 FEB 77	
1972	058B	6127	US	23 JUL	12 FEB 77	
1972	058F	7835	US	23 JUL	23 FEB 77	
1972	058GB	8506	US	23 JUL	23 FEB 77	
1974	101D	7470	USSR	11 OCT	4 JAN 77	
1974	103C	7748	US	19 DEC	2 JAN 77	
1974	103E	7750	USSR	24 DEC	8 JAN 77	
1974	104A	7541	USSR	26 DEC	27 FEB 77	
1975	004N	8697	US	22 JAN	18 FEB 77	
1975	004BG	8974	US	22 JAN	31 JAN 77	
1975	004CW	9032	US	22 JAN	4 FEB 77	
1975	004DC	9038	US	22 JAN	31 JAN 77	
1975	004DL	9285	US	22 JAN	31 JAN 77	
1975	004DY	9297	US	22 JAN	31 JAN 77	
1975	004DZ	9298	US	22 JAN	9 FEB 77	
1975	102G	8626	USSR	29 OCT	8 JAN 77	
1975	102H	8627	USSR	29 OCT	23 FEB 77	
1975	102S	8636	USSR	29 OCT	20 JAN 77	
1975	102AA	8644	USSR	29 OCT	8 JAN 77	
1975	102AK	8655	USSR	29 OCT	26 JAN 77	
1975	102AS	8715	USSR	29 OCT	9 FEB 77	
1975	102AU	8717	USSR	29 OCT	23 FEB 77	
1975	102AX	8720	USSR	29 OCT	25 FEB 77	
1975	102BG	8729	USSR	29 OCT	28 JAN 77	
1975	102BL	8733	USSR	29 OCT	8 JAN 77	
1975	102BM	8734	USSR	29 OCT	27 JAN 77	
1976	083C	9407	USSR	18 AUG	16 FEB 77	
1976	084B	9388	USSR	26 AUG	14 JAN 77	
1976	104C	9631	USSR	21 OCT	4 FEB 77	
1976	109G	9525	USSR	1 NOV	10 FEB 77	
1976	109H	9526	USSR	1 NOV	5 FEB 77	
1976	111B	9554	USSR	23 NOV	1 FEB 77	
1976	112B	9558	USSR	25 NOV	23 JAN 77	
1976	112C	9559	USSR	25 NOV	5 JAN 77	
1976	112D	9560	USSR	25 NOV	24 JAN 77	
1976	115C	9578	USSR	2 DEC	27 FEB 77	
1976	116E	9580	USSR	2 DEC	13 FEB 77	
1976	116F	9581	USSR	2 DEC	11 JAN 77	
1976	117A	9587	PRC	7 DEC	12 JAN 77	
1976	119C	9602	USSR	9 DEC	3 JAN 77	

OBJECTS DECAYED WITHIN THE REPORTING PERIOD

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1976 123C		9624	USSR	17 DEC	31 JAN 77	
1976 123E		9640	USSR	17 DEC	1 JAN 77	
1976 123F		9646	USSR	17 DEC	3 JAN 77	
1976 125C		9629	US	19 DEC	23 FEB 77	
1976 125D		9630	US	19 DEC	9 FEB 77	
1976 126D		9645	USSR	28 DEC	14 JAN 77	
1976 127C		9641	USSR	28 DEC	15 FEB 77	
1976 127D		9642	USSR	28 DEC	23 FEB 77	
1977 001A	COSMOS 888	9658	USSR	6 JAN	19 JAN 77	
1977 001B		9659	USSR	6 JAN	11 JAN 77	
1977 001C		9660	USSR	6 JAN	23 JAN 77	
1977 001D		9732	USSR	6 JAN	21 JAN 77	
1977 001E		9737	USSR	6 JAN	20 JAN 77	
1977 001F		9734	USSR	6 JAN	1 FEB 77	
1977 003A	COSMOS 889	9735	USSR	20 JAN	1 FEB 77	
1977 003B		9736	USSR	20 JAN	1 FEB 77	
1977 007B		9808	US	6 FEB	6 FEB 77	
1977 008A	SOYUZ 24	9804	USSR	7 FEB	25 FEB 77	29*
1977 008B		9905	USSR	7 FEB	12 FEB 77	
1977 008C		9806	USSR	7 FEB	22 FEB 77	
1977 009A	COSMOS 892	9812	USSR	9 FEB	15 FEB 77	
1977 009B		9813	USSR	9 FEB	10 FEB 77	
1977 009C		9814	USSR	9 FEB	26 FEB 77	
1977 009D		9845	USSR	9 FEB	24 FEB 77	
1977 009E		9847	USSR	9 FEB	23 FEB 77	
1977 009F		9849	USSR	9 FEB	23 FEB 77	
1977 009G		9851	USSR	9 FEB	23 FEB 77	
1977 010J		9832	USSR	11 FEB	27 FEB 77	

- 1* 252 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.
- 2* 98 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.
- 3* 13 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1963 047A. 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.
- 4* 146 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1965 020A, 1965 020B, AND 1965 020C. 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.
- 5* TRANSMITTING CN COMMAND ONLY.
- 6* 464 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.
- 7* DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY LAUNCH OR COUNTRY OF ORIGIN.
- 8* 77 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1966 056A. 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* 21 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1967 001A. 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* 81 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* 114 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* 37 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1969 029A. 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* A MANNED SPACECRAFT WHICH SUCCESSFULLY LANDED ON THE MOON AND RETURNED TO SELENOCENTRIC ORBIT.
- 14* 240 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.
- 15* 323 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.
- 16* 90 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.
- 17* 18 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970 091A. 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.
- 18* DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY LAUNCH.
- 19* 62 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.
- 20* 212 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.

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FOOTNOTES (CON'T)

- 21* LUNAR ORBIT. ORBITAL ELEMENTS ARE SELENOCENTRIC PARAMETERS (REFERENCED TO THE EARTH'S EQUATOR).
- 22* 171 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.
- 23* 118 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1974 089A, 1974 089B, AND 1974 089C.
- 24* 50 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1974 103A. 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* 193 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.
- 26* 62 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1975 102A. 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* 24 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 037A.
- 28* 38 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.
- 29* ANNOUNCED SUCCESSFUL RE-ENTRY AND RECOVERY OF MANNED SPACE VEHICLE.
NNA NO CATALOG NUMBER ASSIGNED.