

Name SPACE LOG

Subject SCIENCE OF TOGETHER

Form 5. John 2. ...

KING'S COLLEGE SCHOOL

Philip & Tacey Ltd.

Andover Hants

SPACEFLIGHT

SPACE LOG

VOLUME 1

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2635-2697

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LAUNCH CENTERS

1844 IV (inside back cover)

⊕
1957
1958
1959
1960

SATELLITES OF TERRA

COSPAR	NAME	LAUNCH	DECAL	NATION	ORBIT (KM)	LS	SLV	NOTES	
	LUNA (4,7 X 10 ⁹ BC)				356410 406697	18.3°		2 nd member of lunar planet	1959m
1957α1	СПУТНИК 1 ROCKET	Oct 4, 8 57	Dec 1, 4	USSR	205 939	65,1°	TBL	A 1 st satellite stage	1959 01 1959 02 1959 01
1957α2	СПУТНИК 1	Oct 4, 8 58	Jan 4	USSR	215 939	65,1°	TBL	1 st satellite	1959 02
1957α3	Fragment	Oct 4, 8	[Down]	USSR			TBL		1959 K
1957β1	СПУТНИК 2	Nov 3, 1 58	Apr 14, 08	USSR	212 1660	65,33°	TBL	A 1 st biosat Pogr-Lairku	1959 L
1957β2	Fragment	Nov 3, 1	[Down]	USSR			TBL		1960 α 12
1958α	EXPLORER 1	Jan 31	70 Mar 31	USA	360 2532	33,34°	KSC	JUPITER C Discov of Van Allen belts	1960 β 1
1958β1	VANGUARD 1 ROCKET	Mar 17, 57	2250	USA	649 4336	34,26°	KSC	VANGUARD Vanguard 1 st satellite	1960 β 2
1958β2	VANGUARD 1	Mar 17, 57	2250	USA	658 3948	34,25°	KSC	VANGUARD 1 st geodetic sat	1960 β 3
1958β3	Fragment								1960 β 4
1958γ	EXPLORER 3	Mar 26, 73	58 Jun 78	USA	195 2810	33,37°	KSC	JUPITER C Radiation op-2 Jmb	1960 β 4
1958δ1	СПУТНИК 3 ROCKET	May 15, 30 58	Dec 3, 70	USSR	203 1859	65,19°	TBL	A s.s.	1960 γ 1
1958δ2	СПУТНИК 3	May 15, 30 60	Apr 6, 3	USSR	217 1850	65,18°	TBL	1 st geophys sat	1960 γ 2
1958δ3	Fragment	May 15, 3	(d)	USSR			TBL	A	1960 γ 3
1958δ4	Fragment	May 15, 3	(d)	USSR			TBL		1960 γ 4
1958δ5	Fragment	May 15, 3	(d)	USSR			TBL		1960 δ
1958ε	EXPLORER 4	Jul 26, 63 58	Oct 23	USA	262 2210	50,29°	KSC	JUPITER C op-2 Oct 6 Project Argus	1960ε 1
1958η	PIONEER 1B	Oct 11 58	Oct 12	USA	0 113854		KSC	THOR ABLE 1 } Failed lunar probes (sublunar trajectories)	1960ε 2
1958θ	PIONEER 3	Dec 6 58	Dec 7	USA	0 102333		KSC	THOR ABLE 2 } or 1 st d exp com	1960ε 3
1958ζ	SCORE	Dec 18, 96 59	Jan 21, 6	USA	185 1470	32,3°	KSC	ATLAS (A, 10 B)	1960ε 4
1959η 1,2								see ARTIFICIAL PLANETS	1960ε 5
1959α1	VANGUARD 2	Feb 17, 67	2100	USA	560 3320	32,88°	KSC	VANGUARD Cloud cover	1960ε 6
1959α2	VANGUARD 2 ROCKET	Feb 17, 67	2100	USA	560 3697	32,92°	KSC	Vgd. s.s.	1960ε 7
1959α3	Fragment								1960ε 8
1959β	DISCOVERER 1	Feb 28, 91 59	Mar 5	USA	154 974	89,7°	WTR	THOR AVENNA Polar orbit	1960ε 9
1959γ 1,2								see ARTIFICIAL PLANETS	1960ε 9
1959δ	DISCOVERER 2	Apr 13, 89 59	Apr 26, 6	USA	229 354	89,9°	WTR	THOR AVENNA A capsule reentered	1960ε 10
1959ε1	EXPLORER 6	Aug 7, 6 61	Jul	USA	257 42418	46,9	KSC	THOR ABLE Radiation	1960ε 11
1959ε2	EXPLORER 6 ROCKET	Aug 7, 6	(Down)	USA	similar to 1959ε1		KSC	'Able'	1960η 1
1959ε3	DISCOVERER 5	Aug 13, 79 59	Sep 28	USA	219 724	80,0°	WTR	THOR AVENNA A Ejected capsule	1960η 2
1959ε4	DISCOVERER 5 CAPSULE	Aug 13, 79 61	Feb 11	USA	215 1701	78,94	WTR	THOR AVENNA A Ejected at wrong angle	1960η 3
1959ε5	DISCOVERER 6	Aug 19, 81 59	Oct 20, 80	USA	210 850	84,00°	WTR	THOR AVENNA A Capsule reentered	1960η 4
1959ζ 1,2	barycentric ballistic orbit:							see LUNAR PROBES	1960η 5

NOTES	Year	Vehicle	Date	Altitude	Country	Weight	Speed	Angle	Agency	Remarks		
	1959	VANGUARD 3	Sep 18, 52	2200?	USA	515 3748	33,35°	KSC	VANUARD	Mag sph		
Member of binary planet	1959	LYHA 3	Oct 4, 51	60 Apr 70	USSR	40000 480000	75°	TBL	A1	Farside pics		
1st stage	1959	EXPLORER 7	Oct 13, 65	1980	USA	552 10412	59,31°	KSC	JUNO 2	Radiation		
1st satellite	1959	EXPLORER 7 ROCKET	Oct 13, 65	1980	USA	552 1088	50,30°	KSC		'Juno'		
1st biosat	1959	DISCOVERER 7	Nov 7, 55	Nov 26, 8	USA	160 840	81,6°	WTR	THOR AGENA A	no ejec		
Dog-Lake	1959	DISCOVERER 8	Nov 20, 51	Nov 8, 5	USA	190 1660	80,6°	WTR	THOR AGENA A	cap reent		
	1960	α 1, 2										
Discovered Van Allen belts	1960	TIROS 1 ROCKET	Apr 1, 49	1985	USA	689 752	48,48°	KSC	THOR ABCE			
Vanguard 3rd stage	1960	TIROS 1	Apr 1, 49	2020?	USA	692 740	48,40°	KSC		met 90,79d		
1st geodesat	1960	Fragment	Apr 1, 49		USA			KSC				
Radiation op 2JWB	1960	Fragment	Apr 1, 49		USA			KSC				
A.S.S.	1960	TRANSIT 1B ROCKET	Apr 13, 50	61 May 18, 19	USA	319 747	57,25°	KSC				
1st geophysat	1960	TRANSIT 1B	Apr 13, 50	1966?	USA	374 747	57,28°	KSC		NAV		
	1960	Fragment	Apr 13, 50		USA			KSC	THOR ABCESTAR			
	1960	Fragment	Apr 13, 50	1-down, 1463	USA			KSC				
op 2 Oct 6	1960	DISCOVERER 11	Apr 15, 55	Apr 26, 73	USA	165 603	89,10°	WTR	THOR AGENA A	cap reent		
Project Argus 1	1960	CITY THINK 4	May 15, 50	62 Sep 5, 41	USSR	312 368	65,02°	TBL		Volsok		
Failed lunar probes (sublunar probes or 13d exp com)	1960	CITY THINK 4 ROCKET	May 15	60 Jul 17, 32	USSR	304 367	64,89°	TBL		PROBES 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 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996, 997, 998, 999, 1000		
	1960	CITY THINK 4 CABIN	May 15	1965	USSR	280 687	65,00°	TBL		angle		
	1960	Fragment	May 15	(down)	USSR			TBL				
	1960	Fragment	May 15	(down)	USSR			TBL				
Cloud cover	1960	Fragment	May 15	(down)	USSR			TBL				
Vgd. S.S.	1960	Fragment	May 15	(down)	USSR			TBL				
A Polar orbit	1960	Fragment	May 15	(down)	USSR			TBL				
	1960	Fragment	May 15	(down)	USSR			TBL				
capsule reentered	1960	MIOAS 2	May 24, 73	74 Feb 15, 77	USA	470 578	33°	KSC	ATLAS AGENA A	EW		
Radiation 'Able'	1960	MIOAS 2 NOSECAP	May 24, 73	60 Dec 5, 8	USA	470 578	33°	KSC				
	1960	TRANSIT 2A	Jun 22, 25	2100?	USA	631 1055	66,69°	KSC		NAV		
Geodesat capsule	1960	GREB 1	Jun 22, 25	2040?	USA	626 1057	66,69°	KSC	THOR ABCE STAR	USR		
A Geodesat at wrong angle	1960	TRANSIT 2A ROCKET	Jun 22, 25	2040?	USA	628 1028	66,77°	KSC				
capsule reentered	1960	DISCOVERER 13	Aug 10, 86	60 Nov 14, 83	USA	253 694	82,85°	WTR	THOR AGENA A	cap reent		
	1960	ECHO 1	Aug 12, 40	65?	USA	1521 1688	47,22°	KSC	DELTA	balloon paccom 2nd attempt 2		

See ARTIFICIAL PLANETS

cap reent
Volsok
PROBES 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Year	Object	Date	Altitude	Country	Coordinates	Orbit	Notes	Reference
1960								
1960	ECHO 1 ROCKET	Aug 12, 4	6500?	USA	1499 1686	47,23°	KSC	DELTA Delta 2
1960	Fragment	Aug 12, 4		USA			KSC	
1960	Fragment	Aug 12, 4		USA			KSC	
1960	Fragment	Aug 12, 4		USA			KSC	
1960	DISCOVERER 14	Aug 18, 83	60 Sep 18, 82	USA	495 808	79,65°	WTR THOR ACENA	cap r (midair)
1960	СПУТНИК 5	Aug 19, 4	60 Aug 20, 57	USSR	305 339	64,95°	TBL	A1 Vostok r. KOPALIN 2 (Kobka + Stralau) can r
1960	СПУТНИК 5 ROCKET	Aug 19, 4	60 Sep 23, 57	USSR	305 339	64,90°	TBL	
1960	DISCOVERER 15	Sep 13, 93	60 Oct 18, 10	USSR	207 763	89,9°	WTR THOR ACENA	cap recent
1960	COURIER 1B	Oct 4, 74	2000?	USA	943 1235	28,3°	KSC	THOR ACENA ac com
1960	COURIER 1B ROCKET	Oct 4, 74	2500?	USA	949 1182	28,3°	KSC	
1960	EXPLORER 8	Nov 3, 72	2020?	USA	415 2290	49,95°	KSC	JUNO 2 ionos
1960	EXPLORER 8 ROCKET	Nov 3, 72	1990?	USA	415 2290	49,96°	KSC	
1960	Fragment	Nov 3, 72		USA			KSC	
1960	Fragment	Nov 3, 72		USA			KSC	
1960	DISCOVERER 17	Nov 12, 86	60 Dec 29, 8	USA	190 995	81,70°	WTR THOR ACENA	cap r (mid air) TIROS AZ met
1960	TIROS 2	Nov 23, 47	2020?	USA	623 729	48,5°	KSC	
1960	TIROS 2 ROCKET	Nov 23, 47	1990?	USA	611 737	48,57°	KSC	DELTA Delta 3
1960	Fragment	Nov 23, 47		USA			KSC	
1960	45 Fragments	Nov 23, 47		USA			KSC	
1960	СПУТНИК 6	Dec 1, 30	60 Dec 2	USSR	185 265	65°	TBL	A1 KOPALIN 3 dug killed, r failed
1960	СПУТНИК 6 ROCKET	Dec 1, 30	60 Dec 2, 8	USSR	185 265	65°	TBL	
1960	DISCOVERER 18	Dec 7, 85	61 Apr 12	USA	248 731	80,50°	WTR THOR ACENA	cap r (mid air)
1960	DISCOVERER 19	Dec 20, 86	61 Jun 23, 1	USA	206 520	83,4°	WTR THOR ACENA	Exp IR for mid air?
1960	SAMOS 2	Jan 31, 85	1976?	USA	475 554	97,40°	WTR	ATLAS ACENA REC
1961	SAMOS 2 ROCKET	Jan 31, 85	1973?	USA	475 554	97,40°	WTR	
1961	СПУТНИК 7	Feb 4, 10	61 Feb 7, 8	USSR	223 327	64,95°	TBL	A2e BEMERA Seizure
1961	СПУТНИК 7 ROCKET	Feb 4, 10	61 Feb 13	USSR	223 327	64,95°	TBL	
1961	Fragment	Feb 4, 10	(down)	USSR			TBL	
1961	BEMERA 1	Feb 12	[→ Heliocentric]	USSR	222 279	65°	TBL	see ARTIFICIAL PLANETS
1961	СПУТНИК 8 ROCKET	Feb 12, 1961	Feb 18, 6	USSR	195 274	65°	TBL	A2e
1961	СПУТНИК 8	Feb 12	61 Feb 25, 8	USSR	222 279	65°	TBL	ech. platform
1961	Fragment	Feb 12	(down)	USSR			TBL	
1961	BEMERA 1 ROCKET	Feb 12	→ TBL	USSR			TBL	ARTIFICIAL PLANETS

Delta 2	196181	EXPLORER 9	Feb 16, 55	64 Apr 9	USA	636	2583	38,86°	W1	Scout	AD balloon
	196182	EXPLORER 9 ROCKET	Feb 16, 55	2060?	USA	636	2590	38,85°	W1		
	196183	Fragment	Feb 16, 55	(down)	USA				W1		
	196184	8 Fragments	Feb 16, 55		USA				W1		
ap r (midair)	1961e1	DISCOVERER 20	Feb 17, 85	62 Jul 28, 7	USA	285	782	80,97°	WTR		Failed no ejection
Vostok r. KOPAEV'S Kobka + Strelina Cabin	1961e2	Fragment	Feb 17, 85	(down)	USA				WTR		THOR Agena A
	1961e3	Fragment	Feb 17, 85	(down)	USA				WTR		
cap reent	1961e4	Fragment	Feb 17, 85	(down)	USA				WTR		
ac com	1961f	DISCOVERER 21	Feb 18, 8	64 Apr 20, 90	USA	240	1060	80,74°	WTR		THOR Agena B restart
	1961g	TRANSIT 3B/LOFT 1	Feb 23, 16	61 Mar 30, 54	USA	188	822	28,38°	KSC		THOR Agena B multiple stages
ionos	196101	СНУТНИК 9	Mar 9, 30	61 Mar 9, 40	USSR	983	249	64,93°	TSL		KOPAEV'S cabin/day r
	196102	СНУТНИК 9 ROCKET	Mar 9, 30	61 Mar 10, 40	USSR	172	198	64,90°	TSL		
	196103	Fragment	Mar 9, 30	(down)	USSR				TSL		A1
	196104	Fragment	Mar 9, 30	(down)	USSR				TSL		
Cap r (mid air) T100 AZ net	1961c1	СНУТНИК 10	Mar 25, 20	61 Mar 25, 30	USSR	178	246	64,9°	TSL		KOPAEV'S Cabin/day r
	1961c2	СНУТНИК 10 ROCKET	Mar 25, 20	61 Mar 26, 40	USSR	133	191	65°	TSL		A1
Delta 3	1961i3	Fragment	Mar 25, 20	(down)	USSR				TSL		
	1961k	EXPLORER 10	Mar 25, 64		USA	177	23000	33°	KSC DELTA		S-147+144 Magsph solar wind cap ejection wrong angle
KOPAEV'S dog killed, r failed	1961x1	DISCOVERER 23	Apr 8, 80	62 Apr 16, 90	USA	295	648	82,31°	WTR		THOR Agena B
	1961x2	DISCOVERER 23 CAPSULE	Apr 8, 80	62 May 23, 20	USA	202	1449	81,94°	WTR		remained in orbit
	1961x3	DISCOVERER 23 CAPSULE ROCKET	Apr 8, 80	61 Sep 10, 60	USA	198	1419	81,94°	WTR		
Cap r (midair) Exp: IR for midair?	1961m1	БОЦОК 1	Apr 12, 25	61 Apr 12, 33	USSR	181	327	64,95°	TSL		1st Spaceship 1 orbit
rec	1961m2	БОЦОК 1 ROCKET	Apr 12, 25	61 Apr 16, 50	USSR	157	319	65,07°	TSL		
	1961y1	EXPLORER 11	Apr 27, 59	2100?	USA	489	1742	28,80°	KSC		Juno 2 gray scope
BENEPA satellite	1961g1	DISCOVERER 25	Jun 16, 96	61 Jul 12	USA	224	404	82,11°	WTR		THOR Agena B cap r (dec) Jun 15
	1961o1	TRANSIT 4A	Jun 29, 18		USA	859	1003	66,81°	KSC?		THOR Agena B now
	1961o2	GREB 3/INSUN 1	Jun 29, 18		USA	859	1020	66,82°	KSC?		THOR Agena B
RTIFICIAL PLANETS	1961o3	to Fragments	Jun 29, 18	(down)	USA				KSC?		
ch. platform	1961π	DISCOVERER 26	Jul 7, 98	61 Dec 5, 40	USA	235	804	82,94°	WTR		THOR Agena B cap r (midair)
AL ROCKET	1961e1	TROS 3	Jul 12, 43	2060?	USA	742	815	47,90°	KSC		DELTA met for AS

1961
1962

1961 p 2	TIROS 3 ROCKET	Jul 12, 43	2010? USA	743 -808	47,85°	KSC	DELTA	Delta 5	1961 & E 5
1961 p 3	Fragment	Jul 12, 43	USA			KSC			1961 & E 1
1961 p 4	Fragment	Jul 12, 43	USA			KSC			1961 & E 2
1961 o 1	MIDAS 3	Jul 17, 68	100000 USA	3428 3478	47,13°	WTR		EW	1961 & m 1
1961 o 2	MIDAS 3 NOSECAP	Jul 17, 68	61 Jul 25, 88 USA	130 2483	40,80°	WTR	ATLAS AGENA B		1961 & m 2
1961 o 3	Fragment	Jul 17, 68	USA			WTR			1961 & m 3
1961 o 4-5	Fragment 5	Jul 17, 68	USA			WTR			1961 & E
1961 o 1	BOCTOK 2	Aug 6, 25	61 Aug 7, 30 USSR	183 244	44,93°	TSL	A1	17 orbs	1961 & i 1
	Crew: Gherman S. Titov, Cdr.								
1961 i 2	BOCTOK 2 ROCKET	Aug 6, 25	61 Aug 9 USSR	185 244	44,9°	TSL			1961 & k 1
1961 u 2	EXPLORER 12	Aug 16, 14	USA	290 769.58	33,3°	KSC	DELTA	5-3	1961 & k 2
1961 p 1	RANGER 1	Aug 23, 46	61 Aug 30, 35 USA	174 280	32,90°	KSC	ATLAS AGENA B	failed to leave orbit	1961 & k 3
1961 p 2	RANGER 1 ROCKET	Aug 23, 46	61 Sep 3, 14 USA	176 287	32,93°	KSC			1961 & k 1
1961 X	EXPLORER 13	Aug 25, 81	61 Aug 28, 1 USA	119 1162	37,70°	WTR	SCOUT	micromt. in too low orbit	1961 & k 2
1961 z 1	DISCOVERER 29	Aug 30, 80	61 Sep 9, 98 USA	225 555	82,14°	WTR	THOR AGENA B	cap r (sea)	1961 & k 3
1961 w 1	DISCOVERER 30	Sep 12, 83	61 Dec 11, 90 USA	248 55	82,66°	WTR		cap r (nuclear)	1962 & 1
1961 w 2	Fragment	Sep 12, 83	(down) USA			WTR	THOR AGENA B		1962 & B 1
1961 w 3	Fragment	Sep 12, 83	(down) USA			WTR			1962 & B 4
1961 & a 1	MA - 4	Sep 13, 59	61 Sep 13, 66 USA	161 255	32,80°	KSC	ATLAS D	unmanned mercury	1962 & B 2
1961 & a 2	MA - 4 ROCKET	Sep 13, 59	61 Sep 13, 80 USA	148 148	32,85°	KSC			1962 & B 3
1961 & B	DISCOVERER 31	Sep 17, 88	61 Oct 26, 45 USA	245 410	82,70°	WTR	THOR AGENA B	no ejec	1962 & 1
1961 & g 1	DISCOVERER 32	Oct 13, 81	61 Nov 13, 40 USA	237 396	81,69°	WTR		cap r (mar)	
1961 & g 2	Fragment	Oct 13, 81	(down) USA			WTR	THOR AGENA B		1962 & 2
1961 & g 3	Fragment	Oct 13, 81	(down) USA			WTR			1962 & 5
1961 & d 1	MIDAS 4	Oct 21, 58	100000? USA	3504-3726	45,84°	WTR		EW	1962 & E 1
1961 & d 2	MIDAS 4 CAPSULE	Oct 21, 58	USA	3508 3734	45,89°	WTR	ATLAS AGENA B	WEST FORD jet disperse	1962 & E 2
1961 & d 3	Fragment	Oct 21, 58	USA			WTR			1962 & E 3
1961 & d 4-6	Fragment 5	Oct 21, 58	USA			WTR			1962 & E 4
1961 & e 1	DISCOVERER 34	Nov 5, 83	61 Dec 7, 20 USA	216 1025	82,55°	WTR		no ejec	1962 & 1
1961 & e 2	Fragment	Nov 5, 83	(down) USA			WTR	THOR AGENA B		1962 & 2
1961 & e 3	Fragment	Nov 5, 83	(down) USA			WTR			1962 & 1
1961 & e 4	Fragment	Nov 5, 83	(down) USA			WTR			1962 & 2

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1962

1962 7B	ROCKET	Mar 7, 80	62 Mar 3, 40	USA	235	622	90,87°	WTR	ATLAS AGENA B	OSATK CNYTHNIK II 10203 sci	1962 u 2
1962 81	KOZMOC 1	Mar 16, 5	62 May 25	USSR	217	980	49,09°	KY	} BI		1962 φ 1
1962 82	KOZMOC 1 ROCKET	Mar 16, 5	62 Jun 18	USSR	206	949	49,0°	KY			
1962 c1	KOZMOC 2	Apr 6, 72	63 Aug 20	USSR	212	180	48,98°	KY	} BI	CNYTHNIK 12 radn sci	1962 X 1
1962 c2	KOZMOC 2 ROCKET	Apr 6, 72	62 Oct 6, 4	USSR	212	1585	48,94°	KY			
1962 k1	USAF	Apr 9, 66	100000?	USA	274	399	86,68°	WTR	} ATLAS AGENA B	MIDAS 5 env	1962 X 3
1962 k2	Fragment	Apr 9, 66		USA				WTR			
1962 k3	Fragment	Apr 9, 66	(1 d)	USA				WTR			1962 φ 1
1962 k4	6 Fragments	Apr 9, 66		USA				WTR			1962 w 2
1962 x1	USAF	Apr 18	62 May 28	USA	200	298	73,48°	WTR	} THOR AGENA B	DISCOVERER 39 Tested MIDAS 5?	1962 w 3
1962 x2	Fragment	Apr 18	(d)	USA				WTR			
1962 x3	Fragment	Apr 18	(d)	USA				WTR			1962 u 2
1962 x4	Fragment	Apr 18	(d)	USA				WTR			1962 u 3
1962 μ1	RANGER 4	Apr 23, 87	(→ L1)	USA				KSC	ATLAS AGENA B	see LUNAR PROBES	1962 u 4
1962 μ2	RANGER 4 ROCKET	Apr 23, 87	(→ M0)	USA				KSC		see ARTIFICIAL PLANETS	1962 u B
1962 v1	KOZMOC 3	Apr 24, 17	62 Oct 17	USSR	228	719	48,79°	KY	} BI	CNYTHNIK 13 radn sci	1962 u y
1962 v2	KOZMOC 3 ROCKET	Apr 24, 17	62 Aug 5, 8	USSR	221	679	48,98°	KY			
1962 z1	KOZMOC 4	Apr 26, 42	62 Apr 29	USSR	298	330	65°	TBL	} AI	CNYTHNIK 14 radn rec F	1962 u 7
1962 z2	KOZMOC 4 ROCKET	Apr 26, 42	62 Jun 17, 9	USSR	285	312	64,95°	TBL			
1962 z3	Fragment	Apr 26, 42	(d)	USSR				TBL			1962 u 2
1962 o1	ARIEL 1	Apr 26, 75	76 May 24	UK	390	1213	53,87°	KSC WTR CITPA WTR WTR	DETA	UK 1 S-SI 10000 / 10000 sci	1962 u 3
1962 o2	ARIEL 1 ROCKET	Apr 26, 75	1977?	USA	395	1209	53,84°	KSC		Relta 9	1962 u 4
1962 π	USAF	Apr 26	62 Apr 28	USA	178	478	73,00°	WTR	ATLAS AGENA B	DISCOVERER 40? (INSPECTION 1)	1962 u 5
1962 e1	USAF	Apr 28, 95	62 May 26	USA	177	470	73,11°	WTR	THOR AGENA B	PHASPECTOR 1?	1962 u 6
1962 e2	Fragment	Apr 28, 95	(d)	USA				WTR			1962 u 7
1962 o1	THOR AGENA USAF	May 15, 82	63 May?	USA	293	637	82,33°	WTR	} THOR AGENA B	DISCOVERER 41?	1962 u 8
1962 o2	Fragment	May 15, 82	(d)	USA				WTR			
1962 o3	Fragment	May 15, 82	(d)	USA				WTR			1962 u 4
1962 c1	AURORA 7	May 24, 53	62 May 24, 74	USA	161	270	32,50°	KSC	ATLAS D	3 orbits MA-7	1962 u 2
1962 t2	MA-7 ROCKET	May 24, 53	62 May 25	USA	161	270	32,50°	KSC			1962 u 1
1962 u1	KOZMOC 5	May 28, 13	63 May 2	USSR	203	1600	49,07°	KY	} BI	CNYTHNIK 15 SCI	1962 u 1

Crew: M. SCOTT CARPENTER, CAPT.

LAS EM B	OSAF СПУТНИК 11 lonos sci	1962 u 2	KOZMOC 5 ROCKET	May 28, 63	62 Dec 15	USSR 192	1585	49,1°	KY	B 1	
		1962 φ 1	USAF	May 30, 62	Jun 11	USA 146	399	74,10°	WTR	THOR ACENA B	INSPECTOR 2?
		1962 φ 2	Fragment	May 30, 62	(d)	USA			WTR		
СПУТНИК 12 Radh sci		1962 X 1	USAF	Jun 2, 63	62 Jun 28, 9	USA 211	388	74,26°	WTR		DISCOVERER 42
MIDAS 5 ELV		1962 X 2	OSCAR 2	Jun 2, 63	62 Jun 21	USA 208	386	74,27°	WTR	THOR ACENA B	Amat. Radio comm
		1962 X 3	Fragment	Jun 2, 63	(d)	USA			WTR		
		1962 ψ 1	USAF	Jun 17	62 Jun 18	USA			WTR	ATLAS ACENA B	SAMOS 6 r?
		1962 ω 1	USAF	Jun 18, 85	63 Sep?	USA 367	411	82,11°	WTR		DISCOVERER 43
DISCOVERER 39 SEE MIDAS 5?		1962 ω 2	Fragment	Jun 18, 85	(d)	USA			WTR		
		1962 ω 3	Fragment	Jun 18, 85	(d)	USA			WTR		
		1962 αα 1	TIROS 5	Jun 19, 57	2060?	USA 569	975	58,08°	KSC	DELTA	Met TIROS 5(F) Delta 10
		1962 αα 2	TIROS 5 ROCKET	Jun 19, 57	2010?	USA 586	972	58,08°	KSC		
		1962 αα 3	Fragment	Jun 19, 57	*	USA			KSC		
UNAR PROGES		1962 αα 4	Fragment	Jun 19, 57		USA			KSC		
OFFICIAL PUMETS THOR 13 sci		1962 αβ	USAF	Jun 23, 62	Jul 7	USA 208	293	75,09°	WTR	THOR ACENA B	DISCOVERER 44
		1962 αγ	USAF	Jun 28, 65	62 Sep 14	USA 202	637	76,04°	WTR	THOR ACENA D	DISCOVERER 45
THOR 14 La rec F		1962 αδ 1	KOZMOC 6	Jun 30, 67	62 Sep 8	USSR 274	354	48,96°	KY	B 1	СПУТНИК 16 sci
		1962 αδ 2	KOZMOC 6 ROCKET	Jun 30, 67	62 Aug 8, 2	USSR 274	348	48,97°	KY		
		1962 αε 1	TELESTAR 1	Jul 10, 36	2160?	USA 954	5638	44,79°	KSC	DELTA	NOV 340 Com TSK 1
1 5-57 USAF sci		1962 αε 2	TELESTAR 1 ROCKET	Jul 10, 36	*	USA 952	5622	44,78°	KSC		Delta 11
162 9		1962 αζ 1	USAF	Jul 18, 87	62 Jul 22	USA 180	328	96,12°	WTR	ATLAS ACENA B	SAMOS 7
OVER 40? RECTOR 1?		1962 αζ 2	Fragment	Jul 18, 87	(d)	USA			WTR		
		1962 αη 1	USAF	Jul 21, 62	Aug 14	USA 208	380	20,28°	WTR	THOR ACENA B	DISCOVERER 46
		1962 αθ 1	USAF	Jul 28, 62	Aug 24	USA 202	293	71,04°	WTR	THOR ACENA B	DISCOVERER 47
ELER 412		1962 αι 1	KOZMOC 7	Jul 28, 39	62 Aug 1	USSR 210	349	64,95°	TSL		СПУТНИК 17 rec r 3
		1962 αι 2	KOZMOC 7 ROCKET	Jul 28, 39	62 Aug 21	USSR 208	345	64,96°	TSL	A 1	
		1962 αι 3	Fragment	Jul 28, 39	(d)	USSR			TSL		
3 orbits MA-7		1962 ακ 1	USAF	Aug 2, 62	Aug 26	USA 423	1206	82,25°	WTR	THOR ACENA D	DISCOVERER 48
		1962 ακ 2	Fragment	Aug 2, 62	(d)	USA			WTR		
		1962 αλ 1	USAF	Aug 5, 75	62 Aug 6	USA 203	203	96,3°	WTR	ATLAS ACENA B	SAMOS 8
SPUTNIK 15 SCI		1962 αμ 1	BOCTOK 3	Aug 11, 35	62 Aug 15, 29	USA 173	221	64,98°	TSL	A 1	64 orbits
			Crew: Andrian G. Nikolayev, Cdr.								

1962

1962 α 112	BOCTOK 3 ROCKET	Aug 11, 35	62 Aug 14, 1	USSR	64,82°	TSC	A1	
1962 α v 1	BOCTOK 4	Aug 12, 33	62 Aug 15, 29	USSR	179 254	64,95°	TSC	A1
Crew: Pavel R. Popovich, Cdr.								
1962 α v 2	BOCTOK 4 ROCKET	Aug 13, 33	62 Aug 14, 70	USSR	64,80°	TSC		
1962 α 1	KOZMOC 8	Aug 18, 21	62 Aug 17	USSR	255 603	48,97°	W	CNYTHUK 18
1962 α 2	KOZMOC 8 ROCKET	Aug 18, 21	62 Dec 19, 5	USSR	264 607	48,98°	W	SCC
1962 α 0 1	USAF	Aug 23, 49	1980?	USA	620 845	98,6°	WTR	BLUE SCOUT
1962 α 0 2	Fragment	Aug 23, 49		USA			WTR	BLUE SCOUT
1962 α 0 3	Fragment	Aug 23, 49		USA			WTR	BLUE SCOUT
1962 α 0 4	ROCKET	Aug 23, 49		USA			WTR	Altair
1962 α 11 1	CNYTHUK 19	Aug 25, 12	62 Aug 28	USSR	174 248	64,88°	TSC	Failed BEHEPA
1962 α 11 2	CNYTHUK 19 ROCKET	Aug 25, 12	62 Sep 2	USSR	174 313	64,89°	TSC	
1962 α 11 3	Fragment	Aug 25, 12	(d)	USSR			TSC	
1962 α 11 4	Fragment	Aug 25, 12	(d)	USSR			TSC	A2e
1962 α 11 5	Fragment	Aug 25, 12	(d)	USSR			TSC	
1962 α 11 6	Fragment	Aug 25, 12	(d)	USSR			TSC	
1962 α 11 7	Fragment	Aug 25, 12	(d)	USSR			TSC	
1962 α 11 8	Fragment	Aug 25, 12	(d)	USSR			TSC	
1962 α p 1	MARINER 2	Aug 27, 29	(→ HC)	USA			HSC	
1962 α p 2	MARINER 2 ROCKET	Aug 27, 29	(→ HC)	USA			HSC	See ARTIFICIAL PLANETS
1962 α 0	USAF	Aug 29, 05	62 Sep 10	USA	182 393	65,29°	WTR	THOR ACENA B DISCOVERER 49
1962 α 11	CNYTHUK 20	Sep 1	62 Sep 6	USSR	160 310	64,9°	TSC	A2e Failed BEHEPA
1962 α u	USAF	Sep 1, 86	63?	USA	333 638	82,84°	WTR	THOR ACENA B DISCOVERER SC BEHEPA scaling
1962 α 11	CNYTHUK 21	Sep 12, 07	62 Sep 24	USSR	182 182	64,8°	TSC	
1962 α 11 2	Fragment	Sep 12, 07	(d)	USSR			TSC	A2e
1962 α 11 3	Fragment (US)	Sep 12, 07	(d)	USSR			TSC	
1962 α 11 4	USAF - TOS 1	Sep 17, 99	62 Nov 19, 2	USA	200 547	81,84°	WTR	THOR ACENA B DISCOVERER S1
1962 α 11 5	TOS	Sep 17, 99	62 Oct	USA	200 547	81,8°	WTR	sub cells
1962 α 11 6	TROS 6	Sep 18, 37	2012	USA	684 711	58,32°	LESS	met F
1962 α 11 7	TROS 6 ROCKET	Sep 18, 37	1982	USA	688 707	58,29°	KSC	DELTA Delta 12
1962 α 11 8	Fragment	Sep 18, 37		USA			KX	
1962 α 11 9	Fragment	Sep 18, 37		USA			KX	

1962 α 0 1
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1962 α 0 98
1962 α 0 99
1962 α 0 100

A1	1962A601	KOZMOC 9	Sep 27 62 Oct 1	USSR	179 254 65°	TBL	A1	rec r
47	1962A602	KOZMOC 9 ROCKET	Sep 27 62 Nov	USSR	179 254 65°	TBL		
	1962A603	Fragment	Sep 29, 25	CANADA	1014 1046 80,46	WTR		1020's etc
	1962A604	PROUETTE 1 ROCKET	Sep 29, 25	USSR	1016 1039 80,47	WTR	THOR AGENA B	TAVE
CNYTHNIK 18	1962B603	Fragment	Sep 29, 25	USA		WTR		
BLU'S SCOUT	1962B604	Fragment	Sep 29, 25	USA		WTR		
	1962B605	THOR USAF	Sep 29, 99 62 Oct 14	USA	200 367 65,4°	WTR	THOR AGENA D	DISCOVERER 52
Altair	1962B606	EXPLORER 14	Oct 2, 92 1972	USA	280 98475 32,95°	KSC	DELTA	PPE-B S34
Failed BENEPA	1962B607	EXPLORER 14 ROCKET	Oct 2, 92	USA	280 98500 33,8°	KSC		Delta 13
	1962B608	SIGMA 7	Oct 3, 51 62 Oct 3, 81	USA	163 285 32,55°	KSC	ATLAS D	6 obs.
	1962B609	MA-8 ROCKET	Oct 3, 51 62 Oct 4	USA	165 278 32,55°	KSC		
	1962B610	USAF	Oct 4, 79 62 Nov 1, 61	USA	209 426 81,96°	WTR	THOR AGENA B	DISCOVERER 53
	1962B611	KOZMOC 10	Oct 17, 19 62 Oct 21	USSR	203 335 65,8°	TBL	A1	rec r
	1962B612	KOZMOC 10 ROCKET	Oct 17, 19 62 Nov 7	USSR		TBL		
	1962B613	RANGERS 5	Oct 20, 16 Oct 18 (→HC)	USA		KSC	ATLAS AGENA B	see ARTIFICIAL PLANETS
	1962B614	RANGERS 5 ROCKET	Oct 18, 17 (→HC)	USA		KSC		
	1962B615	KOZMOC 11	Oct 20, 16 62 May 18	USSR	245 920 48,97°	KY	B1	sci
see ARTIFICIAL PLANETS	1962B616	KOZMOC 11 ROCKET	Oct 20, 16 62 May	USSR	243 904 48,95°	KY		
DISCOVERER 49	1962B617	CNYTHNIK 22	Oct 25 62 Nov 1	USSR	180 405 64°	TBL	A2c	MAPE failure, exploded debris
Failed BENEPA	1962B618	Fragment	Oct 25	USSR		TBL		
DISCOVERER 50	1962B619	STARTRAD	Oct 26 68 1966?	USSR	192 557 71,4°	WTR	THOR AGENA D	DISCOVERER 54
Failed BENEPA failure	1962B620	EXPLORER 15	Oct 27, 97 1987?	USA	312 17317 18,62°	KSC	DELTA	S-38 EPE-C or 6, 63R67
	1962B621	EXPLORER 15 ROCKET	Oct 27, 97 1972?	USA		KSC		Delta 14
	1962B622	ANNA 1 B	Oct 31, 34	USA	1077 1185 59,14°	KSC	THOR AGENA D	Geodetic beacon
	1962B623	ANNA 1 B ROCKET	Oct 31, 34 4000?	USA	1072 1161 50,13°	KSC	THOR AGENA D	
DISCOVERER 51	1962B624	CNYTHNIK 23	Nov 1, 65 62 Nov 8	USSR	180? 180? 65°	TBL		launch platform
Solar cells	1962B625	MAPE CNYTHNIK 23	Nov 1 (HC)	USSR		TBL	A2c	see ARTIFICIAL PLANETS
met r	1962B626	MAPE 1	Nov 1 (HC)	USSR		TBL		
Delta 12	1962B627	CNYTHNIK 24	Nov 4, 65 62 Nov 5	USSR	196 590 64,7°	TBL	A2c	Failed MAPE disintegrated
	1962B628	Fragment	Nov 4, 65 63 Jun 19	USSR		TBL		
	1962B629	CNYTHNIK 24 ROCKET	Nov 4, 65 63 Jun 19	USSR	192 591 64,7°	TBL		
	1962B630	Fragment?	Nov 4, 65? (d)	USSR		TBL		

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1962
1963

1962 B0	USAF	Nov 5, 93 '62 Dec 3 USA	208 409 74.48°	WTR	THOR ACENA B	DISCOVERER 55	1963-0
1962 BT	USAF + TRS	Nov 11, 85 '62 Nov 12 USA	206 208 96.00°	WTR	THOR ACENA B	SAMOS 9	1963-0
1962 B0	USAF	Nov 24, 92 '62 Dec 13 USA	204 536 65.14°	WTR	THOR ACENA B	DISCOVERER 56	1963-0
1962 B0	USAF	Dec 4, 9 '62 Dec 8 USA	195 274 65.1°	WTR	THOR ACENA B	DISCOVERER 57	1963-0
1962 BT1	USAF	Dec 13, 17 '65	USA 232 286 70.36°	WTR			1963-0
1962 BT2	IN JUN 3	Dec 13, 17 '67	USA 235 286 70.38°	WTR		Cosmos	1963-0
1962 BT3	USAF	Dec 13, 17 '65 Jun 2	USA 224 276 70.36°	WTR	THOR ACENA B		1963-0
1962 BT4	USAF SURCAL 1A	Dec 13, 17 '64	USA 232 284 70.34°	WTR	THOR ACENA B		1963-0
1962 BT5	USAF	Dec 13, 17 '65	USA 229 286 70.34°	WTR			1963-0
1962 BT6	ROCKET	Dec 13, 17 '65	USA 257 280 70.36°	WTR			1963-0
1962 Bu 1	RELAY 1	Dec 13, 98	100000 USA 1319 7425 40.40°	KSC	DELTA	Relay A-15 ac Com op 1	1963-10
1962 Bu 2	RELAY 1 ROCKET	Dec 13, 98	50000 USA 1342 7405 47.45°	KSC	DELTA	Delta 15	1963-10
1962 Bφ	USAF	Dec 14, 9 '63 Jun 8, 9 USA	200 393 70.97°	WTR	THOR ACENA B	DISCOVERER 58	1963-11
1962 BX	EXPLORER 16	Dec 16, 9 '63	USA 750 1180 52.01°	WTR	SCOUT	op to 63000 MICROMET.	1963-11
1962 Bψ1	TRANSIT 5A	Dec 19, 06 1977?	USA 205 726 90.62°	WTR		Now op	1963-12
1962 Bψ2	TRANSIT 5A ROCKET	Dec 19, 06 1977?	USA	WTR			1963-12
1962 Bψ3	Fragment	Dec 19, 06	USA	WTR	BLUE SCOUT		1963-13
1962 Bψ4	5 Fragments	Dec 19, 06	USA	WTR			1963-13
1962 Bω1	KOSMOS 12	Dec 22, 40 '62 Dec 29	USA 211 405 65°	TRSC		see r	1963-14
1962 Bω2	KOSMOS 12 ROCKET	Dec 22, 40 '63 Feb?	USA 209 370 65°	TRSC			1963-14
1963-01A	COSMOS 25	Jun 4, '63 Jun 5 USSR		TRSC		Lights failure	1963-14
1963-01B	(Fragment)	Jun 4, '63 d USSR		TRSC	ATC	Luna Payload	1963-14
1963-01C	Fragment	Jun 4, '63 d USSR		TRSC			1963-14
1963-02A	USAF	Jan 7, 88 '63 Jun 24	USA 205 399 82.25°	WTR	THOR ACENA B	THOR ACENA 91	1963-14
1963-02B	USAF	Jan 7, 88 '63 Jun 16	USA 209 377 82.70°	WTR	P		1963-14
1963-03A	USAF	Jan 16, 92 '63 1970?	USA 459 533 81.89°	WTR			1963-14
1963-03B	Fragment	Jan 16, 92 (d) USA		WTR	THOR ACENA B	USAF THOR ACENA 60 (51 93)	1963-14
1963-03C	Fragment	Jan 16, 92 (d) USA		WTR	THOR ACENA B		1963-14
1963-04A	SYNCOM 1	Feb 14, 22 '63	USA 37372 36739 33.30°	KSC	DELTA	Syncom 1-25 St (non op) Sync Com	1963-15
1963-04B	SYNCOM 1 ROCKET	Feb 14, 22 2060?	USA 252 34493 33.30°	KSC		Delta 16	1963-15
1963-05B	USAF	Feb 19, 69 '68 '63	USA 505 791 100.48°	WTR	BLUE SCOUT	Blue Scout 2	1963-15
1963-05A	ROCKET	Feb 19, 69 '68 '63	USA 510 789 100.49°	WTR	BLUE SCOUT		1963-15

1963-05C	Fragment	Feb 19, 69	USA	WTR	BLUE SCOUT
1963-05D	Fragment	Feb 19, 69	USA	WTR	SCOUT
1963-06A	KOZMOC 13	Mar 21, '35	63 Mar 29 USSR	192 324 64.97° TBL	A1 REC F
1963-06B	KOZMOC 13 ROCKET	Mar 21, '35	63 Apr 9 USSR	192 324 65° TBL	A1 REC F
1963-07A	USAF	Apr 1, '92	63 Apr 26, 9 USA	201 408 75.48° WTR	Thor Agena 6D
1963-08A	LYHA 4	Apr 2	(→ MC) USSR	90800 612300 ? TBL	see AERIAL FLAMERS
1963-08B	LYHA 4 ROCKET	Apr 2	USSR	90000 700000 ? TBL	Arc Launcher rocket
1963-08C	CNYTHIK 26	Apr 2	63 Apr 3 USSR	1076 1076 65° TBL	S-6
1963-09A	EXPLORER 17	Apr 3, 08	66 Nov 24 USA	255 917 57.63° KSC	DELTA A7E-A
1963-09B	EXPLORER 17 ROCKET	Apr 3, 08	63 Nov 24, 7 USA	249 920 57.59° KSC	Delta 17
1963-10A	KOZMOC 14	Apr 13, 46	63 May 29, 1 USSR	252 499 48.95° K4	SCI meet
1963-10B	KOZMOC 14 ROCKET	Apr 13, 46	63 Jul 6, 7 USSR	244 465 48.90° K4	
1963-11A	KOZMOC 15	Apr 22, 35	63 Apr 27 USSR	160 358 65.00° TBL	A1 REC F
1963-11B	KOZMOC 15 ROCKET	Apr 22, 35	63 May 18 USSR	170 302 64.45° TBL	A1 REC F
1963-12A	KOZMOC 16	Apr 28, 40	63 May 18 USSR	194 382 65.02° TBL	A1 REC F
1963-12B	KOZMOC 16 ROCKET	Apr 28, 40	63 May 20, 7 USSR	1963 396 65.02° TBL	A1 REC F
1963-13A	TELSTAR 2	May 7, 48	60000? USA	974 10808 42.73° KSC	DELTA A7HT KSC2
1963-13B	TELSTAR 2 ROCKET	May 7, 48	20000? USA	984 10770 42.76° KSC	Delta 18
1963-14A	MIDAS 6	May 9, 84	100000 USA	3601 3680 87.42° WTR	ATLAS ELW
1963-14C	TRS 2	May 9, 84	50000 USA	3604 3688 87.35° WTR	ATLAS B ER2S
1963-14D	TRS 2	May 9, 84	50000 USA	3606 3678 87.42° WTR	ER2S
1963-14B	DASH 1	May 9, 84	USA	WTR	
1963-14E	Fragment	May 9, 84	USA	WTR	
1963-14F	Fragment	May 9, 84	USA	WTR	
1963-14G	Fragment	May 9, 84	USA	WTR	
1963-14H	Fragment	May 9, 84	USA	WTR	
1963-14I	WEST FORD	May 9, 84	1968? USA	3604 3680 87.4° WTR	Canister dispersed 350 million radio pulses
1963-15A	FAITH 7	May 15, 54	63 May 16, 9 USA	161 267 33.54° KSC	22 orbits
	Crew: L. Gordon Cooper, Cmdr.				ATLAS
1963-15B	MA-9 ROCKET	May 15, 54	63 May 16, 2 USA	167 219 33.54° KSC	RV EXP: sphere with flashing lights
1963-15C	MA-9 SUBSATELLITE	May 15, 54	USA	32.5° KSC	
1963-16A	USAF	May 18, 94	63 May 27 USA	153 497 74.54° WTR	Thor Agena 6D

1963

1963-17A	KOCHMOC 17	May 22, 13	65 Jun 2	USSR	260	788	49,0°	KY	} Sec
1963-17B	Fragment	May 22, 13		USSR			KY		
1963-17C	Fragment	May 22, 13		USSR			KY		
1963-17D	Fragment	May 22, 13		USSR			KY		
1963-17E	Fragment	May 22, 13		USSR			KY		
1963-17F	Fragment	May 22, 13		USSR			KY		
1963-17G	KOCHMOC 17 ROCKET	May 22, 13	"64Mw"	USSR	265	761	49,0°	KY	
1963-18A	KOCHMOC 18	May 24, 45	63 Jun 24	USSR	196	288	65,02°	TOL	} A1
1963-18B	KOCHMOC 18 ROCKET	May 24, 45	63 Jun 8, 0	USSR	198	304	65,0°	TOL	
1963-19A	USAF	May 13	63 Jul 12, 1	USA	192	419	81,87°	WTR	} A1
1963-20A	BOCTOK 5	Jul 14, 5	63 Jun 19, 46	USSR	162	235	69,97°	TOL	
		Crew: Valeri F. Bykovskiy, Cdr.							
1963-20B	BOCTOK 5 ROCKET	Jun 14, 5	63 Jun 16, 5	USSR	150	187	64,86°	TOL	
1963-21A	USAF	Jun 15, 61	63 Aug 8	USA	172	919	69,8°	WTR	} LFR
1963-21B	LOFTI ZA	Jun 15, 61	63 Jul 18, 4	USA	171	925	69,8°	WTR	
1963-21C	FREE SR 6A	Jun 15, 61	63 Aug 1, 3	USA	155	590	69,88°	WTR	
1963-21D	RADOSE	Jun 15, 61	63 Jul 30, 5	USA	175	837	69,88°	WTR	
1963-21E	USAF	Jun 15, 61	63 Jul 27, 7	USA	181	829	69,91°	WTR	
1963-21F	Fragment SURCAL 18	Jun 15, 61	(1)	USA				WTR	
1963-21G	Fragment	Jun 15, 61	(2)	USA				WTR	
1963-22A	USAF TRANSIT	Jul 16, 08	"110?"	USA	724	757	89,97°	WTR	} BLUE SCOUT
1963-22B	ROCKET	Jul 16, 08	"109?"	USA	720	759	90,02°	WTR	
1963-22C	Fragment	Jul 16, 08	±	USA					
1963-22D	Fragment	Jul 16, 08		USA					
1963-23A	BOCTOK 6	Jun 16, 40	63 Jun 19, 35	USSR	165	233	65,02°	TOL	} A1
		Crew: Valentina V. Tereshkova, Cdr.							
1963-23B	BOCTOK 6 ROCKET	Jun 16, 40	63 Jun 18, 1	USSR	163	233	65,08°	TOL	
1963-24A	TROS 7	Jun 19, 41	"110?"	USA	621	649	58,23°	KSC	} BETA
1963-24B	TROS 7 ROCKET	Jun 19, 41	"109?"	USA	612	650	58,21°	KSC	
1963-24C	Fragment	Jun 19, 41		USA				KSC	
1963-24D	Fragment	Jun 19, 41		USA				KSC	
1963-25A	USAF	Jun 27, 03	63 Jul 26, 7	USA	196	396	81,6°	WTR	

1963-25
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1963-37

Sec	ID	Agency	Date	Altitude	Lat	Long	Altitude	Notes
	1963-25B	MITCHELLER 1 CAPSULE	Jun 27, 63	1060?	USA	333	4132	82, 1° WTR } THOR AGENA 10 Radiation measurement
	1963-26A	GRS	Jun 28, 13	1965?	USA	414	1311	49, 74° WTR } SCOUT NASA/AF research sat. for geophysics
	1963-27A	USAF	Jun 29, 94	1470?	USA	474	531	52, 36° WTR } THOR AGENA 13
	1963-27B	Fragment	Jun 29, 94	(1d)	USA			WTR
	1963-27C	Fragment	Jun 29, 94		USA			WTR
	1963-28A	USAF	Jul 12, 86	63Jul 18	USA	1794	266	95, 32° WTR } ATLAS AGENA 10 SAMOS 10
	1963-28B	Fragment	Jul 12, 86	d	USA			WTR
rec r	1963-28C	Fragment	Jul 12, 86	d	USA			WTR
Thor Agena 62 37 crabs	1963-29A	USAF	Jul 19	63Aug 13, 8	USA	203	393	82, 7° WTR } THOR AGENA 10 Thor Agena 64
	1963-29B	Fragment	Jul 19	d	USA			WTR
	1963-30A	USAF	Jul 19, 16	100000	USA	3660	3766	88, 41° WTR } MIDAS 7
	1963-30B	TRS 4	Jul 19, 16	50000	USA	3661	3734	88, 36° WTR } ERS
	1963-30C	(TRS 5)?	Jul 19, 16	50000	USA			WTR } ATLAS AGENA 13 ERS
LFR	1963-30D	DASH 2	Jul 19, 16	714712	USA	3665	3745	88, 42° WTR } Ballroom Sect
	1963-30E	6 Fragments	Jul 19, 16		USA			WTR
Sr-4 EVA Radar	1963-31A	SYNCOM 2	Jul 26, 61		USA	35584	36693	33, 05° WTR } Delta 20
	1963-31B	SYNCOM 2 ROCKET	Jul 26, 61	1478?	USA	225	36029	33, 14° WTR } Delta 20
	1963-32A	USAF	Jul 31	63Aug 12	USA	1521	465	74, 95° WTR } THOR AGENA 10 Thor Agena 65
	1963-32B	Fragment	Jul 31	d	USA			WTR
Bull Scout Pansu 58	1963-33A	KOZMOC 19	Aug 6, 25	63Aug 30	USSR	267	497	49, 01° KY } BI Sci
Albair	1963-33B	KOZMOC 19 ROCKET	Aug 6, 25	63Dec 9	USSR	267	489	49, 00° KY } BI Sci
	1963-34A	USAF	Aug 25, 02	63Sep 12, 6	USA	761	320	75, 01° WTR } THOR AGENA 10 Thor Agena 65
	1963-34B	Fragment	Aug 25, 02	d	USA			WTR
48 crabs	1963-35A	USAF LAMPO	Aug 29, 80	63Nov 7, 5	USA	292	324	81, 84° WTR } Thor Agena 67
	1963-35B	Fragment USAF	Aug 29, 80	d	USA			WTR
	1963-35C	Fragment	Aug 29, 80	d	USA			WTR
	1963-35D	Fragment	Aug 29, 80	d	USA			WTR
met Fibros Delta 19	1963-36A	USAF	Sep 6, 81	63Sep 13, 86	USA	168	263	94, 37° WTR } ATLAS AGENA 10 SAMOS 11
	1963-36B	Fragment	Sep 6, 81	d	USA			WTR
	1963-36C	Fragment	Sep 6, 81	d	USA			WTR
	1963-36D	Fragment	Sep 6, 81	d	USA			WTR
Thor Agena 65	1963-36E	Fragment	Sep 6, 81	d	USA			WTR

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1963-36 F	Fragment	Sep 6, 81	d	USA				wtr	ATLAS ACCOMPT B	
1963-37 A	USAF	Sep 23, 94	63 Oct 17, 14	USA	161	441	74,90°	wtr	THOR AGENCY D	Thor Agency 78
1963-38 A	ROCKET	Sep 28, 81	3000?	USA	1079	1107	89,80°	wtr		Ablesstar
1963-38 B	USAF TR 5B?	Sep 28, 81	3000?	USA	1075	1127	89,90°	wtr	THOR	TRANSIT VBM 19
1963-38 C	APL SN-39 RADIATION SATELLITE	Sep 28, 81	3000?	USA	1075	1126	89,89°	wtr	THOR DISSEMINATE	Transit SAs APL (SNAP 94) rad'n on solar cells.
1963-38 D	Fragment	Sep 28, 81		USA				wtr		
1963-39 A	VELA 1	Oct 17, 1	-	USA	10725	11625	38,54°	wtr		Nuke EW
1963-39 B	TRS 5	Oct 17, 1	d?	USA	270	103480	36,77°	wtr	ATLAS AGENCY D	rad'n VA bcs.
1963-39 C	VELA 2	Oct 17, 1	-	USA	107195	115875	37,81°	wtr		Nuke EW
1963-39 D	ROCKET									
1963-40 A	KOENOC 20	Oct 18, 40	63 Oct 29	USSR	206	311	64,90°	tbl	AT	rec r
1963-40 B	KOENOC 20 ROCKET	Oct 18, 40	63 Oct 30, 31	USSR	204	310	64,91°	tbl		
1963-40 C	Fragment?	Oct 18, 40	d	USSR				tbl		
1963-40 D	Fragment?	Oct 18, 40	d	USSR				tbl		
1963-41 A	USAF	Oct 25, 77	63 Oct 29, 8	USA	144	332	99,05°	wtr	ATLAS AGENCY D	SAMOS 12
1963-41 B	USAF CAPSULE	Oct 25, 77	63 Oct 29	USA	136	297	99,05°	wtr		
1963-41 C	Fragment	Oct 25, 77	d	USA				wtr		
1963-41 D	Fragment	Oct 25, 77	d	USA				wtr		
1963-42 A	USAF	Oct 29, 86	64 Jun 21, 34	USA	279	345	89,90°	wtr	THOR AGENCY D	Thor Agency 69
1963-42 B	USAF	Oct 29, 86	65 Jun?	USA	285	385	89,94°	wtr		
1963-42 C	Fragment	Oct 29, 86	d	USA				wtr		
1963-43 A	MOÛÛT 1	Nov 1, 37	1921? 1944?	USSR	334	592	58,97°	tbl		1st manv sat
1963-43 B	MOÛÛT ROCKET	Nov 1, 37	1966?	USSR	324	1434	58,58°	tbl	AT?	
1963-43 C	Fragment	Nov 1, 37		USSR				tbl	AT?	
1963-43 D	Fragment	Nov 1, 37		USSR				tbl	AT?	
1963-44 A	KOENOC 21	Nov 11, 27	63 Nov 14, 13	USSR	182	216	64,53°	tbl	ATe	BETHEVA engineering
1963-44 B	KOENOC 21 ROCKET	Nov 11, 27	63 Nov 12, 96	USSR	182	216	65°	tbl		EST or Mo...?
1963-45 A	KOENOC 22	Nov 16, 45	63 Nov 22	USSR	205	394	64,93°	tbl	AT2	rec r
1963-45 B	KOENOC 22 ROCKET	Nov 16, 45	63 Dec 3, 2	USSR	189	369	64,86°	tbl		
1963-46 A	EXPLORER 18	Nov 27, 08	1974?	USA	192	147616	33,34°	ksc	DELTA	IMP A
1963-46 B	EXPLORER 18 ROCKET	Nov 27, 08	1974?	USA	192	147000	33,34°	ksc		(Delta 21) Altair
1963-47 A	CENTARK 2	Nov 27, 79	2500?	USA	547	1696	30,34°	ksc	ATLAS CENTARK	AC-2 ETV
1963-47 B	Fragment	Nov 27, 79		USA				ksc		

1963-47C
1963-47D
1963-47E
1963-47F
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1963-47H
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1963-47J
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1963-47N
1963-47O
1963-47P
1963-47Q
1963-47R
1963-47S
1963-47T
1963-47U
1963-47V
1963-47W
1963-47X
1963-47Y
1963-47Z

	1963-47C	Fragment	Nov 27, 79	USA	KSC		
Thor Agena 7B	1963-47D	Fragment	Nov 27, 79	USA	KSC	ATLAS	CELVINA
Ablestar	1963-47E	Fragment	Nov 27, 79	USA	KSC		
Transit 8A (SNAP 9A)	1963-47F	Fragment	Nov 27, 79	USA	KSC		
d'n on solar cells	1963-47G	Fragment	Nov 27, 79	USA	KSC		
	1963-48A	USAF	Nov 27, 86	63 Dec 15, 12 USA	175 386 64, 99° WTR	Thor Agena?	Thor Agena 7B
see EW	1963-49A	USAF	Dec 5, 91	3000 USA	1057 1093 89, 97° WTR		
ad'n VA bcs	1963-49B	USAF ROCKET	Dec 5, 91	3000 USA	1067 1112 89, 98° WTR		TRANSIT 8A-1
Make EW	1963-49C	USAF	Dec 5, 91	3000 USA	1069 1111 89, 95° WTR		Thor Agena
see r	1963-49D	Fragment	Dec 5, 91	USA	WTR		
	1963-49E	Fragment	Dec 5, 91	USA	WTR		
	1963-50A	KOENOC 23	Dec 13, 58	64 Mar 27 USSR	240 613 49° KY		Sci
	1963-50B	KOENOC 23 ROCKET	Dec 13, 58	61 Mar USSR	207 394 49° KY		Sci
205 12	1963-50C	Fragment	Dec 13, 58	USSR	KY		
	1963-50D	Fragment	Dec 13, 58	USSR	KY		
	1963-51A	USAF	Dec 18, 89	63 Dec 20, 17 USA	122 266 97, 89° WTR	ATLAS Agena	SAMOS 13
	1963-52A	KOENOC 24	Dec 19, 59	63 Dec 28 USSR	204 391 65, 03° WTR		rec ✓
gena 69	1963-52B	KOENOC 24 ROCKET	Dec 19, 59	64 Jun 24 USSR	207 394 65° WTR		
	1963-53A	EXPLORER 19	Dec 19, 78	465? USA	590 2394 78, 62° WTR		ADE
	1963-53B	EXPLORER 19 ROCKET	Dec 19, 78	466? USA	594 2383 78, 62° WTR		
av sat	1963-53C	Fragment	Dec 19, 78	USA	WTR		
	1963-53D	Fragment	Dec 19, 78	USA	WTR		SCOUT
	1963-53E	Fragment	Dec 19, 78	USA	WTR		
	1963-53F	Fragment	Dec 19, 78	USA	WTR		
PA engineering	1963-53G	Fragment	Dec 19, 78	USA	WTR		
EST	1963-54A	TROS S	Dec 21, 39	2020? USA	6911 765 58, 48° WTR		TROS met
see r	1963-54B	TROS S ROCKET	Dec 21, 39	7990? USA	6916 753 58, 47° WTR		DELTA Delta 22
	1963-54C	Fragment	Dec 21, 39	USA	WTR		
PA	1963-54D	Fragment	Dec 21, 39	USA	WTR		
to 2U	1963-55A	USAF	Dec 21, 89	64 Jun 89 USA	176 355 64, 94° WTR	Thor Agena 7B	
Altair	1963-55B	USAF	Dec 21, 89	1966 Jun? USA	176 355 64, 52° WTR	Thor Agena 7B	
AC-2 ETV	1963-01A	ROCKET	Jun 11, 84	2800? USA	905 934 69, 91° WTR	Thor Agena 7B	Agena B rec

1964

1964-01B	GGSE 1	Jan 11, 84	3000?	USA	898	942	69,94°	WTR	FAT AGORA D Grandad EGOS Glesley Solrad 7A
1964-01C	SECOR 1	Jan 11, 84	3500?	USA	904	933	69,89°	WTR	
1964-01D	SPREB 7A	Jan 11, 84	3000?	USA	905	934	69,90°	WTR	
1964-01E	(USAF)	Jan 11, 84	3000?	USA	905	934	69,90°	WTR	
1964-02A	USAF ROCKET	Jan 19, 45	2300?	USA	792	850	99,07°	WTR	THOR AGORA D USAF Thor AGORA D USAF Thor AGORA D
1964-02B	CAPSULE Fragment	Jan 19, 45		USA	801	830	99,00°	WTR	
1964-02C	USAF Fragment	Jan 19, 45		USA	811	825	99,00°	WTR	
1964-03A	RELAY 2	Jan 21, 88		USA	2091	7411	46,30°	WTR	DELTA Com A-16 Delta 23
1964-03B	RELAY 2 ROCKET	Jan 21, 88		USA	2071	7437	46,30°	WTR	
1964-04A	ECHO 2	Jan 25, 88	1184	USA	1029	1316	81,50°	WTR	Delta 23 Pacom, Bullhorn
1964-04B	ECHO 2 ROCKET	Jan 25, 88	7000	USA	1030	1317	81,50°	WTR	
1964-04C	Fragment	Jan 25, 88		USA				WTR	THOR AGORA B WTR
1964-04D	Fragment	Jan 25, 88		USA				WTR	
1964-04E	Fragment	Jan 25, 88		USA				WTR	
1964-05A	SATURN SA-5	Jan 29, 68	1966	USA	264	760	31,43°	WTR	
1964-06A	ЕНЕКРОН 1	Jan 30, 40	2200?	USSR	394	726	60,89°	WTR	SATURN 1st line SA-5 type Inner VA belt Outer VA belt
1964-06B	ЕНЕКРОН 2	Jan 30, 40	1990?	USSR	441	67988	60,89°	WTR	
1964-06C	Fragment	Jan 30, 40		USSR				WTR	
1964-06D	ROCKET	Jan 30, 40	1974?	USSR	411	69123	60,89°	WTR	ATLAS AGORA B THOR AGORA D THOR AGORA D
1964-07A	RANGER 6	Jan 30, 66	(2L1)	USA				WTR	
1964-07B	RANGER 6 ROCKET	Jan 30, 66	(2MC)	USA				WTR	ATLAS AGORA B THOR AGORA D THOR AGORA D
1964-08A	USAF	Feb 15, 64	Mar 99	USA	179	444	74,95°	WTR	
1964-08B	Fragment	Feb 15, 64		USA				WTR	ATLAS AGORA B THOR AGORA D THOR AGORA D
1964-09A	USAF	Feb 25, 79	64 Mar 79	USA	173	190	95,06°	WTR	
1964-09B	Fragment	Feb 25, 79		USA				WTR	ATLAS AGORA B SCI
1964-10A	KOCMOC 25	Feb 27, 56	64 Mar 21, 61	USSR	255	526	49,07°	WTR	
1964-10B	KOCMOC 25 ROCKET	Feb 27, 56	64 Jun 18, 63	USSR	284	545	49,07°	WTR	SCI
1964-10C	Fragment	Feb 27, 56		USSR				WTR	
1964-10D	Fragment	Feb 27, 56		USSR				WTR	
1964-11A	USAF	Feb 28, 64	1971?	USA	479	570	82,03°	WTR	THOR AGORA D USAF Thor AGORA D
1964-11B	Fragment	Feb 28, 64		USA				WTR	
1964-11C	Fragment	Feb 28, 64		USA				WTR	
1964-11D	"								

Grangrad EGRS 1 Geology Solved 7A	1964-12A	USAF	Mar 11, 84	64 Mar 16, 1	usa	163 203	9.5, 73°	uwr	Samos 15
	1964-12B	Fragment	Mar 11, 84	16 16	usa			uwr	ATLAS AGENA D
	1964-13A	KOZMOZ 26	Mar 18, 63	64 Sep 28, 5	USSR	266 387	48, 96°	ky	Sci
	1964-13B	KOZMOZ 26	Rocket Mar 18, 63	64 May 17, 1	USSR	270 377	48, 99°	ky	
USAF Ph... Sci?	1964-13C	Fragment	Mar 18, 63	d	USSR			ky	B1
	1964-13D	Fragment	Mar 18, 63	d	USSR				
	1964-14A	KOZMOZ 27	Mar 27, 64	64 Mar 28, 3	USSR	167 198	64, 8°	TS L	ARE BETA PA failure?
Com A-16	1964-14B	KOZMOZ 27	Rocket Mar 27, 64	64 Mar 29, 1	USSR	181 194	64, 8°	TS L	
Delta 23 pacom, bottom	1964-14C	Fragment	Mar 27, 64	d	USSR			TS L	
	1964-14D	Fragment	Mar 27, 64	d	USSR			TS L	
	1964-15A	ARIEL 2	Mar 27, 73	1968? UK	285 1362	51, 64°	W1		Sci for galaxy zone
	1964-15B	ARIEL 2	Rocket Mar 27, 73	1967? USA	282 1362	51, 67°	W1	SCOUT	
	1964-15C	Fragment	Mar 27, 73		USA			W1	
	1964-16A	ZONDA I LAUNCHER	Apr 2, 64	Apr 3, 6	USSR	87 203	64, 83°	TS L	Sputnik 27
ISF Blue 54.5.72	1964-16B	ZONDA I	Rocket Apr 2, 64	Apr 2	USSR	122 240	65, 22°	TS L	
Instr VA belt	1964-16C	Fragment	Apr 2, 64	d	USSR			TS L	ARE
Cass VA belt	1964-16D	ZONDA I	Apr 2, 64	(→ MC)	see ARTIFICIAL PLANETS				
	1964-17A	KOZMOZ 28	Apr 4, 64	Apr 12, 3	USSR	204 395	64, 8°	TS L	rec r
	1964-17B	KOZMOZ 28	Rocket Apr 4, 64	Apr 3, 1	USSR	224 371	65, 01°	TS L	A1
	1964-17C	Fragment	Apr 4, 64		USSR			TS L	
LINEAR PROCES An... Mor August	1964-18A	GEMINI 1-TITAN	Apr 8, 67	64 Apr 12, 9	USA	164 320	32, 86°	Esc	TITAN 2 Connected to front stage
	1964-19A	NOLET 2	Rocket Apr 12, 67	Apr 30, 8	USSR	236 465	59, 95°	TS L	
	1964-19B	NOLET 2	Apr 12, 67		USSR	310 500	58, 03°	TS L	
SMS 14	1964-20A	USAF	Apr 23, 78	64 Apr 29, 0	USA	150 336	103, 56°	uwr	Samos 16
	1964-20B	Fragment	Apr 23, 78	d	USA			uwr	
Sci	1964-20C	Fragment	Apr 23, 78	d	USA			uwr	ATLAS AGENA D
	1964-20D	Fragment	Apr 23, 78	d	USA			uwr	
	1964-20E	Fragment	Apr 23, 78	d	USA			uwr	
USAF Sci 76	1964-21A	KOZMOZ 29	Apr 25, 43	Apr 2	USSR	203 296	65, 01°	TS L	rec r
	1964-21B	KOZMOZ 29	Rocket Apr 25, 43	Apr 11, 3	USSR	220 286	65, 04°	TS L	
	1964-21C	Fragment	Apr 25, 43	d	USSR			TS L	A1
	1964-21D	Fragment	Apr 25, 43	d	USSR			TS L	

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1964-21E	Fragment	May 25, 43	d	USSR	TBL	AI	
1964-22A	USAF	Apr 27, 98	64 May 26, 17	usa 178 446 79,93°	wtr	THOR AGENA D	Thor Agena
1964-23A	KOCMOC 30	May 18, 41	64 May 26, 31	usa 206 366 64,87°	TBL	AI	rec r
1964-23B	KOCMOC 30 ROCKET	May 18, 41	64 Jun 7, 7	usa 235 338 64,84°	TBL		
1964-24A	USAF	May 19, 81	64 May 21, 7	usa 141 380 107,12°	wtr	ATLAS AGENA D	SAMOS 17
1964-25A	SATURN SA-6	May 28, 71	64 Jun 10, 2	usa 199 204 31,74°	ksc	SATURN	ETV
1964-26A	USAF	Jun 4, 16	2200?	usa 854 956 90,42°	wtr		Thor Agena
1964-26B	Fragment	Jun 4, 16		usa	wtr	BLUG SCOUT	
1964-26C	Fragment	Jun 4, 16		usa	wtr		
1964-26D	ROCKET	Jun 4, 16	2200?	usa 854 956 90,45°	wtr		Altair
1964-27A	USAF	Jun 19, 96	64 Jun 18, 9	usa 159 426 79,96°	wtr	THOR AGENA D	Thor Agena
1964-28A	KOCMOC 31	Jun 6, 25	64 Oct 20, 22	ussr 222 492 48,93°	KY	BI	Sci
1964-28B	KOCMOC 31 ROCKET	Jun 6, 25	64 Aug 16, 6	ussr 220 490 48,97°	KY		
1964-29A	KOCMOC 32	Jun 10, 45	64 Jun 18, 5	ussr 209 363 51,24°	TBL	AI	rec r
1964-29B	KOCMOC 32 ROCKET	Jun 10, 42	64 Jul 14, 88	ussr 232 312 51,30°	TBL		
1964-29C	Fragment	Jun 10, 42	d	USSR	TBL		
1964-30A	STARFLASH 7A	Jun 13, 66	1965 Jun?	usa 350 364 114,98°	wtr	THOR AGENA D	Geodetic Decoon
1964-30B	Fragment	Jun 13, 66	d	usa	wtr		
1964-31A	USAF CAPSULE	Jun 18, 20	2460?	usa 828 842 99,84°	wtr	THOR AGENA D	USAF Thor Agena (Project?)
1964-31B	CAPSULE	Jun 18, 20	2500?	usa 828 842 99,83°	wtr	THOR AGENA D	
1964-31C	Fragment ROCKET	Jun 18, 20		usa	wtr		
1964-32A	USAF	Jun 19, 97	64 Jul 16, 78	usa 175 462 84,99°	wtr	THOR AGENA D	Thor Agena
1964-32B	Fragment	Jun 19, 97	d	usa	wtr		
1964-33A	KOCMOC 33	Jun 23, 43	64 Jul 1, 36	ussr 209 293 65,0°	TBL	AI	rec r
1964-33B	KOCMOC 33 ROCKET	Jun 23, 43	64 Jul 10, 8	ussr 219 285 65,08°	TBL		
1964-33C	Fragment	Jun 23, 43	d	USSR	TBL		
1964-33D	Fragment	Jun 23, 43	d	USSR	TBL		
1964-34A	KOCMOC 34	Jul 1, 47	64 Jul 9, 40	ussr 202 348 64,89°	TBL	AI - rec r	
1964-34B	KOCMOC 34 ROCKET	Jul 1, 47	64 Jul 15, 36	ussr 193 339 64,89°	TBL		
1964-35A	USAF	Jul 3, 06	1971	usa 501 529 82,04°	wtr	THOR AGENA D	USAF
1964-36A	USAF	Jul 6, 91	64 Jul 8, 9	usa 171 346 92,89°	wtr	ATLAS AGENA D	SAMOS 18
1964-36B	CAPSULE	Jul 6, 91	64 Jan 4?	usa 297 377 92,97°	wtr	ATLAS AGENA D	

	1964-36C	Fragment	Jul 6, 91	d	USA				ATLAS AGENA 10
Thor Agena	1964-37A	USAF	Jul 10, 97	64 Aug 6, 48	USA 180 4461	84, 98°	wtr	THOR AGENA 10	Thor Agena 76
rec r	1964-38A	ЭЛЕКТРОН 3	Jul 11	1987?	USSR 404 7025	60, 79°	TBL		Inner VA belt
	1964-38B	ЭЛЕКТРОН 4	Jul 11	1987?	USSR 457 66261	60, 88°	TBL		Outer VA belt
SAMOS 17	1964-38C	Fragment	Jul 11	F	USSR		TBL		
BTU	1964-38D	ROCKET	Jul 11	1987?	USSR 471 67350	60, 96°	TBL		
Thor Agena	1964-39A	KOZMOC 35	Jul 15, 48	64 Jul 23, 48	USSR 218 258	51, 24°	TBL		rec r
E	1964-39B	KOZMOC 35 ROCKET	Jul 15, 48	64 Aug 1, 48	USSR 216 282	57, 32°	TBL		
UT	1964-39C	Fragment	Jul 15, 48	?	USSR		TBL		
Altair	1964-39D	Fragment	Jul 15, 48	?	USSR		TBL		
Thor Agena	1964-40A	VELA 3	Jul 17, 35	—	USA 101959 104591	39, 58°	KSC		Nuke EV
Sci	1964-40B	VELA 4	Jul 17, 35	—	USA 94436 111775	40, 88°	KSC	ATLAS AGENA 10	Nuke EV
	1964-40C	TRIS	Jul 17, 35	1974?	USA 217 104665	36, 73°	KSC		ERTS
rec r	1964-41A	ROCKET RANGER 7	Jul 28, 70	(→ LI)	USA		parking orbit	*SEA ATLAS AGENA 10	see WINAR PROBES
	1964-41B	RANGER 7 ROCKET	Jul 28, 70		USA		heliocentric orbit	KSC	
	1964-42A	KOZMOC 36	Jul 30, 15	65 Feb 28, 15	USSR 261 477	49, 0°	KV		Sci
Geodetic beacon	1964-42B	KOZMOC 36 ROCKET	Jul 30, 15	64 Nov 29, 15	USSR 254 482	49, 02°	KV		
	1964-43A	USAF	Aug 5, 97	64 Sep 1	USA 182 436	79, 96°	wtr	THOR AGENA 10	Thor Agena 77
USAF Thor Agena (Rocket)	1964-44A	KOZMOC 37	Aug 14, 44	64 Aug 22	USSR 207 287	65°	TBL		rec r
	1964-44B	KOZMOC 37 ROCKET	Aug 14, 44	64 Sep 3, 04	USSR 215 295	65, 01°	TBL		
	1964-45A	USAF	Aug 14, 92	64 Aug 23, 7	USA 149 307	95, 52°	wtr		SAMOS 19
Thor Agena	1964-45B	CAPSULE (HITCHHIKER)	Aug 14, 92	1994?	USA 275 3748	95, 67°	wtr	*ATLAS AGENA 10	'Hitchhiker'
rec r	1964-45C	Fragment	Aug 14, 92	d	USA		wtr		
	1964-46A	KOZMOC 38	Aug 18, 39	64 Nov 8, 39	USSR 206 709	56, 12°	TBL		1st Kosmos
	1964-46B	KOZMOC 39	Aug 18, 39	64 Nov 17, 53	USSR 206 798	56, 10°	TBL		Triple burn
	1964-46C	KOZMOC 40	Aug 18, 39	64 Nov 18, 89	USSR 206 740	56, 12°	TBL		
	1964-46D	ROCKET	Aug 18, 39	65 Feb?	USSR 212 848	56, 12°	TBL		1st CI
rec r	1964-46E	Fragment	Aug 18, 39	d	USSR		TBL		
	1964-46F	Fragment	Aug 18, 39	d	USSR		TBL		
USAF	1964-46G	Fragment	Aug 18, 39	d	USSR		TBL		
SAMOS 18	1964-47A	SYNCOM 3	Aug 19, 57	—	USA 34191 36271	0, 00°	KSC	T.A. RELM	Some Pacific Com, Pacific Relay Tokyo Japan CS
	1964-47B	SYNCOM 3 ROCKET	Aug 19, 57	120000	USA 1137 37935	16, 7°	KSC		Altair, Pader 25

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1964

1964-48A	STARFLASH 1 B	64 Aug 21, 66	65?	usa	3487	363 114, 98°	WTR	THEOR AGENA 2	Geodetic Beacon	1964-61A	
1964-49A	KOZMOZ 41 ROCKET	64 Aug 22, 3	64 Sep 15, 54	ussr	200	453 64, 74°	TBL	A1e	Platform?	1964-62A	
1964-49B	KOZMOZ 41 CHR.	64 Aug 22, 3	d	ussr			TBL			1964-62B	
1964-49C	Fragment	64 Aug 22, 3	d	ussr			TBL			1964-62C	
1964-49D	KOZMOZ 41	Aug 22, 3	?	ussr	226	39, 77.1	64, 88° TBL			Molnaya Prototype	1964-62D
1964-49E	KOZMOZ 41 RCT.	Aug 22, 3		ussr			TBL			Escape stage	1964-62E
1964-50A	KOZMOZ 42	Aug 22, 46	60 Feb?	ussr	230	1113 48, 96°	ky	B1e	1st Kosmos double launch	1964-63A	
1964-50B	ROCKET	Aug 22, 46	65	ussr	224	1088 48, 97°	ky			1964-63C	
1964-50C	KOZMOZ 43	Aug 22, 46	65 Dec?	ussr	227	1100 48, 96°	ky			1964-63E	
1964-57A	EXPLORER 20	Aug 25, 57	2800?	usa	878	1024 79, 77°	WTR	SCOUT	ionosounder	1964-63I	
1964-57B	EXPLORER 20 ROCKET	Aug 25, 57	2500?	usa	877	1009 79, 93°	WTR			Altair	1964-63B
1964-57C	Fragment	Aug 25, 57		usa							1964-63F
1964-57D	Fragment	Aug 25, 57		usa							1964-64A
1964-57E	Fragment	Aug 25, 57		usa							1964-64E
1964-52A	NIMBUS 1	Aug 28, 39	1974?	usa	429	937 98, 66°	WTR	THEOR AGENA B	met. opl. man	1964-64	
1964-52B	NIMBUS 1 ROCKET	Aug 28, 39	1974?	usa	429	934 98, 68°	WTR			Subnominal burn	1964-65E
1964-53A	KOZMOZ 44	Aug 28, 68	2060?	ussr	615	857 65, 04°	TBL	A1	Meteor prototype	1964-65	
1964-53B	KOZMOZ 44 ROCKET	Aug 28, 68	2010?	ussr	682	796 65, 05°	TBL			1964-66F	
1964-54A	OGO 1	Sep 5, 92	1974?	usa	281	155763 31, 15°	KSC	ATLAS AGENA B	Orbiting Geophysical Observatory 1971	1964-66B	
1964-54B	OGO 1 ROCKET	Sep 5, 92	?	usa	281	150000 31, 15°	KSC			met. opt. ?	1964-66C
1964-55A	KOZMOZ 45	Sep 13, 41	Sep 18, 3	ussr	207	313 67, 84°	TBL	A1	Cape r	1964-67A	
1964-55B	KOZMOZ 45 ROCKET	Sep 13, 41	Sep 27, 96	ussr	203	309 64, 88°	TBL			1964-67F	
1964-56A	USAF	Sep 14, 95	64 Oct 6, 7	usa	238	466 87, 96°	WTR	THEOR AGENA	Mar Agena 28	1964-68B	
1964-56B	Fragment	Sep 14, 95	d	usa			WTR			1964-68I	
1964-57A	SATURN SA-7	Sep 18, 68	64 Sep 23, 54	usa	178	203 31, 72°	KSC	SATURN 1	ETV	1964-68C	
1964-57	APOLLO MODEL SP-15	Sep 18, 68		usa			KSC			1964-68A	
1964-58A	USAF	Sep 23, 84	64 Sep 28, 62	usa	145	303 97, 90°	WTR	ATLAS AGENA	SAMOS 20	1964-69B	
1964-58B	Fragment	Sep 23, 84	d	usa			WTR			1964-69C	
1964-59A	KOZMOZ 46	Sep 24, 5	64 Oct 2, 52	ussr	211	264 51, 25°	TBL	A1	rec r	1964-70A	
1964-59B	KOZMOZ 46 ROCKET	Sep 24, 5	64 Oct 7, 72	ussr	234	259 51, 27°	TBL			1964-70B	
1964-60A	EXPLORER 21	Oct 4, 16	1974?	usa	150	95395 33, 53°	KSC	ATLAS AGENA B	IMP B, EVOL 88-9 Relta 26	1964-70C	
1964-60B	EXPLORER 21 ROCKET	Oct 4, 16	1974?	usa	150	95600 33, 57°	KSC			1964-70D	

Geodetic Beacon	1964-61A	USAF	Oct 5, 91	640x26,4	USA 182	440	79,47	WTR	THOR AGENA	Thor Agena 79
Platform?	1964-62A	KOZMOZ 47	Oct 6, '3	64 Oct 7, 3	USSR 174	383	64,62°	TBL	AZ	Voshkod prototype
	1964-62B	KOZMOZ 47 ROCKET	Oct 6, '3	64 Oct 14, 2	USSR 168	373	64,71°	TBL		
	1964-62C	Fragment	Oct 6, '3	d	USSR			TBL		parts of spaceship?
Kozmos Prototype	1964-62D	Fragment	Oct 6, '3	d	USSR			TBL		
Escape stage	1964-62E	Fragment	Oct 6, '3	d	USSR			TBL		
1st Kozmos double launch	1964-63A	ROCKET	Oct 6, 7	2500?	USA 1055	1085	89,91°	WTR		Ablestar
	1964-63C	CALSPHERE 1	Oct 6, 7	3000?	USA 1046	1078	89,92°	WTR		USAF/USN
	1964-63E	CALSPHERE 2	Oct 6, 7	3000?	USA 1054	1084	89,95°	WTR		
ionosounder	1964-63D	Fragment	Oct 6, 7		USA			WTR		THOR ABLE STAR
Altair	1964-63B	TRANSIT	Oct 6, 7	3000?	USA 1056	1086	89,97°	WTR		
	1964-63F	Fragment	Oct 6, 7	3000?	USA			WTR		
	1964-64A	EXPLORER 22	Oct 10, 13	4200?	USA 885	1077	79,69°	WTR		SCOUT BE-B ionos. geodesy
	1964-64B	EXPLORER 22 ROCKET	Oct 10, 13	2800?	USA 888	1079	79,69°	WTR		
met. opt. man	1964-64C	Fragment 3								16 hrs. see Spaceships
Subnominal burn	1964-65A	BOCXODI 1	Oct 12, 31	64 Oct 13, 32	USSR 78	409	64,90°	TBL		
Recon prototype	1964-65B	BOCXODI 1 ROCKET	Oct 12, 31	64 Oct 20, 4	USSR 169	328	64,77°	TBL	AZ	
	1964-65C	Fragment	Oct 12, 31	64 Oct 20, 4	USSR			TBL		
	1964-66A	KOZMOZ 48	Oct 14, 14	64 Oct 20, 37	USSR 204	284	65,08°	TBL		rec r
Int. Geophysical Secretary 1971	1964-66B	KOZMOZ 48 ROCKET	Oct 14, 14	64 Oct 28, 25	USSR 211	281	65,08°	TBL	A1	
	1964-66C	Fragment	Oct 14, 14	d	USSR			TBL		
Cap r	1964-67A	USAF	Oct 17, 91	64 Nov 4, 19	USA 189	416	74,99°	WTR	THOR AGENA	Thor Agena 80
	1964-68A	USAF	Oct 23, 76	64 Oct 28, 83	USA 139	271	95,55°	WTR		SAMOS 21
Thor Agena 78	1964-68B	CAPSULE	Oct 23, 76	65 Feb 23	USA 323	336	95,84°	WTR		
	1964-68C	Fragment	Oct 23, 76	d	USA			WTR	ATLAS AGENA	
ETV	1964-68D	Fragment	Oct 23, 76	d	USA			WTR		
SAMOS 20	1964-69A	KOZMOZ 49	Oct 24, 22	65 Aug 21	USSR 264	466	48,99°	KY		Sci
	1964-69B	KOZMOZ 49 ROCKET	Oct 24, 22	65 Mar?	USSR 260	477	48,94°	KY	B1	
	1964-69C	Fragment	Oct 24, 22		USSR			KY		
rec r	1964-70A	KOZMOZ 50	Oct 28, 45	64 Nov 5, 5	USSR 190	230	51,23°	TBL		rec r?
	1964-70B	KOZMOZ 50 ROCKET	Oct 28, 45	64 Nov 2, 2	USSR 187	240	51,24°	TBL	A1	
IMP B, Nov 55-9	1964-70C	Fragment	Oct 28, 45	d	USSR			TBL		
Relta 26	1964-70D	Fragment?	Oct 28, 45	d	USSR			TBL		suit excel?
		D-DA								22

1964
1965

1964-71A	USAF	Nov 2, 89	64 Nov 28, 23	USA	180 448	79,95°	wtr	THAT AGENDA D	Thor Agen 81
1964-72A	USAF 3062	Nov 4, 09	85?	USA	572 526	82,02°	um	THAT AGENDA	USAF
1964-72B	Fragment	Nov 4, 09		USA			wtr		
1964-72C	Fragment	Nov 4, 09		USA			wtr		
1964-72D	Fragment	Nov 4, 09		USA			um		
1964-73A	MARINER 3	Nov 5, 81	(→ HC)	USA			parking orbit	KSC	see ARTIFICIAL PLANETS
1964-73B	MARINER 3 ROCKET	Nov 5, 81	(→ HC)	USA				KSC	
1964-74A	EXPLORER 23	Nov 6, 50	2010?	USA	466 977	57,95°	W1	SCOUT	micrometeors
1964-74B	USAF ORBIS	Nov 18, 9	64 Dec 6, 31	USA	1820 3331	70,02°	wtr	THAT AGENDA D	Thor Agen 82
1964-76A	EXPLORER 24	Nov 21, 71	1969?	USA	525 2498	81,36°	wtr		AD balloon
1964-76B	EXPLORER 25	Nov 21, 71	2060?	USA	522 2414	81,36°			I-B IUSUN 4
1964-76C	ROCKET	Nov 21, 71	2060?	USA	531 2495	81,36°			
1964-76D	Fragment	Nov 21, 71		USA					
1964-76E	Fragment	Nov 21, 71		USA					SCOUT
1964-76F	Fragment	Nov 21, 71		USA					
1964-76G	Fragment	Nov 21, 71		USA					
1964-76H	Fragment	Nov 21, 71		USA					
1964-76J	Fragment	Nov 21, 71		USA					+ 30 others
1964-76K	Fragment	Nov 21, 71		USA					M is down
1964-77A	MARINER 4	Nov 28, 60	(→ HC)	USA			parking orbit	ATLAS AGENDA D	see ARTIFICIAL PLANETS
1964-77B	MARINER 4 ROCKET	Nov 28, 60	(→ HC)	USA					
1964-78A	ZOHJI 2 LAUNCHER	Nov 30, 55	64 Dec 1, 78	USSR	153 219	64,72°	tbl		Sputnik 28
1964-78B	ZOHJI 2 ROCKET	Nov 30, 55	64 Dec 2, 65	USSR	177 170	64,73°	tbl		ALC
1964-78C	ZOHJI 2	Nov 30, 55	(→ HC)	USSR	153 219	64,72°	tbl		see ARTIFICIAL PLANETS
1964-79A	USAF	Dec 4, 79	64 Dec 6	USA	158 357	97,02°	wtr	ATLAS AGENDA D	STANLOS 22
1964-80A	KOCONC ST	Dec 9, 96	85 Nov 14	USSR	262 533	48,78°	KY		Sci
1964-80B	KOCONC ST ROCKET	Dec 9, 96	65 Apr 3, 11	USSR	257 542	48,78°	KY		
1964-80C	Fragment	Dec 9, 96	d	USSR					
1964-80D	Fragment	Dec 9, 96	d	USSR					B1
1964-80E	Fragment	Dec 9, 96	d	USSR					
1964-80F	Fragment	Dec 9, 96	d	USSR					
1964-81A	TRANSTAGE 2	Dec 10, 70	64 Dec 13, 65	USA	157 170	32,15°	KSC	TITAN 3A	T3A-2

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Thor Agena 81	1964-82A	CENTAUR 4	Dec 11, 60	64 Dec 12, 23	USA 165 178	30,71°	KSC	ATLAS	Surv. miss
USAF	1964-83A	ROCKET	Dec 13	3000?	USA 1012 1071	89,99°	WTR	CENTUR	+ AC-4
	1964-83B	USAF Fragment	Dec 13	3000?	USA 1031 1074	89,97°	WTR		Ablestar
	1964-83C	APL (RANPOSSE 3?) RADIATION SATELLITE	Dec 13	3000?	USA 1027 1086	88,99°	WTR		SN 43 APL US 2
	1964-83D	USAF TRANSIT	Dec 13	3000?	USA 1025 1084	89,86°	WTR	THOR	USN TRANSIT
ARTIFICIAL PLANETS	1964-83E	Fragment	Dec 13		USA		WTR	MALE	
	1964-83F	Fragment	Dec 13		USA		WTR	JHR	
micrometers	1964-84A	SAN MARCO 1	Dec 15, 85	65 Aug	ITA 148 846	37,77°	WTR		Scout 110ms
Thor Agena 82	1964-84B	SAN MARCO 1 ROCKET	Dec 15, 85	65 Jan?	USA 194 697	37,80°	WTR		Scout Altair
AD balloon	1964-84C	Fragment	Dec 15, 85		USA		WTR		
Z-B USUN 4	1964-85A	USAF	Dec 19, 88	65 Jan	USA 183 410	74,97°	WTR	THOR	Thor Agena 83
	1964-86A	EXPLORER 26	Dec 21, 38	74	USA 316 26191	20,14°	KSC	AGENA	SSC
	1964-86B	EXPLORER 26 ROCKET	Dec 21, 38	74	USA 300 26000	20°	KSC	DELTA	SP-2
	1964-87A	USAF	Dec 21, 80	65 Jun 11, 44	USA 238 264	79,04°	WTR	DELTA	Altair
	1965-01A	KOCMOC 52	Jan 11	65 Jan 14	USSR 205 304	65°	TSC	THOR	Thor Agena 84
	1965-01B	KOCMOC 52 ROCKET	Jan 11	d	USSR		TSC	AGENA	rec r
	1965-01C	Fragment	Jan 11	d	USSR		TSC		AI
	1965-01D	Fragment	Jan 11	d	USSR		TSC		
	1965-02A	USAF	Jan 15	65 Feb 9	USA 183 425	74,95°	WTR	THOR	Thor Agena 85
ARTIFICIAL PLANETS	1965-02B	Fragment	Jan 15	d	USA		WTR	AGENA	D
	1965-03A	USAF	Jan 19	85?	USA 468 824	98,78°	WTR		Thor Altair 1
utirik 28	1965-03B	Fragment	Jan 19	65 Jun 17	USA		WTR	THOR	Altair?
	1965-03C	Fragment	Jan 19	65 Jul 9	USA		WTR	ACTAIR	
ARTIFICIAL PLANETS	1965-04A	TIROS 9	Jan 22	2500?	USA 700 2578	96,40°	KSC		Tiros II
SAMOS 22	1965-04B	TIROS 9 ROCKET	Jan 22		USA		KSC	DELTA	Altair (Delta 28)
sci	1965-04C	Fragment	Jan 22		USA		KSC		
	1965-04D	Fragment	Jan 22		USA		KSC		
	1965-05A	USAF	Jan 23	65 Jan 28	USA 145 290	102,54°	WTR	ATLAS	SAMOS 23
	1965-05B	Fragment	Jan 23	d	USA		WTR	AGENA	D
	1965-06A	KOCMOC 53	Jan 30		USSR 227 1192	48,8°	KY		sci
	1965-06B	KOCMOC 53 ROCKET	Jan 30	66 Jan?	USSR		KY		
ISA-2	1965-06C	Fragment	Jan 30	d	USSR		KY		BI

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1965-06D	Fragment	Jan 30	d	USSR																																														
1965-07A	OSO 2	Feb 3	2000?	USA	552	632	32.86°	KSC	} DELTA	OSOBZ Orto. Solar Obs. m 247 X, J, W	1965-166	1965-167	1965-168	1965-169	1965-170	1965-171	1965-172	1965-173	1965-174																															
1965-07B	OSO 2 ROCKET	Feb 3		USA				KSC												Alfair Delta 29																														
1965-08A	TRANSSTAGE 3	Feb 11	5200?	USA	2786	2800	32.15°	KSC	} TITAN 3A	T3A-3 m 1590	1965-175	1965-176	1965-177	1965-178	1965-179	1965-180	1965-181	1965-182	1965-183	1965-184	1965-185	1965-186	1965-187	1965-188	1965-189	1965-190	1965-191	1965-192	1965-193	1965-194	1965-195	1965-196	1965-197	1965-198	1965-199	1965-200														
1965-08B	Fragment	Feb 11		USA				KSC																													m 31 expcom Lincoln Exp Sect micrometers SA-4 m 10430 Boulderplate CSM m 4535													
1965-08C	LES 1	Feb 11		USA	2794	2801	32.10°	KSC	} SATURN 1	See Lunar Probes	1965-201	1965-202	1965-203	1965-204	1965-205	1965-206	1965-207	1965-208	1965-209	1965-210	1965-211	1965-212	1965-213	1965-214	1965-215	1965-216	1965-217	1965-218	1965-219	1965-220	1965-221	1965-222	1965-223	1965-224	1965-225	1965-226	1965-227	1965-228	1965-229	1965-230										
1965-09A	PEGASUS 1	Feb 16	1977?	USA	447	745	31.74°	KSC																																										
1965-09B	APOLLO MODEL B16	Feb 16	1980?	USA	449	735	31.76°	KSC	} ATLAS AGENA B	Agenda B	1965-231	1965-232	1965-233	1965-234	1965-235	1965-236	1965-237	1965-238	1965-239	1965-240	1965-241	1965-242	1965-243	1965-244	1965-245	1965-246	1965-247	1965-248	1965-249	1965-250	1965-251	1965-252	1965-253	1965-254	1965-255	1965-256	1965-257	1965-258	1965-259	1965-260										
1965-10A	RANGER 8	Feb 17, 71	(→ CI)	USA				KSC																																	parking orbit									
1965-10B	RANGER 8 ROCKET	Feb 17, 71		USA				KSC	bancentric orbit																																									
1965-11A	KOZMOZ 54	Feb 21		USSR	280	1856	56.1°	TSC	} C1	2nd Kosmos triple launch	1965-261	1965-262	1965-263	1965-264	1965-265	1965-266	1965-267	1965-268	1965-269	1965-270	1965-271	1965-272	1965-273	1965-274	1965-275	1965-276	1965-277	1965-278	1965-279	1965-280	1965-281	1965-282	1965-283	1965-284	1965-285	1965-286	1965-287	1965-288	1965-289	1965-290	1965-291	1965-292	1965-293	1965-294	1965-295	1965-296	1965-297	1965-298	1965-299	1965-300
1965-11B	KOZMOZ 55	Feb 21		USSR	280	1856	56.1°	TSC																																										
1965-11C	KOZMOZ 56	Feb 21		USSR	280	1856	56.1°	TSC																																										
1965-11D	ROCKET	Feb 21	1968?	USSR				TSC																																										
1965-11E	Fragment	Feb 21		USSR				TSC	} Voshkod? Explosion	1965-301	1965-302	1965-303	1965-304	1965-305	1965-306	1965-307	1965-308	1965-309	1965-310	1965-311	1965-312	1965-313	1965-314	1965-315	1965-316	1965-317	1965-318	1965-319	1965-320	1965-321	1965-322	1965-323	1965-324	1965-325	1965-326	1965-327	1965-328	1965-329	1965-330											
1965-12A	KOZMOZ 57	Feb 22	65 Feb-Apr?	USSR	175	572	64.6°	TSC																																										
1965-12B	ROCKET	Feb 22	65 Mar 5	USSR				TSC	} A1?	Rocket Explosion	1965-331	1965-332	1965-333	1965-334	1965-335	1965-336	1965-337	1965-338	1965-339	1965-340	1965-341	1965-342	1965-343	1965-344	1965-345	1965-346	1965-347	1965-348	1965-349	1965-350	1965-351	1965-352	1965-353	1965-354	1965-355	1965-356	1965-357	1965-358	1965-359	1965-360										
1965-12C	} Fragments	Feb 22	65 Feb 25	USSR				TSC																																	} Debris									
1965-12FZ				65 Apr 6																																														
1965-13A	USAF	Feb 25	65 Mar 17	USA	177	378	75.08°	WTR	} TITAN AGENA D	Thor Agena 86	1965-361	1965-362	1965-363	1965-364	1965-365	1965-366	1965-367	1965-368	1965-369	1965-370	1965-371	1965-372	1965-373	1965-374	1965-375	1965-376	1965-377	1965-378	1965-379	1965-380	1965-381	1965-382	1965-383	1965-384	1965-385	1965-386	1965-387	1965-388	1965-389	1965-390										
1965-13B	Fragment	Feb 25	d	USA				WTR																																										
1965-14A	KOZMOZ 58	Feb 26	65?	USSR	339?	581?	65°	TSC	} A1	Motor Failure	1965-391	1965-392	1965-393	1965-394	1965-395	1965-396	1965-397	1965-398	1965-399	1965-400	1965-401	1965-402	1965-403	1965-404	1965-405	1965-406	1965-407	1965-408	1965-409	1965-410	1965-411	1965-412	1965-413	1965-414	1965-415	1965-416	1965-417	1965-418	1965-419	1965-420										
1965-14B	KOZMOZ 58 ROCKET	Feb 26	1990?	USSR				TSC																																										
1965-15A	KOZMOZ 59	Mar 7	65 Mar 15	USSR	209	339	65°	TSC	} A1	see	1965-421	1965-422	1965-423	1965-424	1965-425	1965-426	1965-427	1965-428	1965-429	1965-430	1965-431	1965-432	1965-433	1965-434	1965-435	1965-436	1965-437	1965-438	1965-439	1965-440	1965-441	1965-442	1965-443	1965-444	1965-445	1965-446	1965-447	1965-448	1965-449	1965-450										
1965-15B	KOZMOZ 59 ROCKET	Mar 7	d	USSR				TSC																																										
1965-15C	Fragment	Mar 7	d	USSR				TSC																																										
1965-16A	GRES SR-6B	Mar 9	3000?	USA	909	937	70.09°	WTR	} Iceland USN Orbit Grad Station Expts THOR2 USN AGENA D Geodesy Amateur radios	1965-451	1965-452	1965-453	1965-454	1965-455	1965-456	1965-457	1965-458	1965-459	1965-460	1965-461	1965-462	1965-463	1965-464	1965-465	1965-466	1965-467	1965-468	1965-469	1965-470	1965-471	1965-472	1965-473	1965-474	1965-475	1965-476	1965-477	1965-478	1965-479	1965-480	1965-481	1965-482	1965-483	1965-484	1965-485	1965-486	1965-487	1965-488	1965-489	1965-490	
1965-16B	GGSE 2	Mar 9	3000?	USA	904	941	70.10°	WTR																																										
1965-16C	GGSE 3	Mar 9	3000?	USA	904	941	70.10°	WTR																																										
1965-16D	SR 7B	Mar 9	3000?	USA	909	937	70.09°	WTR																																										
1965-16E	SECOR 3	Mar 9	3000?	USA	908	937	70.08°	WTR																																										
1965-16F	OSCAR 3	Mar 9	3000?	USA	901	945	70.12°	WTR																																										

OSO 82 3rd Solar Obsy m 247 8/11/65	1965-16G	SURCAL 2 (DODUCAPOTE)	Mar 9	3000?	USA	907	943	70,08°	WTR	USN Space Surveillance Code ERS
Altair Delta 29	1965-16H	DODUCAPOTE 1	Mar 9	3000?	USA	909	938	70,08°	WTR	
T3A-3 m 1590	1965-16J	ROCKET	Mar 9	2000?	USA				WTR	
n 31 expoon media exp sat in comatens SA-4 m 10430 Boilerplate CSM m 4535	1965-17A	CAPSULE ROCKET (USAF 7087)	Mar 11	65 Jun 14	USA	211	890	89,97°	WTR	Ablestar Geodesy ERS 2
1965-17B	SECTOR 2	Mar 11	75?	USA	332	1004	89,18°	WTR		
1965-17C	USAF ROCKET	Mar 11	67 Sep?	USA	286	1031	89,99°	WTR	rearb	
1965-17D	USAF	Mar 11	67 Sep?	USA	288	1033	89,99°	WTR	rearb	
1965-17E	Fragment	Mar 11		USA				WTR	THOR	
1965-17F	Fragment	Mar 11		USA				WTR	ABLESTAR	
Agenda B	1965-17G	Fragment	Mar 11	65 Jun 28	USA				WTR	
2nd Kosmos	1965-17H	Fragment	Mar 11		USA				WTR	
Triple launch	1965-18A	KOZMOZ 60	Mar 12	65 Mar 17	USSR	201	287	64,6°	TBL	Kosmos 5 failure?
1965-18B	KOZMOZ 60 ROCKET	Mar 12	d	USSR				TBL	Aze?	
1965-18C	Fragment	Mar 12	d	USSR				TBL		
1965-19A	USAF	Mar 12	65 Mar 17	USA	153	283	107,63°	WTR	Samos 24	
1965-19B	Fragment	Mar 12	d	USA				WTR		
1965-19C	Fragment	Mar 12	d	USA				WTR	ATLAS AGENDA D	
1965-20A	KOZMOZ 61	Mar 15		USSR	173	1837	58°	TBL	3rd Kosmos triple launch	
1965-20B	KOZMOZ 62	Mar 15		USSR	173	1837	58°	TBL		
1965-20C	KOZMOZ 63	Mar 15		USSR	173	1837	58°	TBL	C1	
1965-20D	ROCKET	Mar 15		USSR				TBL		
1965-20E	Fragment 3	Mar 15	5 d to Sep 30	USSR	153	437	55,60°	TBL	Rocket exploded	
1965-20F	FJ				253	2156	56,35°			
1965-21A	USAF-7353	Mar 18	705?	USA	525	764	99,08°	WTR	Thor Altair 2	
1965-21B	Fragment	Mar 18		USA				WTR		
1965-21C	Fragment ROCKET	Mar 18		USA				WTR	THOR	
1965-21D	Fragment	Mar 18		USA				WTR	ACTAR	
1965-21E	Fragment	Mar 18		USA				WTR		
1965-22A	BOCKOZ 2	Mar 18, 25	65 Mar 19, 23	USSR	172	445	65°	TBL	Aze vs see SPACESHIPS	
1965-22B	BOCKOZ 2 ROCKET	Mar 18, 25	d	USSR				TBL		
1965-22C	Fragment	Mar 18, 25	d	USSR				TBL	A2	
1965-22D	Fragment	Mar 18, 25	d	USSR				TBL		

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1965-23A	RANGER 9	Mar 21, 1965	USA	parking orbit	KSC	ACBBS	see WEN 4/22	1965-34C
1965-23B	RANGER 9 ROCKET	Mar 21, 1965	USA	bi-centric orbit	KSC	ACBBS	PROBES	1965-34
1965-24A	GEMINI 3	Mar 23, 1965	USA	161 224 32.6°	KSC	ACBBS	3 revs	1965-35B
1965-24B	GEMINI 3 ROCKET	Mar 23, 1965	USA	158 164 161 225	KSC	ACBBS	TRANSSTAGE ROCKET	1965-35C
1965-25A	KOZMOC 64	Mar 25 1965	USSR	206 271 65°	TSC	A1	rec r	1965-35D
1965-25B	KOZMOC 64 ROCKET	Mar 25 1965	USSR		TSC			1965-36A
1965-25C	Fragment	Mar 25 1965	USSR		TSC			1965-36B
1965-26A	USAF	Mar 25 1965	USA	185 266 96.08°	WTR	ATLAS	THAT ACBBS	1965-36C
1965-26B	Fragment	Mar 25 1965	USA		WTR			1965-36D
1965-27A	SNAP 10 A	Apr 3 1965	USA	1283 1312 90.12°	WTR	ATLAS	THAT ACBBS	1965-37A
1965-27B	SEZOR 4	Apr 3 1965	USA	1267 1323 90.21°	WTR	ATLAS	THAT ACBBS	1965-37B
1965-27C	Fragment	Apr 3 1965	USA		WTR			1965-37C
1965-27D	Fragment	Apr 3 1965	USA		WTR			1965-37D
1965-28A	INTELSAT 1	Apr 6 1965	USA	36568 36584 0.13°	WTR	ATLAS	THAT ACBBS	1965-38A
1965-28B	INTELSAT 1 ROCKET	Apr 6 1965	USA		WTR			1965-38B
1965-29A	KOZMOC 65	Apr 17 1965	USSR	210 342 65°	TSC	A1	rec r + met	1965-39A
1965-29B	KOZMOC 65 ROCKET	Apr 17 1965	USSR		TSC			1965-39B
1965-29C	Fragment	Apr 17 1965	USSR		TSC			1965-40A
1965-30A	MOAMNA 1 A	Apr 23 1965	USSR	497 39457 65°	TSC	A2	com	1965-40B
1965-30B	MOAMNA 1 B	Apr 23 1965	USSR		TSC			1965-40C
1965-30C	MOAMNA 1 C	Apr 23 1965	USSR		TSC			1965-40D
1965-30D	MOAMNA 1 D	Apr 23 1965	USSR		TSC			1965-40E
1965-31A	USAF CAPSULE	Apr 28 1965	USA	180 254 95.60°	WTR		SAMOS 25	1965-41A
1965-31B	USAF CAPSULE	Apr 28 1965	USA	4829 538 95.24°	WTR			1965-41B
1965-31C	Fragment	Apr 28 1965	USA		WTR			1965-41C
1965-31D	Fragment	Apr 28 1965	USA		WTR			1965-41D
1965-31E	Fragment	Apr 28 1965	USA		WTR			1965-41E
1965-31F	Fragment	Apr 28 1965	USA		WTR			1965-41F
1965-31G	Fragment	Apr 28 1965	USA		WTR			1965-41G
1965-32A	EXPLORER 27	Apr 29 1965	USA	937 1316 41.19°	WTR	BE-C	SCOTT Altair	1965-42A
1965-32B	EXPLORER 27 ROCKET	Apr 29 1965	USA		WTR			1965-42B
1965-32C	Fragment	Apr 29 1965	USA		WTR			1965-42C
1965-33A	USAF CAPSULE	Apr 29 1965	USA	180 470 85.04°	WTR	THAT ACBBS	THAT ACBBS	1965-43A
1965-33B	USAF CAPSULE	Apr 29 1965	USA	193 1144 84.81°	WTR			1965-43B
1965-34A	TRANSSTAGE 4	May 6 1965	USA	2784 3737 32.09°	KSC	TITAN	T3A-4	1965-44A
1965-34B	LES 2	May 6 1965	USA	2826 15095 31.36°	KSC	THAT ACBBS		1965-44B

see LUNAR PROBES	1965-34C	VSSR LCS 1	May 6, 57	30000?	USA	2704	2869	32,11°	KSC	Tracking network calibration
	1965-34D	Fragment				2776	2744			
	1965-35A	KOCMOC 66	May 7	65	USSR	197	291	65°	TBL	rec r
3 revs	1965-35B	KOCMOC 66 ROCKET	May 7	d	USSR				TBL	A1
see SPACESHIP 2	1965-35C	Fragment	May 7	d	USSR				TBL	
Transstage Rocket	1965-35D	Fragment	May 7	d	USSR				TBL	
rec r	1965-36A	AYHA 5	May 9, 58	(→ LI)	USSR				TBL	see LUNAR PROBES
	1965-36B	AYHA 5 ROCKET	May 9, 58	65 May 10	USSR	167	246	64,8°	TBL	Sputnik 29
Thor Agena 89 or Samos 2	1965-36C	Fragment	May 9, 58	d	USSR				TBL	A2e
by D. W. SOLT	1965-36D	Escape stage?	May 9, 58	?	USSR				TBL	Presumably up
to Samos 2 (Samos 2)	1965-37A	USAF	May 18	65 Jun 15	USA	198	332	75,01°	WTR	Thor Agena 89
Cor's geodesy	1965-37B	Fragment	May 18	65 Jun 15	USA				WTR	Thor Altair 3
	1965-38A	USAF	May 20	1985	USA	586	953	98,69°	WTR	SA synchronous orbit
COMBAT HO 303A	1965-38B	Fragment	May 20		USA				WTR	THOR
EARLY BIR D	1965-38C	Fragment	May 20		USA				WTR	ACTAIR
Op Jun 28 - end 69 in ves.	1965-38D	Fragment	May 20		USA				WTR	
sep. Delta 30	1965-39A	PEGASUS 2	May 25	1977?	USA	507	742	31,75°	KSC	SATURN 1
rec r + met	1965-39B	APOLLO MODEL RP-26	May 25	1980?	USA	572	735	31,24°	KSC	
	1965-40A	KOCMOC 67	May 25	65 Jun 2	USSR	207	350	57,8°	TBL	rec r
com	1965-40B	KOCMOC 67 ROCKET	May 25	d	USSR				TBL	A2
	1965-40C	Fragment	May 25	d	USSR				TBL	
SAMOS 25	1965-40D	Fragment	May 25	d	USSR				TBL	
	1965-41A	USAF	May 27	65 May 31	USA	150	266	95,78°	WTR	ATLAS AGENA D
	1965-42A	EXPLORER 28	May 29	195?	USA	193	264100	33,86°	KSC	DELTA
TS EVA	1965-42B	EXPLORER 28 ROCKET	May 29		USA				KSC	IMP C m60 (Altair) Delta 31 62 revs
	1965-43A	GEMINI 4	Jun 3, 64	65 Jun 7, 72	USA	161	282	32,53°	KSC	TITAN 2 see SPACESHIP 2
	1965-43B	GEMINI 4 ROCKET	Jun 3, 64	65 Jun 5	USA				KSC	Transstage
	1965-44A	AYHA 6	Jun 8, 58	(→ H1)	USSR				TBL	see ARTIFICIAL PLANETS
E-C	1965-44B	AYHA 6 ROCKET	Jun 8	65 Jun 12	USSR	174	238	64,8°	TBL	Sputnik 30 Venus stage
Altair	1965-44C	Fragment	Jun 8	65 Jun 10	USSR				TBL	A2e
Thor Agena 88	1965-44D	Escape stage?	Jun 8	?	USSR?				TBL	Presumably up
	1965-45A	USAF	Jun 9	65 Jun 22	USA	175	362	75,07°	WTR	Thor Agena 90
T 3A - 1/2	1965-45B	Fragment	Jun 9	65 Jun 20	USA				WTR	ATLAS AGENA D
ATV A	1965-46A	KOCMOC 68	Jun 15	65 Jun 23	USSR	205	334	65°	TBL	rec r

Notes	ID	Name	Date	Agency	Altitude	Speed	Angle	Other
Luna Stage	1965-54B	PROTON 1 ROCKET	Jul 16	d	USSR			Proton stage (SD)?
	1965-54C	(Fragment)?	Jul 16	65 Jul 24	VSSR			Subsat?
	1965-54D	Fragment	Jul 16	d	VSSA			
	1965-55A	USAF (87411)	Jul 17	1972?	USA	470	515	70,18° WTR } Ferret?
F3C-1 in 1960 filled with lead pellets - facilitate recovery distribution Ablestar	1965-55B	Fragment	Jul 17		USA			WTR } TAT
	1965-55C	Fragment	Jul 17		USA			WTR } AGENA
	1965-55D	Fragment	Jul 17		USA			WTR } D
	1965-55E	Fragment	Jul 17		USA			WTR } D
} sep. later from B rec?	1965-56A	30H11 3	Jul 18	(→HC)	VSSR			TBL } see ARTIFICIAL PLANETS
	1965-56B	30H11 3 LAUNCHER Rcr	Jul 18, 65	Jul 19	VSSR	164	210	84,78° EBC } Sputnik 31
	1965-56C	Fragment	Jul 18	65 Jul 21	VSSR			TBL } Able
	1965-56D?	30H11 3 Escape stage?	Jul 18?	(→HC?)	VSSR			TBL } Presumably, up to 1000 km altitude
Samos 27 Subsatellite Agena	1965-57A	USAF	Jul 19	65 Aug	USA	183	459	85,05° WTR } TAT AGENA D
	1965-58A	VELA .5	Jul 20		USA	88430	96075	35,2° KSC } Nike Gen
	1965-58B	VELA 6	Jul 20		USA	88430	96075	35,2° KSC } ATLAS AGENA D
	1965-58C	ORS 3	Jul 20	1975?	USA	153	112650	34,32° KSC } ORS? 17
Tiros OT 1 Metstat - Shut down 6/7/65	1965-58D	ROCKET	Jul 20		USA	153	112650	34,39° KSC } Agena D
Relat 32 Respin weight Respin weight Sci	1965-59A	KOCMOL 76	Jul 23		VSSR	261	530	56° KY? } BI? Sci?
	1965-59B	KOCMOL 76 ROCKET	Jul 23	d	VSSR			KY? } SA-10 micrometeor boiler plate can in 45-55
	1965-60A	PEGASUS 3	Jul 30	69 Aug 4	USA	584	566	28,90° KSC } SURVIV
	1965-60B	APOLLO MODEL SP-9	Jul 30	75 Nov 22	USA	483	595	28,90° KSC } 1
	1965-60C	Fragment	Aug 3	65 Aug 11	VSSR	201	280	57,79° EBC } AT
	1965-61A	KOCMOL 77	Aug 3	d	VSSR			TBL } rec
1st Kosmos 28 launch	1965-62A	USAF	Aug 3	65 Aug 7	USA	148	306	107,17° WTR } ATLAS AGENA D
	1965-62B	USAF CAPSULE	Aug 3	75?	USA	502	575	107,36° WTR } D
	1965-62C	Fragment ROCKET	Aug 3	d	USA			WTR } D
	1965-63B	SECOR 5	Aug 10	12000?	USA	1135	2424	69,26° WI } IMPROVED SCOUT
	1965-63A	SECOR 5 ROCKET	Aug 10		USA			WI } IMPROVED SCOUT
Restart stage	1965-64A	SURVEYOR MODEL SP-2 (→HC)	Aug 11, 65		USA	165 822128	28,910	28,9° KSC } ATLAS MODEL
	1965-64B	CENTAUR 6	Aug 11		USA	169 660000	28,6	28,6° KSC } CENTAUR AC-6
	1965-65A	USAF SURCAL 3	Aug 13	2060?	USA	1089	1089	90,02° WTR } TRAWAIT
Osmae By 30	1965-65B	ROCKET CONG-RON 1	Aug 13	2060?	USA	1089	1089	90,02° WTR } Ablestar? or several 30

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1965

ID	Agency / Mission	Date	Altitude	Country	Weight	Speed	Notes
1965-65C	USA TRANSIT ^{POLE 2} Aug 13 2000?	USA	1094	1084	90,05°	WTR	Serial Sats? FROM ASCE STAR AbbeStar instead of B?
1965-65D	USA TRANSIT ^{SURCAL 4} Aug 13	USA	1089	1094	90,01°	WTR	
1965-65E	USA TRANSIT ^{TEMPSAT 1} Aug 13	USA	1086	1087	90,08°	WTR	
1965-65F	USA TRANSIT Aug 13	USA	1089	1084	90,01°	WTR	
1965-65G	Fragment Aug 13	USA				WTR	
1965-65H	USA TRANSIT ^{SURCAL 5} Aug 13 2000?	USA	1082	1201	90,05°	WTR	
1965-65J	Fragment Aug 13	USA				WTR	
1965-65K	USA TRANSIT ^{SURCAL 6} Aug 13 3000?	USA	1094	1184	90,02°	WTR	
1965-65L	Fragment Aug 13	USA				WTR	
1965-66A	KOCMOC 78 Aug 14 65 Aug 22 USSR	217	248	68,9°	TSC	rec r	
1965-66B	KOCMOC 78 ROCKET Aug 14 d USSR				TSC	AI	
1965-66C	Fragment Aug 14 d USSR				TSC		
1965-67A	USA Aug 17 65 Oct 11 USA	180	407	70,04°	WTR		TAT AGPARD Thor Agena 92 120 revs see SPACESHIPS
1965-68A	GEMINI 5 Aug 21, 58 65 Aug 21, 58 USA	163	349	32,6°	KSC	TITAN 2 Transstage RENDEROUS EVALUATION POD	
1965-68B	GEMINI 5 ROCKET Aug 21, 58 d USA				KSC		
1965-68C	REP 1 Aug 21, 58 65 Aug 27 USA	167	314	32,58°	KSC		
1965-68D	Fragment Aug 21, 58 d USA				KSC		
1965-69A	KOCMOC 79 Aug 25 65 Sep 2 USSR	212	359	64,9°	TSC	rec r	
1965-69B	KOCMOC 79 ROCKET Aug 25 d USSR				TSC	AI	
1965-69C	Fragment Aug 25 d USSR				TSC		
1965-69D	Fragment Aug 25 d USSR				TSC		
1965-69E	Fragment Aug 25 d USSR				TSC		
1965-70A	KOCMOC 80 Sep 3 3000? USSR	842	1537	56,99°	TSC		CI 2nd Kosmos munkupki Launch 1 sat has mike generator
1965-70B	KOCMOC 81 Sep 3 3000? USSR	860	1535	56,05°	TSC		
1965-70C	KOCMOC 82 Sep 3 3000? USSR	875	1563	56,04°	TSC		
1965-70D	KOCMOC 83 Sep 3 3000? USSR	895	1566	56,03°	TSC		
1965-70E	KOCMOC 84 Sep 3 3000? USSR	912	1572	56,03°	TSC		
1965-70F	Fragment Sep 3 12000? USSR				TSC		
1965-71A	USA TRANSIT ^{POLE 2} KOCMOC 85 Sep 9 65 Sep 17 USSR	212	319	65°	TSC	AI rec r	
1965-71B	KOCMOC 85 ROCKET Sep 9 d USSR				TSC		
1965-72A	USA 8068 Sep 10 2115? USA	650	1052	98,65°	WTR	Thor Altair 4	
1965-72B	ROCKET Sep 10 USA				WTR		

orllc

75-7E
75-7C
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75-7Q
75-7R
75-7S
75-7T
75-7U
75-7V
75-7W
75-7X
75-7Y
75-7Z

1965-72EF Fragments

Serial	Description	Date	Country	Coordinates	Notes
1965-72C	Fragment	Sep 10	USA		WTR } THOR ACTAIR
1965-72B	Fragment	Sep 10	USA		WTR }
1965-73A	KOZMOC 86	Sep 18	USSR	1271 1638 56,06°	T3C } 3rd Kosmos
1965-73B	KOZMOC 87	Sep 18	USSR	1305 1650 56,06°	T3C } multiple launch
1965-73C	KOZMOC 88	Sep 18	USSR	1324 1666 56,06°	T3C }
1965-73D	KOZMOC 89	Sep 18	USSR	1342 1679 56,09°	T3C }
1965-73E	KOZMOC 90	Sep 18	USSR	1370 1690 56,06°	T3C } CI
1965-73F	ROCKET	Sep 18	USSR		T3C }
1965-73G	Fragment	Sep 18	USSR		T3C }
1965-73H	Fragment	Sep 18	USSR		T3C }
1965-73I	Fragment	Sep 18	USSR		T3C }
1965-73K	LFragments	Sep 18	USSR		T3C }
1965-74A	USAF	Sep 22	USA	650 Oct 10 192 364 80,01°	WTR } THOR ACTAIR 93
1965-75A	KOZMOC 91	Sep 30	USSR	65 Oct 8 204 323 84,98°	T3C } 1A1
1965-75B	KOZMOC 91 ROCKET	Sep 30	USSR		T3C }
1965-75C	Fragment	Sep 30	USSR		T3C }
1965-75D	Fragment	Sep 30	USSR		T3C }
1965-75E	Fragment	Sep 30	USSR		T3C }
1965-76A	USAF CAPSULE	Sep 30	USA	65 Oct 5 158 264 95,59°	WTR } ATLAS Agena D SAMOS 29
1965-76B	Fragment ROCKET	Sep 30	USA		WTR } Agena rocket?
1965-77A	LYMA 7	Oct 4	USSR		T3C } see LYMA PROGES
1965-77B	LYMA 7 ROCKET	Oct 4	USSR	65 Oct 4 129 286 64,8°	T3C } Sputnik 52
1965-77C	Fragment	Oct 4	USSR		T3C } presumably up
1965-77D	Escape stage?	Oct 4	USSR	bi-centric orbit?	T3C }
1965-78A	OVL-2	Oct 5	USA	205? 407 345 114,36°	WTR } ATLAS Rocket?
1965-78B	OVL-2 ROCKET	Oct 5	USA		WTR }
1965-79A	USAF 5325	Oct 5	USA	65 Oct 29 204 325 75,05°	WTR } THOR ACTAIR 94
1965-80A	MOYUNA 1 B	Oct 14	USSR	791 39 99,5 65,19°	T3C }
1965-80B	MOYUNA 1 B ROCKET	Oct 14	USSR		T3C } 1A1
1965-80C	Fragment	Oct 14	USSR		T3C }
1965-80D	Fragment	Oct 14	USSR		T3C }
1965-81A	Ovo	Oct 14	USA	215? 415 157,8 87,41°	WTR } Plus escape up? Orbital obsy. 34

Serial
Sats?
Abolstar
instead of B?

see r

Thor Agena 92.
120 cars
see SPACESHIPS

Transstage
RECOVERIOUS
EVAPORATION
POD

see r

2nd
Kosmos
multiple

Launch
1 sat has
micro generator

see r

Thor Actair 4

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1965

ID	Object Name	Date	Origin	Coordinates	Notes	Classification
1965-81B	OGO 2 ROCKET	Oct 14	USAF			WTR
1965-82A	TRANSTAGE 6	Oct 15	USA	187 755 33,61°	706 242	KSC
1965-82B	+ OV 2-1 + LCS 2	Oct 15	USA			KSC
1965-82B		Oct 15	USA			KSC
1965-82P						
1965-82E						
1965-82F						
1965-82G						
1965-82H						
1965-82I						
1965-82J						
1965-82K						
1965-82L						
1965-82M						
1965-82N						
1965-82O						
1965-82P						
1965-82Q						
1965-82R						
1965-82S						
1965-82T						
1965-82U						
1965-82V						
1965-82W						
1965-82X						
1965-82Y						
1965-82Z						
1965-83A	KOZMOC 92	Oct 16	USSR	203 331 61,97°		rec + met
1965-83B	KOZMOC 92 ROCKET	Oct 16	USSR			A1
1965-83C	Fragment	Oct 16	USSR			B1
1965-84A	KOZMOC 93	Oct 19	USSR	216 573 48,39°		Sci
1965-84B	KOZMOC 93 ROCKET	Oct 19	USSR			K7
1965-84C	Fragment	Oct 19	USSR			K7
1965-84D	Fragment	Oct 19	USSR			K7
1965-84E	Fragment	Oct 19	USSR			K7
1965-85A	KOZMOC 94	Oct 28	USSR	204 272 64,95°		A1 rec r
1965-85B	KOZMOC 94 ROCKET	Oct 28	USSR			B1
1965-86A	USAF	Oct 28	USA	174 431 71,97°		Mer Agents
1965-86B	Fragment	Oct 28	USA			WTR
1965-87A	PROTON 2	Nov 2	USSR	191 637 63,30°		cosmos
1965-87B	PROTON 2 ROCKET	Nov 2	USSR			B1
1965-87C	Fragment	Nov 2	USSR			B1
1965-87D	Fragment	Nov 2	USSR			B1
1965-87E	Fragment	Nov 2	USSR			B1
1965-88A	KOZMOC 95	Nov 4	USSR	212 521 48,4°		Sci
1965-88B	KOZMOC 95 ROCKET	Nov 4	USSR			B1
1965-88C	Fragment	Nov 4	USSR			
1965-88D	Fragment	Nov 4	USSR			Rocket
1965-88E	Fragment	Nov 4	USSR			disintegrate
1965-88F	Fragment	Nov 4	USSR			B1
1965-88G	Fragment	Nov 4	USSR			
1965-88H	Fragment	Nov 4	USSR			
1965-88I	Fragment	Nov 4	USSR			
1965-88J	Fragment	Nov 4	USSR			
1965-88K	Fragment	Nov 4	USSR			

	196588L	Fragment	Nov 4	USSR			
TSC	196588M	Fragment	Nov 4	USSR		731	
lost	196588N	Fragment	Nov 4	USSR			
	196588P	Fragment	Nov 4	USSR	65 Nov 7		Rocket
Transstage lost	196588Q	Fragment	Nov 4	USSR	to		Disintegrated
	196588R	Fragment	Nov 4	USSR	66 Jun		
er met	196588S	Fragment	Nov 4	USSR			
	196588T	Fragment	Nov 4	USSR			
	196588U	Fragment	Nov 4	USSR			
Sci	196588V	Fragment	Nov 4	USSR			
	196588W	Fragment	Nov 4	USSR			
	196588X	Fragment	Nov 4	USSR			
	196588Y	Fragment	Nov 4	USSR			
rec r	196588Z	Fragment	Nov 4	USSR			
	196589A	EXPLORER 29	Nov 6	17000? USA	1115 2274 59,38°	KSC	TAT GEOS A
er Agency 95	196589B	EXPLORER 29 ROCKET	Nov 6	USA		DELTA	DELTA
	196589C-D	fragments					
	196590A	USAF	Nov 8	65 Nov 11 USA	145 277 93,89°	WTL	ATLAS SAMOS 30
osmos	196590B	Fragment	Nov 8	USA		WTL	ATLAS SAMOS 30
	196591A	BEHEPA 2	Nov 12	(→HC) USSR			parking orbit TBL
	196591B	BEHEPA 2 PLATFORM	Nov 12	65 Nov 17 USSR	207 207 57,85°	TBL	see ARTIFICIAL PLANETS
	196591C	BEHEPA 2 ROCKET	Nov 12	(→HC) USSR			parking orbit TBL
	196591D	BEHEPA 2 ROCKET	Nov 12	(→HC) USSR			parking orbit TBL
	196592A	BEHEPA 3	Nov 16	(→HC) USSR			parking orbit TBL
EU	196592B	BEHEPA 3 PLATFORM	Nov 16	65 Nov 26 USSR	212 295 57,85°	TBL	Spot 34 Venus stage
	196592C	Fragment	Nov 16, 18	d USSR			TBL
	196592D	BEHEPA 3 ROCKET	Nov 16	(→HC) USSR			parking orbit TBL
rocket	196592E	Fragment	Nov 16	d USSR			TBL
is integrated	196593A	EXPLORER 30	Nov 19	2300? USA	207 557 59,71°	W1	SCOUT SR 8
	196593B	EXPLORER 30 ROCKET	Nov 19	USA			W1
	196593C-D	fragments					
	196594A	ROCKET 96	Nov 23	65 Dec 9 USSR	227 310 57,85°	TBL	Venera failure, Brake up
	196594B	Fragment	Nov 23	USSR			TBL
	196594C	Fragment	Nov 23	USSR			TBL
	196594D	Fragment	Nov 23	USSR			TBL

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1965
1966

10	1965-94E	Fragment	Nov 23	d	USSR				TBL	PARC
11	1965-94F	Fragment	Nov 23	d	USSR				TBL	
12	1965-94G	Fragment	Nov 23	d	USSR				TBL	
13	1965-94H	Fragment	Nov 23	d	USSR				TBL	
14	1965-95A	KOCONOC 97	Nov 26	67 April	USSR	220	2100	49°	KY	Sci - relativity theory
15	1965-95B	KOCONOC 97 ROCKET	Nov 26		USSR				KY	
16	1965-95C	Fragment	Nov 26		USSR				KY	
17	1965-95D	Fragment	Nov 26		USSR				KY	
18	1965-96A	ASTERIX	Nov 26	2000?	FRANCE	526	1809	31, 24°	HMR	A-1 DYNAMIT A Rubis
19	1965-96B	ASTERIX ROCKET	Nov 26	2010?	FRANCE				HMR	
20	1965-96C	Fragment	Nov 27	65 Dec 5	USSR	216	570	65°	TBL	rec r
21	1965-97A	KOCONOC 98	Nov 27	66 Jan 24	USSR				TBL	A1
22	1965-97B	KOCONOC 98 ROCKET	Nov 27		USSR				TBL	
23	1965-97C	Fragment	Nov 27	d	USSR				TBL	
24	1965-98A	ALOUETTE 2	Nov 29		CANADA	504	2485	7, 81°	WTR	ISIS-X
25	1965-98B	EXPLORER 31	Nov 29		USA	504	297	79, 82°	WTR	DME-A
26	1965-98C	ROCKET	Nov 29		USA				WTR	THOR ABEWA B Agent B
27	1965-98D	Fragment	Nov 29		USA				WTR	
28	1965-98E	Fragment s	Nov 29		USA				WTR	
29	1965-99A	LYRA 8	Dec 3, 4, 5	(→ 4)	USSR				TBL	see LUNAR PROBES
30	1965-99B	LYRA 8 ROCKET	Dec 3, 4, 5		USSR	169	209	57, 82°	TBL	Sputnik 35
31	1965-99C	Fragment	Dec 3, 4, 5		USSR				TBL	Presumably up
32	1965-99D?	Escape stage?	Dec 3, 4, 5							see SPACESHIPS
33	1965-100A	GEMINI 7	Dec 4, 5, 6	65 Dec 18	USA	161	328	28, 88°	KSC	TITAN 2 Transage
34	1965-100B	GEMINI 7 ROCKET	Dec 4	d	USA				KSC	
35	1965-100C	Fragment Adapter	Dec 4	d	USA				KSC	
36	1965-100A	FRANCE 1	Dec 6	2025?	FRANCE	748	763	75, 87°	WTR	SCOUT Aster l. by NASA
37	1965-100B	FRANCE 1 ROCKET	Dec 6		USA				WTR	OSCAR 6?
38	1965-100C	USAF	Dec 9	65 Dec 26	USA	182	438	80, 44°	WTR	THYD
39	1965-100B	Fragment	Dec 9	65 Dec 15	USA				WTR	
40	1965-103A	KOCONOC 99	Dec 10	65 Dec 18	USSR	199	320	65°	TBL	A1 rec r
41	1965-103B	KOCONOC 99 ROCKET	Dec 10	d	USSR	219	303	65, 01°	TBL	
42	1965-104A	GEMINI 6	Dec 15, 60	65 Dec 16, 64	USA	161	261	28, 88°	KSC	see SPACESHIPS TITAN 2

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1966

CAPSULE

ID	Agency	Object	Date	Country	Altitude	Speed	Notes	Other
1966-02A	USAF 7253	Fragment	Jan 19	USA	150	269 93,86°	WTR	Atlas
1966-02B	USAF 3174	Fragment	Jan 19	USA	254	216 93,89°	WTR	Atlas
1966-03A	KOZMOC 105	Fragment	Jan 22	USSR	204	324 65°	TBC	AI
1966-03B	KOZMOC 105 ROCKET	Fragment	Jan 22	USSR			TBC	AI
1966-03C	Fragment	Fragment	Jan 22	USSR			TBC	AI
1966-04A	KOZMOC 106	Fragment	Jan 25	USSR	290	524 48,4°	KY	BI Sci
1966-04B	KOZMOC 106 ROCKET	Fragment	Jan 25	USSR			KY	BI Sci
1966-05A	USAF Transit	Fragment	Jan 28	USA	861	1215 89,78°	WTR	Altair
1966-05B	ROCKET	Fragment	Jan 28	USA			WTR	Altair
1966-05C	Fragment	Fragment	Jan 28	USA			WTR	Altair
1966-05D	Fragment	Fragment	Jan 28	USA			WTR	Altair
1966-06A	LYHA 9	Fragment	Jan 31, 49	USSR			WTR	Sputnik 36
1966-06B	LYHA 9 LAUNCHER	Fragment	Jan 31, 49	USSR	120	220 57,85°	TBC	Venus? stage AB to stay
1966-06C	LYHA 9 ROCKET	Fragment	Jan 31, 49	USSR			TBC	Venus? stage AB to stay
1966-06D	LYHA 9 ESCAPE ROCKET	Fragment	Jan 31, 49	USSR			TBC	Venus? stage AB to stay
1966-06E	LYHA 9 RETRO	Fragment	Jan 31, 49	USSR			TBC	Venus? stage AB to stay
1966-06F	LYHA 9 ATTITUDE CONTROL UNIT	Fragment	Jan 31, 49	USSR			TBC	Venus? stage AB to stay
1966-06G	LYHA 9 EQUIPMENT UNIT	Fragment	Jan 31, 49	USSR			TBC	Venus? stage AB to stay
1966-07A	USAF 7248	Fragment	Feb 2	USA	185	428 97,91°	WTR	Thor Agena 9
1966-08A	ESSA 1	Fragment	Feb 3	USA	202	845 87,04°	KSC	Delta 36
1966-08B	ESSA 1 ROCKET	Fragment	Feb 3	USA			KSC	Delta 36
1966-08C	Fragment	Fragment	Feb 3	USA			KSC	Delta 36
1966-08D	Fragment	Fragment	Feb 3	USA			KSC	Delta 36
1966-08E	Fragment	Fragment	Feb 3	USA			KSC	Delta 36
1966-09A	USAF 1429	Fragment	Feb 9	USA	529	572 96,54°	WTR	Thor Agena 9B
1966-09B	Fragment	Fragment	Feb 9	USA			WTR	Thor Agena 9B
1966-09C	Fragment	Fragment	Feb 9	USA			WTR	Thor Agena 9B
1966-10A	KOZMOC 107	Fragment	Feb 10	USSR	203	322 64,97°	TBC	ree
1966-10B	KOZMOC 107 ROCKET	Fragment	Feb 10	USSR			TBC	ree
1966-10C	Fragment	Fragment	Feb 10	USSR			TBC	ree
1966-10D	Fragment	Fragment	Feb 10	USSR			TBC	ree
1966-11A	KOZMOC 108	Fragment	Feb 11	USSR	227	865 68,87°	KY	BI Sci

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Sputnik 36

Thor Agena 9

OT3: 705 Met (1966-08-02) Altair Delta 36

Thor Agena 9B

TAT Agena D

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1966

1966-12AG	Fragment	Feb 15	USA		WTR	
1966-12AH	Fragment	Feb 15	"		"	
1966-12AJ	Fragment	"	"		"	
1966-12AK	Fragment	" 66 Feb 16	"		"	
1966-12AL	Fragment	" - 66 Feb 22	"		"	
1966-12AM	Fragment	"	"		"	
1966-12AN	Fragment	"	"		"	
1966-12AP	Fragment	"	"		"	
1966-12AQ	Fragment	"	"		"	
1966-12AR	Fragment	Feb 15	USA		WTR	
1966-13A	DIAPASON	Feb 17	FRANCE	500 2736	34,03° HMR	D-1A Geology Rubis
1966-13B	DIAPASON ROCKET	Feb 17	FRANCE		HMR	
1966-13C	Fragment	Feb 17	FRANCE		HMR	
1966-13D	Fragment	Feb 17	FRANCE		HMR	
1966-13E	Fragment	Feb 17	FRANCE		HMR	DIAMANT A
1966-13F	Fragment	Feb 17	FRANCE		HMR	
1966-13G	FRAGMENTS	Feb 17	FRANCE		HMR	
1966-14A	KOCMOZ 109	Feb 19	USSR	207 294	64,94° TBC	rec r
1966-14B	KOCMOZ 109 ROCKET	Feb 19	USSR		TBC	A1
1966-14C	Fragment	Feb 19	USSR		TBC	
1966-15A	KOCMOZ 110	Feb 22	USSR	184 104	57,85° TBC	
1966-15B	KOCMOZ 110 ROCKET	Feb 22	USSR		TBC	
1966-15C	Fragment	Feb 22	USSR		TBC	
1966-15D	Fragment	Feb 22	USSR		TBC	
1966-16A	ESSA 2	Feb 28	USA	1418 1537	107° FSC	Delta
1966-16B	ESSA 2 ROCKET	Feb 28	USA		WTR	
1966-16C	Fragment	Feb 28	USA		FSC	
1966-16D	Fragment	Feb 28	USA		FSC	
1966-17A	KOCMOZ 111	Mar 1	USSR	182 195	57,84° TBC	
1966-17B	KOCMOZ 111 ROCKET	Mar 1	USSR		TBC	
1966-17C	Fragment	Mar 1	USSR		TBC	
1966-18A	USAF 3488	Mar 9	USA	177 433	75,03° WTR	Delta 99

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1966-28B	KOZMOC 114 ROCKET	Apr 6	d	USSR					
1966-28C	Fragment	Apr 6	d	USSR					
1966-28D	Fragment	Apr 6	d	USSR					
1966-28E	Fragment	Apr 6	d	USSR					
1966-29A	USAF 1612	Apr 8	66Apr 26	USA	312 321	75,06	WTR	THOR ACORN	Prior Agency
1966-30A	SURVEYOR MODEL SP-3	Apr 8	66May 5	USA	165 334	30,71°	KSC		Surv. Model
1966-30B	CENTAUR 5	Apr 8	66Apr 17	USA	165 337	30,74°	KSC	ATLAS CENTAUR	AC-8
1966-31A	OAO 1	Apr 8	2500?	USA	192 805	35,05°	KSC		Orbiting Astro. Obj.
1966-31B	OAO 1 ROCKET	Apr 8		USA			KSC	ATLAS OAO	
1966-31C	Fragment	Apr 8		USA			KSC		
1966-32A	USAF 0910 Cap.	Apr 19	66Apr 25	USA	145 317	116,10°	WTR	ATLAS ACORN	SIMOS 3
1966-32B	Fragment ROCKET	Apr 19	d	USA			WTR		
1966-33A	KOZMOC 115	Apr 20	66Apr 28	USSR	190 293	65°	RSL		REC r
1966-33B	KOZMOC 115 ROCKET	Apr 20	d	USSR			RSL		
1966-34A	OV3-1	Apr 22	2166	USA	357 5736	82,41°	WTR		Red in
1966-34B	OV3-1 ROCKET	Apr 22		USA			WTR	BLUE SLIGHT	Altair
1966-34C	Fragment								
1966-35A	МОЛНИЯ 1 C	Apr 25	1974?	USSR	499 31500	61,5°	RSL		Com
1966-35B	Fragment LAUNCHER	Apr 25	d	USSR			RSL		
1966-35C	МОЛНИЯ 1 C LAUNCHER	Apr 25	66May 9	USSR	180 450	64°	RSL		ARL
1966-35D	Fragment	Apr 25	d	USSR			RSL		
1966-35E	МОЛНИЯ 1 C ROCKET	Apr 25	d	USSR			RSL		
1966-36A	KOZMOC 116	Apr 26	66May	USSR	294 478	48,42°	RSL		Sci
1966-36B	KOZMOC 116 ROCKET	Apr 26	66May	USSR			RSL		
1966-37A	KOZMOC 117	May 6	66May 14	USSR	204 298	64,33°	RSL		REC r
1966-37B	KOZMOC 117 ROCKET	May 6	d	USSR			RSL		
1966-37C	Fragment	May 6	d	USSR			RSL		
1966-37D	Fragment	May 6	d	USSR			RSL		
1966-37E	Fragment	May 6	d	USSR			RSL		
1966-38A	KOZMOC 118	May 11	2026?	USSR	587 657	65°	RSL		REC r
1966-38B	KOZMOC 118 ROCKET	May 11		USSR			RSL		
1966-38C	Fragment	May 11		USSR			RSL		
1966-38D	Fragment	May 11		USSR			RSL		

	1966-39A	USAF 1950	May 14	66 May 20	USA 134 35	119,55° WTR	} ATLAS AGENA B
	1966-39B	USAF	May 14	1976?	USA 578 558	109,94° WTR	
	1966-39C	Fragment ROCKET	May 14	d	USA	WTR	
	1966-40A	NIMBUS 2	May 15	2760?	USA 1104 1178	100,35° WTR	} ATLAS AGENA B
+ Agena 107	1966-40B	NIMBUS 2 ROCKET	May 15		USA	WTR	
v. Model 2	1966-41A	USAF TRANSIT	May 19	2460?	USA 861 980	90° WTR	} SCOUT AGENA B
8	1966-41B	ROCKET	May 19		USA	WTR	
ms Astro. Obj.	1966-41C	USAF	May 24	66 Jun 9	USA 174 253	46,02° WTR	} ATLAS AGENA D
	1966-42A	USAF 1718	May 24		USA	WTR	
	1966-42A	KOCONOC 11A	May 24	67 Nov?	USA 214 1305	48,38° KSC	BI Sci
	1966-44A	EXPLORER 32	May 25	1978?	USA 283 2720	64,60° KSC	DELTA AGENA B
33 34	1966-44B	EXPLORER 32 ROCKET	May 25		USA	KSC	DELTA 38
	1966-44C	Fragment					
	1966-45A	SURVEYOR 1	May 30	66 Jun 2	USA	ISC	} see LUNAR PROBES ATLAS CENTAUR
	1966-45B	SURVEYOR 1 ROCKET	May 30	66 Jun 1	USA	ISC	
	1966-45C	SURVEYOR 1 RADAR			USA	ISC	
	1965-45D	SURVEYOR 1 RETRO					see LUNAR PROBES
air	1965-46A	ATDA 1	Jun 1	66 Sep?	USA 288 293	28,88° KSC	} ATLAS D
in	1965-46B	ATDA ROCKET	Jun 1		USA	KSC	
	1965-46C	Fragment	Jun 1	d	USA	KSC	
	1965-46D	BF fragments	Jun 1	d	USA	KSC	
	1965-47A	GEMINI 9	Jun 3	66 Jun 6	USA 154 220	28,86° KSC	} REB SPACESHIPS 2
	1965-47B	GEMINI 9 ROCKET	Jun 3	d	USA	KSC	
	1965-48A	USAF 1577	Jun 3	66 Jun 9	USA 145 288	87,02° WTR	} ATLAS AGENA B
	1965-48B	USAF 1856 Cap.	Jun 3	Jun 24	USA 136 28	86,97° WTR	
CT	1965-49A	OGO 3	Jun 7	1976?	USA 288 121345	30,9° KSC	} ATLAS AGENA B
	1965-49B	OGO 3 ROCKET	Jun 7		USA	KSC	
	1965-50A	KOCONOC 120	Jun 8	66 Jun 16	USA 206 29	51,79° KSC	REC
	1965-50B	KOCONOC 120 ROCKET	Jun 8	d	USA	KSC	AI
	1965-50C	fragments	Jun 8	d	USA	KSC	
met	1965-51A	ROCKET	Jun 9	66 Dec 3	USA 170	WTR	} ATLAS AGENA B
	1965-51B	SEOR 6	Jun 9	66 Dec 3	USA 171 331	90,05° WTR	
	1965-51C	ORS 2	Jun 9	66 Dec 3	USA 171 331	90,05° WTR	
	1965-52A	OV3-4	Jun 10	2160?	USA 642 4731	40,8° WTR	SCOUT ERS 16
	1965-52B	ret					
	1965-52C	fragments					

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1966-53A	GGTS	Jun 16	USA	33643	33868	0,10°	KSC	Titan
1966-53B	1DCSP 1	Jun 16	USA	33675	33859	0,09°	KSC	
1966-53C	1DCSP 2	Jun 16, 58	USA	33656	33847	0,08°	KSC	
1966-53D	1DCSP 3	Jun 16	USA	33695	33936	0,12°	KSC	
1966-53E	1DCSP 4	Jun 16	USA	33696	34028	0,18°	KSC	
1966-53F	1DCSP 5	Jun 16	USA	33699	34102	0,04°	KSC	
1966-53G	1DCSP 6	Jun 16	USA	33722	34206	0,06°	KSC	
1966-53H	1DCSP 7	Jun 16	USA	33712	34359	0,04°	KSC	
1966-535	TRANSAGE 8	Jun 16	USA	33730	34470	0,09°	KSC	TSC 4
1966-54A	KOCMOC 121	Jun 17	USA	352	72,83°	PL		see r
1966-54B	KOCMOC 121 ROCKET	Jun 17	USA			PL		
1966-54C	Fragment	Jun 17	USA			PL	AT	
1966-54D	Fragment	Jun 17	USA			PL		
1966-54E	Fragment	Jun 17	USA			PL		
1966-55A	USAF 1599	Jun 16	USA	208	286 80,08°	PL		
1966-56A	PAGEOS	Jun 24	USA	4233	4260 57,17°	WTR		
1966-56B	PAGEOS ROCKET	Jun 24	USA			WTR		Possible comsat accident at Agena
1966-56C	Fragments	Jun 24	USA			WTR	TAT Accumb	Pageos disintegrated 1975 Jul 12, 77
1966-56AT			USA			WTR		
1966-56AU			USA			WTR		
1966-56CP	44+ Fragments	Jun 24	USA			WTR		Pageos shock 44 more fragments 76 June
1966-57A	KOCMOC 122	Jun 25	USA	603	644 65°	WTR	AT	mat
1966-57B	KOCMOC 122 ROCKET	Jun 25	USA			WTR		
1966-58A	EXPLORER 33	Jul 1	USA	30532	494230 29°	KSC	TAD	MPP ID of tender liner Rocket gave XS on 12/11/58
1966-58B	EXPLORER 33 ROCKET	Jul 1	USA			KSC		
1966-58C	Fragment ST. 3	Jul 1	USA			KSC		
1966-58D	Fragment	Jul 1	USA			KSC		
1966-58E	Fragment	Jul 1	USA			KSC		
1966-59A	SATURN AS-203	Jul 5	USA	183	212 31,98°	KSC	KSC	Pressure test of S4R - disintegrated on 4/10/68 (Apollo 2)
1966-59B	Fragment	Jul 5	USA			KSC		
1966-59C	Fragment	Jul 5	USA			KSC		

Ground

milcom

Titan

TSC 4

see r

AT

TAT Accumb

TAT Accumb

AT

TAD

Pressure test of S4R - disintegrated on 4/10/68 (Apollo 2)

air grad	1966-S9D	Fragment	Jul 5	d	USA	KSC	
	1966-S9E	Fragment	"	"	"	"	
milcom	1966-S9F	Fragment	"	"	"	"	
	1966-S9G	Fragment	"	"	"	"	Apollo 203
	1966-S9H	Fragment	"	"	"	"	S4B
	1966-S9J	Fragment	"	"	"	"	fragments
	1966-S9K	Fragment	"	"	"	"	
	1966-S9L	Fragment	"	"	"	"	
3C 4	1966-S9M	Fragment	"	"	"	"	
	1966-S9N	Fragment	"	"	"	"	
	1966-S9P	Fragment	"	"	"	"	
	1966-S9Q	Fragment	"	"	"	"	
	1966-S9R	Fragment	"	"	"	"	SATURN
	1966-S9S	Fragment	"	"	"	"	IS
area 102	1966-S9T	Fragment	"	"	"	"	
issue com letsat era	1966-S9U	Fragment	"	"	"	"	
	1966-S9V	Fragment	"	"	"	"	
geos degraded 175 Jul 12, 77	1966-S9W	Fragment	"	"	"	"	
	1966-S9X	Fragment	"	"	"	"	
	1966-S9Y	Fragment	"	"	"	"	
ears shod more prints 76 Jan 20	1966-S9Z	Fragment	"	"	"	"	
	1966-S9AA	Fragment	"	"	"	"	
mat	1966-S9AB	Fragment	"	"	"	"	
	1966-S9AC	Fragment	"	"	"	"	
up-D enter xxxx F gave XS ver	1966-S9AD	Fragment	"	"	"	"	
	1966-S9AE	Fragment	"	"	"	"	
	1966-S9AF	Fragment	"	"	"	"	
	1966-S9AG	Fragment	"	"	"	"	
	1966-S9AH	Fragment	"	"	"	"	
issue 65T of S4B - integrated a fragment	1966-S9AJ	Fragment	"	"	"	"	
	1966-S9AK	Fragment	"	"	"	"	
pollo 2)	1966-S9AL	Fragment	"	"	"	"	

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1966
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1966-60A	ПРОТОМ 3	Jul 6	66 Oct?	USSR	190 630 63,47°	TBC	} DI	cosmic	1966-60B	ПРОТОМ 3 ROCKET	Jul 6	d	USSR		TBC				
1966-60C	Fragment	Jul 6	d	USSR		TBC					1966-60D	Fragment	Jul 6	d	USSR		TBC		
1966-61A	КОСМОС 123	Jul 8	66 Dec 10	USSR	263 529 48,77°	KY			} BI	sci	1966-61B	КОСМОС 123 ROCKET	Jul 8	d	USSR		KY		
1966-62A	USAF-1850 cap.	Jul 12	66 Jul 20	USA	137 236 95,52°	WTR					} ATLAS AGENA 0	SAMS 33	1966-62B	ROCKET?	Jul 12	d	USA		WTR
1966-63A	OVI-8	Jul 14	75	USA	188 1073 144,27°	WTR	} ATLAS D	PACOM, Submarine fabric	1966-63B	Fragment			Jul 14		USA		WTR		
1966-63C	OVI-8 ROCKET	Jul 14		USA		WTR			} ATLAS D	OVI-7 fto on same fly by	1966-63D	Fragment	Jul 14		USA		WTR		
1966-63E	Fragment	Jul 14		USA		WTR	} ATLAS D				1966-63F	Fragment	Jul 14		USA		WTR		
1966-64A	КОСМОС 124	Jul 14	66 Jul 22	USSR	208 302 57,78°	TBC			} AT	rec + Signal?	1966-64B	КОСМОС 124 ROCKET	Jul 14	d	USSR		TBC		
1966-64C	Fragment	Jul 14	d	USSR		TBC	} AT				1966-64D	Fragment	Jul 14	d	USSR		TBC		
1966-64E	Fragment	Jul 14	d	USSR		TBC					} AT		1966-65A	AGENA CAPV-10	Jul 18	66 Dec 29	USA	290 296 248 386 386 386	28,85°
1966-66A	GEMINI 10	Jul 18, 83	66 Jul 21, 88	USA	161 269 298 761	28,8°	KSC	SA SPACEHIPS					1966-66B	GEMINI 10 ROCKET	Jul 18, 83	d	USA		KSC
1966-66C	Fragment	Jul 18	d	USA		KSC	} TITAN 2		1966-66D	Fragment	Jul 18	d	USA		KSC				
1966-66E	Fragment	Jul 18	d	USA		KSC			} TITAN 2		1966-66F	Fragment	Jul 18	d	USA		KSC		
1966-66G	Fragment	Jul 18	d	USA		KSC	} TITAN 2				1966-66H	Fragment	Jul 18	d	USA		KSC		
1966-66J	Fragment Adapter	Jul 18	d	USA		KSC			} TITAN 2		1966-66K	EVA CAMERA?	Jul 18	d	USA		KSC	lost by Collins during EVA attache to RET to RET?	
1966-67A	КОСМОС 125	Jul 20	66 Aug 2	USSR	205 258 65°	TBC	} AT	rec + to RET to RET?			1966-68A	КОСМОС 126	Jul 28	66 Aug 6	USSR	212 359 57,79°	TBC	rec +	

osmic's	1966-68B	KOCMOZ 126 ROCKET	Jul 28	d	USSR		TSC	A1
	1966-68C	Fragment	Jul 28	d	USSR		TSC	A1
	1966-69A	USAF 3014	Jul 29	?	USA	158 250 94, 12°	WTR	ATLAS 313 SPANOS 385 ACQUAD 385 T313-1
	1966-70A	OV3-3	Aug 4		USA	360 4492 81,44°	WTR ORW1	SCOUT
sci	1966-70B	OV3-3 ROCKET	Aug 4		1996? USA			SCOUT
	1966-70C	Fragment	Aug 4		USA			
SPANOS 387	1966-71A	KOCMOZ 127	Aug 8		USSR	204 279 57,83°	TSC	A1
	1966-71B	KOCMOZ 127 ROCKET	Aug 8		USSR			A1
Pacom, coming failure	1966-72A	USAF	Aug 9		USA	194 287 100, 12°	WTR	Thor Agena 103 TAT ACQUAD
A-7 ft 1 escape stage	1966-72B	Fragment	Aug 9	d	USA		WTR	see LUNAR PRODS
	1966-73A	LUNAR ORBITER 1	Aug 10, 81	(→ SC)	USA	parking orbit	KSC	see LUNAR PRODS
	1966-73B	LUNAR ORBITER 1 ROCKET	Aug 10, 81	(→ SC)	USA	parking orbit	KSC	see LUNAR PRODS see ACQUAD see PLUMETS
	1966-74A	USAF 1832	Aug 16	?	USA	146 358 93,24°	WTR	SPANOS 385
	1966-74B	USAF 6810	Aug 16	?	USA	570 525 93°	WTR	ATLAS ACQUAD Agena?
rec +	1966-74C	ROCKET	Aug 16	d	USA		WTR	see LUNAR PRODS see ACQUAD see PLUMETS
yez?	1966-75A	PIONEER 7	Aug 17, 84	(→ MC)	USA	parking orbit	KSC	Pioneer 8 see ACQUAD see PLUMETS
	1966-75B	PIONEER 7 ROCKET 3rd STAGE	Aug 17	(→ MC)	USA	parking orbit	KSC	Altair
	1966-75C	PIONEER 7 ROCKET 2nd STAGE	Aug 17		USA		KSC	Delta 40
	1966-75D	Fragment	Aug 17		USA		KSC	
TV 2 Orbit return by missile 7/14	1966-75E	Fragment	Aug 17		USA		KSC	
SPACESHIPS	1966-76A	USAF	Aug 18		USA	1056 1101 84,86°	WTR	Oscar 11?
Interstage	1966-76B	ROCKET	Aug 18		USA		WTR	SCOUT
	1966-76C	Fragment	Aug 18		USA		WTR	
	1966-77A	USAF	Aug 19	100000	USA	3679 3700 90,07°	WTR	Midas 8?
	1966-77B	SECOR 7	Aug 19		USA	3680 3700 90,11°	WTR	ATLAS ACQUAD ERS 15 attached
	1966-77C	ORS 1	Aug 19		USA	3669 3702 90,11°	WTR	see LUNAR PRODS
	1966-78A	LYMA 11	Aug 24	(→ SC)	USSR	parking orbit	TSC	see LUNAR PRODS
	1966-78B	LYMA 11 ROCKET	Aug 24	d	USSR		TSC	Aze
	1966-78C	LYMA 11 LAUNCHER	Aug 24	66 Aug 25	USSR	198 201 57,04°	TSC	Sputnik 38 see A.P.
by Collins any EVA 2 attached to RT # missed? ev	1966-78D	LYMA 11 escape stage?	Aug 24	(→ MC)	USSR	Barycentric orbit?	TSC	
	1966-79A	KOCMOZ 128	Aug 27	66 Sep 4	USSR	212 364 64,98°	TSC	A1
	1966-79B	KOCMOZ 128 ROCKET	Aug 27	d	USSR		TSC	A1

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1966

ID	Object Name	Date	Country	Altitude (km)	Speed (km/s)	Angle (°)	Notes
1966-80A	AOEWAT GATV-11	Sep 12 66 Rec 30	USA	298	248	28, 83°	ATLAS ACQUA TV 3 Mid Cont / Crawfield / AFB
1966-81A	GEMINI 11	Sep 12, 61	USA	161	285	28, 83°	See SPACESHIRT
1966-81B	GEMINI 11 ROCKET	Sep 12, 61	USA				Transstage
1966-81C	Fragment ADAPTER	Sep 12, 61	USA				TAMM 2
1966-81D	Fragment	Sep 12, 61	USA				
1966-82A	USAF	Sep 16 96?	USA	208	890	9846°	WTR } THOR 782-1 WTR } BURNER 1.1 } Burner 2
1966-82B	ROCKET	Sep 16 96?	USA				
1966-83A	USAF 1686 CAP	Sep 16 66 Sep 23	USA	148	333	93, 18°	WTR } Sime's 410
1966-83B	USAF 6874 CAP	Sep 16 76?	USA	460	500	94, 18°	WTR } ATLAS
1966-83C	ROCKET	Sep 16	USA				WTR } rearm
1966-83D	Fragment	Sep 16	USA				WTR } see WTR
1966-84A	SURVEYOR 2	Sep 20, 52 (-21)	USA				WTR } ATLAS PROTES
1966-84B	SURVEYOR 2 ROCKET	Sep 20, 52	USA				WTR } CENTAUR AC-7
1966-85A	USAF 1703	Sep 20 66 Oct 12	USA	148	438	85, 13°	WTR } Thor / Agena 104
1966-85B	Fragment	Sep 20	USA				WTR } TAT
1966-86A	USAF 4096	Sep 28 66 Oct 7	USA	150	296	93, 48°	WTR } TATM 38 } Agena 2
1966-87A	ESSA 3	Oct 2 1200?	USA	1382	1443	101, 08°	WTR } SAMOS 464 } P-38-2
1966-87B	ESSA 3 ROCKET	Oct 2	USA				WTR } mut } Altair } Delta 41
1966-87C	Fragment	Oct 2	USA				WTR } TAD
1966-87D	Fragment	Oct 2	USA				WTR } SPUTNIK 39
1966-88A	KOCCMOC V 1	Sep 17, 94	USA	163	1046	49, 68°	WTR } FCB 1
1966-88B	Fragment	"	"				" } Exp. cold
1966-88C	Fragment	"	"				" } in
1966-88D	Fragment	"	"				" } orbit
1966-88E	Fragment	" 67 SUR 13, 5	"	289	1275	50, 30°	"
1966-88F	Fragment	"	"				"
1966-88G	Fragment	"	"				"
1966-88H	Fragment	"	"				"
1966-88I	Fragment	"	"				"
1966-88J	Fragment	"	"				"
1966-88K	Fragment	"	"				"
1966-88L	Fragment	"	"				"
1966-88M	Fragment	"	"				"

1966-88N
1966-88P
1966-88Q
1966-88R
1966-88S
1966-88T
1966-88U
1966-88V
1966-88W
1966-88X
1966-88Y
1966-88Z

TV 3 on Id Const Oras gold / App	1966-88N	Fragment	Sept	11	VSSR	FDL
2 SPACESHIRT	1966-88P	Fragment	"	"	"	TSC
Transase	1966-88Q	Fragment	"	"	"	"
	1966-88R	Fragment	"	"	"	"
	1966-88S	Fragment	"	"	"	"
782-1	1966-88T	Fragment	"	"	"	"
Burner 2	1966-88U	Fragment	"	"	"	"
Stones 40	1966-88V	Fragment	"	"	"	"
	1966-88W	Fragment	"	"	"	"
	1966-88X	Fragment	"	"	"	"
	1966-88Y	Fragment	"	"	"	"
2 WMMR PROBES	1966-88Z	Fragment	"	"	"	"
5 TUR A-7	1966-88AA	Fragment	"	"	"	"
Two-Agona 104	1966-88AB	Fragment	"	"	"	"
	1966-88AC	Fragment	"	"	"	"
	1966-88AD	Fragment	"	"	"	"
3 SAMES 480 PERS-2	1966-88AE	Fragment	"	"	"	"
met 105 A Alteir Debra 41	1966-88AF	Fragment	"	"	"	"
	1966-88AG	Fragment	"	"	"	"
	1966-88AH	Fragment	"	"	"	"
PL TVIK 39 PROBS 1	1966-88AJ	Fragment	"	"	"	"
Explored in orbit	1966-88AK	Fragment	"	"	"	"
	1966-88AL	Fragment	"	"	"	"
	1966-88AM	Fragment	"	"	"	"
	1966-88AN	Fragment	"	"	"	"
	1966-88AO	Fragment	"	"	"	"
	1966-88AQ	Fragment	"	"	"	"
	1966-88AR	Fragment	"	"	"	"
	1966-88AS	Fragment	"	"	"	"
	1966-88AT	Fragment	"	"	"	"
	1966-88AU	Fragment	"	"	"	"
	1966-88AV	Fragment	"	"	"	"

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	1966-97B	OV3-2 ROCKET	Oct 28	USA				WTR? arwl.	SCOUT
	1966-97C	Fragment	Oct 28	USA					
	1966-97D	Fragment	Oct 28	USA					
	1966-98A	USAF 2070	Nov 2	66Nov9 USA	1st 304	90,96° W		Atlas A-1	SAMOS 4B
	1966-98B	USAF 5424	Nov 2	66Nov16 USA	208	323 91,00° W		Atlas A-1	
	1966-99A	TRANS-SPACE FOLDS + MOL CANISTER	Nov 3	67Jan7 USA	298	306 32,82° KSC			MOL can attached to Trans-space of recover can
	1966-99B	OV4-1R	Nov 3	67Jan5 USA	291	298 32,84° KSC		TITAN	see LUNAR PROBE'S
	1966-99C	OV1-6	Nov 3	66Dec31 USA	290	295 32,84° KSC			3C-7 T-88
	1966-99D	OV4-1T	Nov 3	67Jan11 USA	285	322 32,83° KSC			Transmits can
idas 9? 15?	1966-100A	LUNAR ORBITER 2	Nov 6, 97	USA	parking orbit			KSC	see LUNAR PROBE'S
srcs 400 days Ames 40	1966-100B	LUNAR ORBITER 2 ROCKET	Nov 6	66Nov15 USA				KSC	Atlas Agena
	1966-101A	COMET U2	Nov 2	USSR	142	863 49,78° TOL			FORBES Exploded SP-1114 41
	1966-101B	Fragment	"	66Nov17 (d by 66Nov29)					
	1966-101C	Fragment	"	"					
	1966-101D	Fragment	"	"					
r	1966-101E	Fragment	"	"					
	1966-101F	Fragment	Nov 203	"					
	1966-101G	Fragment	Nov 2	67May6 USSR	144	830 49,61° TOL			longest lived fragment
	1966-101H	Fragment	"	66Nov29 (d by)					
	1966-101J	Fragment	"	"					
	1966-101K	Fragment	"	"					
r	1966-101L	Fragment	"	"					
	1966-101M	Fragment	"	"					
Not a 203ES	1966-101N	Fragment	"	"					
Ames 40	1966-101P	Fragment	"	"					
see App score cap	1966-101Q	Fragment	"	"					
no test or AC	1966-101S	Fragment	"	"					
AC-4	1966-101T	Fragment	"	"					
not included	1966-101U	Fragment	"	"					ET
elta 42	1966-101V	Fragment	"	"					
radn	1966-101W	Fragment	"	"					

1966-00 A }
 1966-00 B } Fragments catalogued 1966 Sep 24.
 1966-00 C }
 1966-00 D }

1966-108C	Fragment	Dec 3	d	USSR							
1966-109A	USAF 1890	Dec 5	66	Dec 13	USA	137	388	104, 63°	WTR	ATLAS	SAMUS 42 in 545
1966-109B	ROCKET	Dec 5	d	USA					WTR	ATLAS	
1966-110A	ATS 1	Dec 7			USA	35824	36853	0, 23°	WTR	ATLAS	App Takstar
1966-110B	ATS 1 ROCKET	Dec 7	75		USA				KSC	ATLAS	com
1966-111A	OVI-9	Dec 11	2160?		USA	473	4828	99, 14°	WTR	ATLAS	Agencia
1966-111B	OVI-10	Dec 11	81?		USA	641	769	93, 43°	WTR	ATLAS	rodmetology sets
1966-111D	OVI-9 ROCKET	Dec 11			USA				WTR	ATLAS	
1966-111E	OVI-10 ROCKET	Dec 11			USA				WTR	ATLAS	
1966-112A	KOCMOZ 135	Dec 12	67-8?	USSR		259	662	48, 5°	KY		Sci
1966-112B	KOCMOZ 135 ROCKET	Dec 12	67 May?	USSR					KY		
1966-112C	Fragment	Dec 12	d	USSR					KY		
1966-112D	Fragments	Dec 12	d	USSR					KY		B1
1966-113A	USAF 8468	Dec 14	66	Dec 22	USSR	138	368	109, 58°	WTR	TITAN 3B	SAMUS 42 in 545
1966-114A	BIO SATELLITE 1	Dec 14	67	Dec 14	USA	295	309	33, 51°	KSC	BIO SA	
1966-114B	BIO SATELLITE 1 ROCKET	Dec 14	67	Jan 7	USA				KSC	strec after 4d retros 4d	
1966-114C	BIO SATELLITE 1 ADAPTER	Dec 14	67	Feb?	USA				KSC	TAMD	Decker 43
1966-115A	KOCMOZ 136	Dec 14	66	Dec 27	USSR	198	305	64, 6°	PC		
1966-115B	KOCMOZ 136 ROCKET	Dec 14	d	USSR					PC		
1966-116A	AYHA 13	Dec 21, 43	(→)		USSR				TBI		see LUMAR PREPRES
1966-116B	AYHA 13 LAUNCHER	Dec 21, 43	66	Dec 23	USSR	171	223	57, 8°	TBI		Spudnik 42
1966-116C	AYHA 13 ROCKET	Dec 21, 43	d		USSR				TBI		Venus probe
1966-116D	AYHA 13 ESCAPE ROCKET	Dec 21, 43			USSR				TBI		ARC AB
1966-116E	AYHA 13 RETRO										
1966-116F	AYHA 13 ATTITUDE CONTROL UNIT										
1966-116G	AYHA 13 EQUIPMENT UNIT										
1966-117A	KOCMOZ 137	Dec 21	?		USSR	230	170	48, 8°	KY		Sci
1966-117B	KOCMOZ 137 ROCKET	Dec 21	68	Dec?	USSR				KY		B1
1966-118A	USAF 1584	Dec 29	73?		USA	486	496	75, 63°	WTR		Ferret?
1966-118B	Fragment	Dec 29			USA				WTR		
1966-118C	Fragment	Dec 29			USA				WTR		
1967-01A	INTELSAT 2B	Jan 11				INTELSAT 35550	36483	38, 75° 2, 14°	KSC		Lani P2 Bird (Dec 11) 52

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 ATZ cyranograd
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 KESTRUP
 By fragments?
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delta 44	1967-11C	Fragment	Feb 8	FRANCE				HMR	DIAMANT A
Alair	1967-11D	Fragment	Feb 8	FRANCE				HMR	
2901 10/6	1967-11E	Fragment	Feb 8	FRANCE				HMR	
	1967-11F	Fragment	Feb 8	FRANCE				HMR	
	1967-11G	Fragment	Feb 8	FRANCE				HMR	
53	1967-11H	Fragment	Feb 8	FRANCE				HMR	
	1967-11J	Fragment	Feb 8	FRANCE				HMR	
	1967-11K	Fragment	Feb 8	FRANCE				HMR	
	1967-11L	Fragment S	Feb 8	FRANCE				HMR	
	1967-12A	KOCONOC 141	Feb 8 67Mar 16	USSR	210 345	72.9°	PC		AI RCT?
	1967-12B	KOCONOC 141 ROCKET	Feb 8	USSR					
	1967-13A	KOCONOC 142	Feb 14 67Jun 29	USSR	24 1362	49.4°	KT		Sci
10 1/6	1967-13B	KOCONOC 142 ROCKET	Feb 14 67Jul 15	USSR					
	1967-14A	DIADÈME 2	Feb 15 2067?	FRANCE	588 1783	39.52°	HMR		D-1 Di C-codesy Rubis
	1967-14B	DIADÈME 2 ROCKET	Feb 15	FRANCE			HMR		
53	1967-14C	Fragment	Feb 15	FRANCE				HMR	DIAMANT A
	1967-14D	Fragment	Feb 15	FRANCE				HMR	
	1967-14E	Fragment	Feb 15	FRANCE				HMR	
B met 45	1967-14F	Fragment S	Feb 15	FRANCE				HMR	
	1967-15A	USAF 4750	Feb 22 67Mar 11	USA	180 380	80.03°	WTR		THOR (Thor Area 107 TITAN SAMOS 47 313 T38-3 ACORNAD
	1967-16A	USAF 4204	Feb 24 67Mar 6	USA	135 444	102.98°	WTR		
	1967-17A	KOCONOC 143	Feb 27 67Mar 7	USSR	204 302	65°	TDL		AI ree r
03 26	1967-17B	KOCONOC 143 ROCKET	Feb 27	USSR			TDL		
	1967-18A	KOCONOC 144	Feb 28 2107?	USSR	625 628	81.2°	TDL		AI Meteor
	1967-18B	KOCONOC 144 ROCKET	Feb 28	USSR			TDL		
WAR CONES 5000	1967-18C	Fragment	Mar 3 67Nov	USSR	220 235	48.4°	KT		Sci
	1967-19A	KOCONOC 145	Mar 3 67Nov	USSR			KT		
027	1967-19B	KOCONOC 145 ROCKET	Mar 3 67Sep?	USSR			KT		OSO E1 orb. Solar obsy DETA Delta 46 Altair
	1967-20A	OSO 3	Mar 8 2007?	USA	534 583	31.87°	TSC KSC		
2	1967-20B	OSO 3 ROCKET	Mar 8 1987?	USA					SOJUZ Parola
	1967-20C	Fragment	Mar 10 67Mar 11	USSR	140 310	57.5°	TDL		
30 1/2	1967-21A	KOCONOC 146	Mar 10 67Mar 18	USSR	188 308	57.5°	TDL		AI2 OSO Comp + SM or Training Sats?
615	1967-21B	KOCONOC 146 A	Mar 10 67Mar 18	USSR	188 308	57.5°	TDL		
	1967-21D	KOCONOC 146 B	Mar 10 67Mar 18	USSR	188 308	57.5°	TDL		54
	1967-21C	KOCONOC 146 ROCKET							

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1967-22A	KOСMOC 147	Mar 13	67 Mar 18	USSR	198° 317 65°	PC 2	} A1 rec 1	
1967-22B	KOСMOC 147 ROCKET	Mar 13	d	USSR		PC		
1967-23A	KOСMOC 148	Mar 18	67 May 9	USSR	275 436 71°	PC	} B1 sci	
1967-23B	KOСMOC 148 ROCKET	Mar 18	67 Apr 14	USSR		PC		
1967-24A	KOСMOC 149	Mar 22	67 Apr 7	USSR	247 247 48,4°	PC	} met resun Sect	
1967-24B	KOСMOC 149 ROCKET	Mar 22	d	USSR		KY		
1967-24C	Fragment	Mar 22	d	USSR		KY		
1967-24D	Fragment	"	"	"		"		
1967-24E	Fragment	"	"	"		"		
1967-24F	Fragment	"	"	"		"		
1967-24G	Fragment	"	"	"		"		
1967-24H	Fragment	"	"	"		"		
1967-24J	Fragment	"	"	"		"		
1967-24K	Fragment	"	"	"		"		
1967-24L	Fragment	"	"	"		"		
1967-24M	Fragment	"	"	"		"		
1967-24N	Fragment	"	"	"		"		
1967-24P	Fragment	"	"	"		"		
1967-24Q	Fragment	"	"	"		"		
1967-24R	Fragment	"	"	"		"		
1967-24S	Fragment	"	"	"		"		
1967-24T	Fragment	Mar 22	d	USSR		KY		
1967-25A	KOСMOC 150	Mar 22	67 Mar 30	USSR	206 373 65,7°	PC 2		} A1 rec 1
1967-25B	KOСMOC 150 ROCKET	Mar 22	d	USSR		PC		
1967-26A	INTELSAT 2 C	Mar 23			INTELSAT 35645 35716 1,37°	KUL	} F-3 Caucasus Bldg Atlantic 2 Altair NOV	
1967-26B	INTELSAT 2 C ROCKET 2 nd STAGE	Mar 23	d	USA		KUL		
1967-26C	INTELSAT 2 C ROCKET 3 rd STAGE	Mar 23	d	USA		KUL		
1967-27A	KOСMOC 151	Mar 24	2017?	USSR	596 652 56°	PC 2	} A1? CI?	
1967-27B	KOСMOC 151 ROCKET	Mar 24		USSR		PC		
1967-27C	Fragment	Mar 24		USSR		PC		
1967-27D	Fragment	Mar 24		USSR		PC	} B1 sci	
1967-28A	KOСMOC 152	Mar 25	67 Jul 17	USSR	283 572 71°	PC		

1967-28B
1967-29A
1967-30A
1967-30B
1967-31A
1967-31B
1967-32A
1967-32B
1967-32C
1967-33A
1967-33B
1967-33C
1967-33D
1967-34A
1967-34B
1967-34C
1967-34D
1967-35A
1967-35B
1967-35C
1967-35D
1967-36A
1967-36B
1967-36C
1967-36D
1967-37A
1967-37B
1967-37C
1967-37D
1967-38A
1967-38B
1967-38C
1967-38D

rec r	1967-28B	KOENIG 152 ROCKET	Mar 25	d	USSR			PL	
	1967-29A	USAF 4779	Mar 30	67Apr 16	USA	167 327 85,03°	WTR		THUR ACENT THUR Agena 108
sci	1967-30A	KOENIG 153	Apr 4	67Apr 12	USSR	202 291 64,6°	PC		AI rec r
	1967-30B	KOENIG 153 ROCKET	Apr 4	d	USSR			PC	
met resu sat	1967-31A	ATS 2	Apr 6	71?	USA	177 111 30 28,4°	KSC		ATLAS ATLAS
	1967-31B	OPERATIONS 8916 ATS 2 ROCKET	Apr 6	14	USA	178 111 24 28,40°	KSC		AGELA 0 ATLAS 36 revs
	1967-32A	KOENIG 154	Apr 8	67Apr 10	USSR	186 232 57,6°	TSC		36 revs Soyuz 1/14000
	1967-32B	KOENIG 154 ROCKET	Apr 8	67Apr 10	USSR				AZ
	1967-32C	KOENIG 154 Fragment	Apr 8	d	USSR	286 286			
	1967-33A	KOENIG 155	Apr 12	67Apr 20	USSR	286 286 57,8°			rec r
	1967-33B	KOENIG 155 ROCKET	Apr 12	d	USSR				
	1967-33C	Fragment	Apr 12	d	USSR				AI
	1967-33D	Fragment	Apr 12	d	USSR				
?	1967-34A	USAF	Apr 14	3000?	USA	1053 1053 90,23°	WTR		OSCAR 12?
	1967-34B	ROCKET	Apr 14		USA				
	1967-34C	Fragment	Apr 14		USA				SCOUT
	1967-34D	Fragment S	Apr 14		USA				
	1967-35A	SURVEYOR 3	Apr 17, 29		USA				see LUNAR PROBES
	1967-35B	SURVEYOR 3 ROCKET	Apr 17, 29		USA				PC-12
	1967-35C	SURVEYOR 3 RADAR	Apr 17, 29						ATLAS CENTRAL
	1967-35D	SURVEYOR 3 ^{Equipment} ROCKET	Apr 17, 29						
	1967-36A	ESSA 5	Apr 20	2000?	USA	1360 1423 101,97°	WTR		TOSC met
rec r	1967-36B	ESSA 5 ROCKET	Apr 20	2000?	USA				Altair
	1967-36C	Fragment	Apr 20		USA				see SPACESHIP
F-3 Coming Bird Atlantic 2	1967-36D	Fragment	Apr 20		USA				STAD
70 Altair NOV	1967-37A	COV03 1	Apr 23, 02	67Apr 24, 13	USSR	201 224 57,7°	TSC		AZ
	1967-37B	COV03 1 ROCKET	Apr 23, 02	d	USSR				+ possibly ? fragments
	1967-38A	SAN MARCO 2	Apr 26	67Apr 27	USA	217 739 2,89°	SSM		sci
	1967-38B	SAN MARCO 2 ROCKET	Apr 26	67Apr 27	USA				Altair
	1967-39A	KOENIG 156	Apr 27	2017?	USSR	542 636 81,2°	PC		Meteor
	1967-39B	KOENIG 156 ROCKET	Apr 27		USSR				
sci	1967-40A	VELA 7	Apr 28		USA	102340 114.80 33,08°	KSC		Mike EW Advanced Va

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1967-40B	VELA 8	Apr 28	USA	167340	114580	3306° KSC	
1967-40C	ERS 18	Apr 28	USA	8597	111302	32,8° KSC	ERS
1967-40D	ERS 20	Apr 28	USA	8597	111302	32,8° KSC	TITAN
1967-40E	ERS 27	Apr 28	USA	8597	111302	32,8° KSC	3c magnetos
1967-40F	TRANSTAGE	Apr 28	USA	8604	111229	32,8° KSC	or possibly attached to 1 sec
1967-41A	LUNAR ORBITER 4	May 4, 93	(OSC) USA				Trans. 11 73c
1967-41B	LUNAR ORBITER 4 ROCKET	May 4, 93	USA				see LUNAR PROG
1967-41A	ARIEL 3	May 5 77?	UK	497 608	89,17°	WIR	Agenda
1967-42B	ARIEL 3 ROCKET	May 5 69	USA			WIR	Sci
1967-43A	USAF 4696	May 9 67	USA	200 777	85,1°	WIR	Altair
1967-43B	USAF capsule	May 9 87?	USA	535 808	85,1°	WIR	Nov 4/10/69
1967-44A	KOCMOR 157	May 12 67	USSR	202 296	57,3°	TBL	rec r
1967-44B	KOCMOR 157 ROCKET	May 12	USSR			TBL	
1967-44C	Fragment	May 12	USSR			TBL	
1967-44D	Fragment	May 12	USSR			TBL	
1967-44E	Fragment	May 12	USSR			TBL	
1967-45A	KOCMOR 158	May 15 76?	USSR	740 809	74,00°	TBL	CI?
1967-45B	KOCMOR 158 ROCKET	May 15	USSR			TBL	
1967-46A	KOCMOR 159	May 17 87?	USSR	386 606	57,5°	TBL	2nd/3rd/4th SM propulsion test?
1967-46B	KOCMOR 159 LAUNCHER	May 17	USSR			TBL	
1967-46C	KOCMOR 159 ROCKET	May 17	USSR			TBL	
1967-46D	Fragment	May 17	USSR			TBL	
1967-46E	Fragment	May 17	USSR			TBL	
1967-47A	KOCMOR 160	May 17 30th	USSR	142 205	49,6°	TBL	FORSS 4
1967-47B	KOCMOR 160 ROCKET	May 17/18	USSR			TBL	
1967-48A	USAF TR 13	May 18 3000?	USA	1075 1102	89,57°	WIR	USAF/USN Altair
1967-48B	ROCKET	May 18	USA			WIR	
1967-49A	KOCMOR 161	May 22 67	USSR	205 343	65,7°	WIR	rec r
1967-49B	KOCMOR 161 ROCKET	May 22	USSR			WIR	
1967-50A	USAF 4321 COSMOS	May 22 67	USA	135 243	91,40°	WIR	Altair
1967-50B	USAF	May 22 67	USA	148 240	91,44°	WIR	SAMOS 16 usec from Altair
1967-51A	EXPLORER 34	May 24 70?	USA	241 244	67,17°	WIR	IMPFS

	1967-69D	Fragment	Jul 17	d	USSR			TSC	
	1967-69E	Fragment	Jul 17	d	USSR			TSC	
see FRONTIERAL PARAMETERS	1967-70A	EXPLORER 35	Jul 19	(→SC)	USA	parking orbit		TSC	ATLAS see LUNAR PROBES
	1967-70B	EXPLORER 35 ROCKET STAGE 2	Jul 19	d	USA	hyperbolic orbit		TSC	delta 50 see LUNAR PROBES
i, Solar	1967-70C	EXPLORER 35 ROCKET STAGE 3	Jul 19	d	USA	perigee orbit		TSC	see LUNAR PROBES
	1967-70D	SEE PACIFIC PLANETS							see LUNAR PROBES
	1967-71A	USAF 7879	Jul 25	74?	USA	359 582 250°		WTR	
- Thor Agena 1967	1967-71B	Fragment	Jul 25	d	USA			WTR	
	1967-71C	Fragment	Jul 25	d	USA			WTR	THOR AGENA
Ed Verna	1967-71D	Fragment	Jul 25		USA			WTR	
	1967-72A	OVI-86	Jul 27	82?	USA	550 556 107.62°		WTR	rad, OVI-11 56?
	1967-72B	OVI-86 ROCKET	Jul 27		USA			WTR	
	1967-72C	OVI-12 ROCKET	Jul 27		USA			WTR	ATLAS delta
	1967-72D	OVI-12	Jul 27	82?	USA	550 556 104.62°		WTR	delta on 118
	1967-72E	Fragment	Jul 27		USA			WTR	
SHIMON TSC 1967	1967-73A	OGO 4	Jul 28	2007?	USA	410 903 86.03°		WTR	Thor Agena Agena WTR
Midas ECR 1967	1967-73B	OGO 4 ROCKET	Jul 28		USA			WTR	FORBS G
	1967-74A	KOCONOZ 170	Jul 31	10-y	USSR	145 203 50°		TSC	
	1967-74B	KOCONOZ 170 ROCKET	Jul 31	d	USSR			TSC	
USCS	1967-74C	KOCONOZ 170 PLATFORM	Jul 31	d	USSR			TSC	FLR
	1967-74D	Fragment	Jul 31	d	USSR			TSC	
San Antonio Satellite	1967-74E	Fragment	Jul 31	d	USSR			TSC	
in L Exp cont. sat 1967	1967-75A	LUNAR ORBITER 5	Aug 1	(→SC)	USA	parking orbit		TSC	ATLAS AGENA Agena
Orbit. Exp stage 1967	1967-75B	LUNAR ORBITER 5 ROCKET	Aug 1		USA	bi-centric orbit		TSC	
see	1967-76A	USAF	Aug 7	87 Sep	USA	173 345 79.04°		TSC	THOR AGENA 118
	1967-76B	Fragment	Aug 7	d	USA			TSC	
	1967-77A	KOCONOZ 171	Aug 8	10-y	USSR	145 220 50°		TSC	FORBS 7
	1967-77B	KOCONOZ 171 ROCKET	Aug 8	d	USSR			TSC	
see LUNAR PROBES	1967-77C	KOCONOZ 171 PLATFORM	Aug 8	d	USSR			TSC	FLR
HC-11	1967-77D	Fragment	Aug 8	d	USSR			TSC	
FORBS 5	1967-77E	Fragment	Aug 8	d	USSR			TSC	
	1967-78A	KOCONOZ 172	Aug 9	67 Aug 17	USSR	202 301 57.8°		TSC	see LUNAR PROBES
	1967-78B	KOCONOZ 172 ROCKET	Aug 9	d	USSR			TSC	

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1967-79A	USAF 4886	Aug 16	67 Aug 28	USA 141 450 111,88°	U-OR	ATLAS AGENT A	SAMOS 179
1967-80A	USAF	Aug 23	2067?	USA 832 889 98,97°	U-OR	THOR	TBR-3
1967-80B	ROCKET ?	Aug 23		USA	U-OR	BLANET 2	
1967-81A	KOZMOC 173	Aug 24	67 Dec 18	USSR 280 528 71°	PL	81	sci
1967-81B	KOZMOC 173	ROCKET	Aug 24	d	USSR		
1967-82A	KOZMOC 174	Fragment	Sep 7	22?	USSR 300 397 50	64,5°	Molnija
1967-82B	KOZMOC 174	ROCKET	Sep 7	d	USSR	TRX	ATL
1967-82C	KOZMOC 174	LAUNCHER	Sep 7	d	USSR	TBC	
1967-82D	Fragment		Sep 7	d	USSR	TBC	
1967-82E	BIOSATELLITE 2	Fragment	Sep 7	67 Sep 9	USA 305 317 33,48°	KSC	after 30 mps
1967-83A	BIOSATELLITE 2	ROCKET	Sep 7	67 Sep 9	USA	JTR	Bios B
1967-83B	BIOSATELLITE 2	ROCKET	Sep 7	67 Sep 9	USA	KSC	Relta S1
1967-83A	BIOSATELLITE 2	ADAPTER	Sep 7	d	USA	KSC	
1967-84A	SURVEYOR 5		Sep 8, 33	(→L) USA	parabolic orbit	KSC	see LUNAR PROBES
1967-84B	SURVEYOR 5	ROCKET	Sep 8, 33	USA	barycentric orbit	KX	AC-13
1967-84C				US		KX	ATLAS CENTAUR
1967-84D							
1967-85A	KOZMOC 175		Sep 11	67 Sep 19	USSR 210 357 72,9°	PL	sci r
1967-85B	KOZMOC 175	ROCKET	Sep 11	d	USSR		
1967-85C	Fragment		Sep 11	d	USSR		
1967-86A	KOZMOC 176		Sep 12	67 Sep 12	USSR 203 158 61,9°	PL	sci?
1967-86B	KOZMOC 176	ROCKET	Sep 12		USSR	PL	BI?
1967-86C	Fragment		Sep 12		USSR	PL	ROCKET
1967-86D	Fragment		Sep 12		USSR	PL	exploded
1967-86E	Fragment		Sep 12		USSR	PL	
1967-86F	Fragment		Sep 12	d	USSR	PL	
1967-86G	Fragment		Sep 12		USSR	PL	
1967-86H	Fragment		Sep 12		USSR	PL	
1967-86J	Fragment		Sep 12		USSR	PL	
1967-86K	Fragment		Sep 12		USSR	PL	
1967-86L	Fragment		Sep 12		USSR	PL	
1967-86M	Fragment		Sep 12		USSR	PL	
1967-87A	USAF 5089		Sep 15	67 Oct 4	USA 150 389 80,01°	U-OR	ATLAS AGENT A

SAFARI	1967-88A	KOZMOC 177	Sep 16	USSR	202 292 57.8° TBL	AA rec r
TBR-3	1967-88B	KOZMOC 177 ROCKET	Sep 16	d	USSR	TBL
2	1967-89A	KOZMOC 178	Sep 19	USSR	145 205 50° TBL	FOBS 8
sci	1967-89B	KOZMOC 178 ROCKET	Sep 19	d	USSR	TBL
	1967-89C	KOZMOC 178 PLATFORM	Sep 19	d	USSR	TBL
Winya	1967-89D	Fragment	Sep 19	d	USSR	TBL
	1967-90A	USAF 4944	Sep 19	USA	122 402 108.1° WTR	TTAW'SB SAMOS 52 AUGENAD TBS-5
	1967-91A	KOZMOC 179	Sep 22	USSR	145 208 50° TBL	FOBS 9
	1967-91B	KOZMOC 179 ROCKET	Sep 22	d	USSR	TBL
after 30 mgs	1967-91C	KOZMOC 179 PLATFORM	Sep 22	d	USSR	TBL
115B	1967-92A	USAF Tr 14	Sep 25	USA	1040 116 81.28° WTR	USAF/USN Scout
Alta 51	1967-92B	ROCKET	Sep 25	USA	89.2° WTR	
	1967-92C	Fragment				
WNAK PROBES AC-13	1967-93A	KOZMOC 180	Sep 26	USSR	212 370 73.9° PL	AA rec r
	1967-93B	KOZMOC 180 ROCKET	Sep 26	d	USSR	PL
	1967-94A	INTELSAT 2 D	Sep 28	USA	35440 35816 0.90° ASC	F-4 Pacific 2 com
	1967-94B	INTELSAT 2 D ROCKET ST.2	Sep 28	d	USA	LC 170 WTR
	1967-94C	INTELSAT 2 D ROCKET ST.3	Sep 28	d	USA	WTR
rec r	1967-94D	Fragment				
	1967-95A	МОЛНИЯ 1 F	Oct 3	USSR	465 39660 64.9° TBL	com
	1967-95B	МОЛНИЯ 1 F ROCKET	Oct 3	d	USSR	TBL
sci?	1967-95C	МОЛНИЯ 1 F LAUNCHER	Oct 3	d	USSR	TBL
	1967-95D	МОЛНИЯ 1 F ROCKET	Oct 11	USA	892 836 99.09° WTR	THOR TBS-4
	1967-96A	USAF	Oct 11	USA	2027: USA	WTR
	1967-96B	ROCKET	Oct 11	USA	2027: USA	WTR
Rocket exploded	1967-97A	KOZMOC 181	Oct 11	USSR	200 344 65.6° PL	AA rec r
	1967-97B	KOZMOC 181 ROCKET	Oct 11	d	USSR	PL
	1967-98A	KOZMOC 182	Oct 16	USSR	210 355 65° TBL	rec r
	1967-98B	KOZMOC 182 ROCKET	Oct 16	d	USSR	TBL
	1967-98C	Fragment	Oct 16	d	USSR	TBL
	1967-99A	KOZMOC 183	Oct 18	USSR	145 212 50° TBL	FOBS 10
	1967-99B	KOZMOC 183 ROCKET	Oct 18	d	USSR	TBL
	1967-99C	KOZMOC 183 PLATFORM	Oct 18	d	USSR	TBL
	1967-100A	OSO 4	Oct 18	USA	547 560 33.84° WTR	DELTA OSO 9 ORN. Solar OBS. DELTA
Mar Asene 40	1967-100B	OSO 4 ROCKET	Oct 18	USA	547 560 33.84° WTR	DELTA

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1967-101A	MOHAWK 1 G	Oct 22 72?	USSR	456 39740	64,7° 10C	} AR	Com; forrest with 1G
1967-101B	MOHAWK 1 G ROCKET	Oct 22 d	USSR		TBC		
1967-101C	MOHAWK 1 G LAUNCHER	Oct 22 d	USSR		TBC		
1967-101D	Fragment	Oct 22 d	USSR		TBC		
1967-101E	Fragment	Oct 22 d	USSR		TBC		
1967-102A	KOZMOZ 184	Oct 24 200?	USSR	600 635 81,2°	PL	} AT	Mebar
1967-102B	KOZMOZ 184 ROCKET	Oct 24	USSR		PL		
1967-103A	USAF 4995	Oct 25 67 Nov 4	USA	135 429 11,57°	TBC	} AT/C/FI	TTAW-3B SPACES 53 AGENA 4 T3B-6 meat at end?
1967-104A	KOZMOZ 185	Oct 27 200?	USSR	527 888 64,1°	TBC		
1967-104B	KOZMOZ 185 ROCKET	Oct 27	USSR		TBC	} AT	umsoyuz, 1st auto m/d with 1967-103A
1967-105A	KOZMOZ 186	Oct 27 6 Oct 31	USSR	209 235 51,7°	TBC		
1967-105B	KOZMOZ 186 ROCKET	Oct 27 6 Oct 24	USSR		TBC	} Fir	FOBS 11
1967-106A	KOZMOZ 187	Oct 28 120b	USSR	145 209 50°	TBC		
1967-106B	KOZMOZ 187 ROCKET	Oct 28 d	USSR		TBC	} AT	umsoyuz, 1st auto m/d with 1967-105B
1967-106C	KOZMOZ 187 PLATFORM	Oct 28 d	USSR		TBC		
1967-107A	KOZMOZ 188	Oct 30 67 Nov 1	USSR	209 276 51,6°	TBC	} AT	
1967-107B	KOZMOZ 188 ROCKET	Oct 30 67 Nov 2	USSR		TBC		
1967-108A	KOZMOZ 189	Oct 30 200?	USSR	535 600 74,0°	PL	} C1	elint
1967-108B	KOZMOZ 189 ROCKET	Oct 30	USSR		PL		
1967-108C	Fragment	Oct 30	USSR		PL		
1967-108D	Fragment	Oct 30	USSR		PL		
1967-108E	Fragment 108FL Fragments	Oct 30	USSR		PL		
1967-109A	USAF 1587	Nov 2 67 Dec 2	USA	181 410 81,53°	with	} THOR AGENA D	Ther Agena 113
1967-109B	USAF 0562	Nov 2 77?	USA	455 525 81,68°	with		
1967-110A	KOZMOZ 190	Nov 3 67 Nov 11	USSR	201 347 65,7°	ML?	} AT	per
1967-110B	KOZMOZ 190 ROCKET	Nov 3 d	USSR		ML?		
1967-111A	ATS 3	Nov 5	USA	35443 36114 0,53°	KSC	} ATLAS AGENA D	AT Tech Set 710W
1967-111B	ATS 3 ROCKET	Nov 5 71?	USA		KSC		
1967-112A	SURVEYOR 6	Nov 7 (5L)	USA	parabolic orbit	KSC	} ATLAS CENTAUR	see WNNR PROCES AC-14
1967-112B	SURVEYOR 6 ROCKET	Nov 7	USA	bi-parabolic orbit	KSC		
1967-112C							
1967-112D							

Com, Frankston 16	1967-113A	APOLLO 4	Nov 9	2 obs 67 Nov 9	USA	187 18346 32,7°	KSC	APOLLO 017 1st Saturn 5 test flight
	1967-113B	LTA-10R LM-MODEL/SA-501	Nov 9	67 Nov 9 (8 hr 11 min) USSR	USA	183 188 32,7°	KSC	SATURN 5 LM model fixed to S4B of Saturn 501
	1967-114A	ESSA 6	Nov 10	USSR	USA	150 1488 102,12°	USSR	TOS Direct
	1967-114B	ESSA 6 ROCKET	Nov 10		USA			
	1967-114C	Fragment	Nov 10		USA			Altair Delta 54
meteor	1967-114D	Fragment S	Nov 10		USA			
SAMS 53 T3B-6	1967-115A	SURVEYOR 6	Nov 17		USA			LUNAR PROBES
metamorph? Mvid	1967-115A	KOZMOZ 191	Nov 21	USSR?	USSR	281 578 71°	R	sci
	1967-115B	KOZMOZ 191 ROCKET	Nov 21	67 Jan	USSR		PL	
obj, 1st Mvid 7-102A	1967-116A	KOZMOZ 192	Nov 23	USSR?	USSR	746 760 74°	PL	CI
	1967-116B	KOZMOZ 192 ROCKET	Nov 23		USSR		PL	
	1967-117A	KOZMOZ 193	Nov 25	67 Dec 3	USSR	203 354 65,7°	PL	AI
is 11	1967-117B	KOZMOZ 193 ROCKET	Nov 25		USSR		PL	
	1967-118A	WRESAT 1	Nov 29	68 Jan 10	AUSTRALIA	113 125 83,3°	WMA	REDSTONE WRE satellite del by US
re, 1st Lunk 1967-109A	1967-119A	KOZMOZ 194	Dec 3	67 Dec 11	USSR	1205 322 65,7°	R	AI
	1967-119B	KOZMOZ 194 ROCKET	Dec 3		USSR		PL	
Cent	1967-120A	OV3-6 (ATCOS 2)	Dec 5	USSR?	USA	408 444 90,69°	WTR	radn, adm
	1967-120B	OV3-6 ROCKET	Dec 5		USA		WTR	Altair
	1967-120C	Fragment	Dec 5		USA		WTR	SCOUT
	1967-120D	Fragment	Dec 5		USA		WTR	
	1967-120E	Fragment	Dec 5		USA		WTR	
Ther Agen 113	1967-121A	USAF 5000	Dec 9	67 Dec 20	USA	740 444 109,5°	WTR	ITRAW 315 ACEN 10
	1967-122A	USAF 1007	Dec 9	67 Dec 25	USA	160 241 81,65°	WTR	ALTAR ACEN 10 see ARTIFICIAL PLANETS Test Training Sat (Apollo) 875
Sci	1967-123A	PIONEER 8	Dec 13	(→ HC)	USA		KSC	Delta 53
	1967-123B	TTS 1	Dec 13	USSR?	USA	290 484 32,8°	KSC	see ARTIFICIAL PLANETS
tech sat 712W	1967-123C	PIONEER 8 ROCKET ST.2	Dec 13		USA		KSC	Delta 53
	1967-123D	PIONEER 8 ROCKET ST.3	Dec 13	(→ HC)	USA		KSC	see ARTIFICIAL PLANETS
LUNAR PROBES PC-14	1967-123E	Fragment	Dec 13		USA		KSC	
	1967-123F	Fragment	Dec 13		USA		KSC	
	1967-124A	KOZMOZ 195	Dec 16	67 Dec 24	USSR	211 375 65,7°	R	rec r
	1967-124B	KOZMOZ 195 ROCKET	Dec 16		USSR		R	
	1967-124C	Fragment	Dec 16		USSR		R	

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1967-125A	KOCMOZ 196	Dec 19 68my?	USSR	225 887	49°	KY	sci
1967-125B	KOCMOZ 196 ROCKET	Dec 19	USSR			KY	} B1
1967-125C	Fragment	Dec 19	USSR			KY	
1967-125D	Fragment	Dec 19	USSR			KY	
1967-125E	Fragment	Dec 19	USSR			KY	
1967-126A	KOCMOZ 197	Dec 26	USSR	220 505	48.5°	KY	sci
1967-126B	KOCMOZ 197 ROCKET	Dec 26	USSR			KY	Exploded
1967-126C	Fragment	Dec 26	USSR			KY	} B1
1967-126D	Fragment	Dec 26	USSR			KY	
1967-126E	Fragment	Dec 26	USSR			KY	
1967-126F	Fragment	Dec 26	USSR			KY	
1967-126G	Fragment	Dec 26	USSR			KY	
1967-127A	KOCMOZ 198	Dec 27 2300?	USSR	164 174	65.1°	TRC	} Flm. main test for intercept. Ocean Survey?
1967-127B	KOCMOZ 198 ROCKET	Dec 27 d	USSR	895 950	65°	TRC	
1968-01A	SURVEYOR 7	Jan 7, 27	USA			RESEARCH	see LUNAR PROBES
1968-01B	SURVEYOR 7 ROCKET	Jan 7, 27	USA			RESEARCH	AC-15
1968-01C	SURVEYOR 7 EQUIPMENT						see LUNAR PROBES
1968-01F							
1968-02A	EXPLORER 36	Jan 11	USA	1084 1574	105.8°	WTR	GEOS B
1968-02B	EXPLORER 36 ROCKET	Jan 11	USA			SLICE WTR	} TAND AL (can) Dec 26
1968-02C	Fragment	Jan 11	USA			WTR	
1968-02D	Fragment	Jan 11	USA			WTR	
1968-03A	KOCMOZ 199 ROCKET	Jan 16	USSR			PC	} AD? Exploded Jan 24.3 re: Sep after 60km 8 + T
1968-03B	KOCMOZ 199	Jan 16	USSR	204 386	65.7°	PC	
1968-03C	FRAGMENT	Jan 16	USSR			PC	
1968-04A	OPERATIONS 1965	Jan 17	USA	448 547	75.16°	WTR	USAF Remot?
1968-04B	Fragment	Jan 17	USA			WTR	} TAT Program
1968-04C	Fragment	Jan 17	USA			WTR	
1968-05A	OPERATIONS 5028	Jan 18	USA			WTR	
1968-06A	KOCMOZ 200	Jan 20	USSR	138 404	111.57°	WTR	TITAN 345 AUGUSTA D USAF: SATHO 3.56 T 313-4
1968-06B	KOCMOZ 200 ROCKET	Jan 20	USSR	523 536	74°	PC	} CI
1968-06C	Fragment	Jan 20	USSR			PC	
1968-06D	Fragment	Jan 20	USSR			PC	

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1968-21A	KOCMOC 207	Mar 16	68 Mar 24	USSR	210 342	65.6°	PL	APZ?	rec r
1968-21B	KOCMOC 207 ROCKET	Mar 16		USSR			PL		
1968-22A	KOCMOC 208	Mar 21	68 Apr 2	USSR	207 315	65°	TBL		rec r
1968-22B	KOCMOC 208 ROCKET	Mar 21	d	USSR			TBL	APZ?	
1968-22C	Fragment Capsule	Mar 21	d	USSR			TBL		
1968-23A	KOCMOC 209	Mar 22	2500?	USSR	280 282	65.1°	TBL		mv; C198 type Propulsion test
1968-23B	KOCMOC 209 ROCKET	Mar 22	d	USSR	183 402	65.33°	TBL		
1968-23C	KOCMOC 209 PLATFORM	Mar 22	d	USSR			TBL		Fimp?
1968-23D	Fragment	Mar 22	d	USSR			TBL		
1968-23E	Fragment	Mar 22	d	USSR			TBL		
1968-24A	KOCMOC 210	Apr 3	68 Apr 11	USSR	217 395	81.7°	PL		rec r
1968-24B	KOCMOC 210 ROCKET	Apr 3	d	USSR			PL	APZ?	
1968-24C	KOCMOC	Apr 3	d	USSR			PL		
1968-25A	APOLLO 6	Apr 4	68 Apr 19	USA	204 392	32.57°	KSC	SATURN 5	tested on heat shield etc Carried on Test Article
1968-25B	SATURN 5-502	Apr 4		USA			KSC		
1968-25C	G-S Fragments	Apr 6	3000?	USA	538 9308	100°	WTR		rad'n
1968-26A	OVI-13	Apr 6	3000?	USA	568 9912	100°	WTR		rad'n
1968-26B	OVI-14	Apr 6		USA			WTR	ATLAS D	
1968-26C	OVI-13 ROCKET	Apr 6		USA			WTR		
1968-26D	OVI-14 ROCKET	Apr 6		USA			WTR		
1968-27A	LYHA 14	Apr 7, 16	(-25C)	USSR			TBL		see WTR PROPOS
1968-27B	LYHA 14 LAUNCHER	Apr 7	68 Apr 9	USSR	188 242	57.8°	TBL	APZ	Spain 45
1968-27C	LYHA 14 ROCKET	Apr 7	68 Apr 9	USSR			TBL		
1968-28A	KOCMOC 211	Apr 14	68 Oct?	USSR	210 1574	81.9°	PL		1968-21E, 21F, 21G, 21H, 21I, 21J, 21K, 21L, 21M, 21N, 21O, 21P, 21Q, 21R, 21S, 21T, 21U, 21V, 21W, 21X, 21Y, 21Z
1968-28B	KOCMOC 211 ROCKET	Apr 14	68 Oct?	USSR			PL	B1	
1968-29A	KOCMOC 212	Apr 14	68 Apr 19	USSR	210 239	51.7°	TBL	APZ	1968-21E, 21F, 21G, 21H, 21I, 21J, 21K, 21L, 21M, 21N, 21O, 21P, 21Q, 21R, 21S, 21T, 21U, 21V, 21W, 21X, 21Y, 21Z
1968-29B	KOCMOC 212 ROCKET	Apr 14	68 Apr 16	USSR			TBL		
1968-30A	KOCMOC 213	Apr 15	68 Apr 19	USSR	205 271	51.4°	TBL	APZ	1968-21E, 21F, 21G, 21H, 21I, 21J, 21K, 21L, 21M, 21N, 21O, 21P, 21Q, 21R, 21S, 21T, 21U, 21V, 21W, 21X, 21Y, 21Z
1968-30B	KOCMOC 213 ROCKET	Apr 15	68 Apr 19	USSR			TBL		
1968-31A	USAF 5105	Apr 17	68 Apr 29	USA	134 426	111.5°	WTR		TITAN 2B SAMOS 587 NG-04A T30 70
1968-32A	KOCMOC 214	Apr 18	68 Apr 26	USSR	211 403	81.4°	PL	APZ?	rec r
1968-32B	KOCMOC 214 ROCKET	Apr 18	d	USSR			PL		
1968-33A	KOCMOC 215	Apr 19	68 Jul 1	USSR	261 426	48.5°	PL		Sci -6 crud

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1968-48A	KOCMOC 225	Jun 12	'68 Oct? USSR	257 530	48,4°	KC7	sci
1968-48B	KOCMOC 225 ROCKET	Jun 12	68 Aug? USSR			K7	} BI
1968-48C	Fragment	Jun 12	d USSR			K7	
1968-48D	Fragment	Jun 12	d USSR			K2	
1968-49A	KOCMOC 226	Jun 12	2030? USSR	63 650	81,2°	PL	meteor
1968-49B	KOCMOC 226 ROCKET	Jun 12	2030? USSR			PL	} AI
1968-50A	1DCSP 4-1	197 Jun 13	USA	33758 33841	0,19°	KSC	} 1DCSP 20-27 THRU 3C Transstage TBC-10
1968-50B	1DCSP 4-2	20 Jun 13	USA	33725 33863	0,19°	KSC	
1968-50C	1DCSP 4-3	21 Jun 13	USA	33699 33907	0,10°	KSC	
1968-50D	1DCSP 4-4	22 Jun 13	USA	33737 33984	0,18°	KSC	
1968-50E	1DCSP 4-5	23 Jun 13	USA	33721 34035	0,19°	KSC	
1968-50F	1DCSP 4-6	24 Jun 13	USA	33724 34126	0,16°	KSC	
1968-50G	1DCSP 4-7	25 Jun 13	USA	33721 34256	0,17°	KSC	
1968-50H	1DCSP 4-8	26 Jun 13	USA	33752 34443	0,13°	KSC	
1968-50J	TRANSTAGE 12	Jun 13	USA			KSC	
1968-51A	KOCMOC 227	Jun 18	68 Jun 26 USSR	194 281	57,8°	TBC	rec r
1968-51B	KOCMOC 227 ROCKET	Jun 18	d USSR			TBC	} MY2?
1968-52A	OPERATIONS 5343	Jun 20	68 Jul 18 USA	196 326	84,99°	THRU	USAF Thru-Agena 118
1968-52B	USAF 5250	Jun 20	68 Jul 15 USA	437 577	85,18°	THRU	ADVENT D
1968-53A	KOCMOC 228	Jun 21	68 Jul 23 USSR	206 259	57,6°	TBC	rec r
1968-53B	KOCMOC 228 ROCKET	Jun 21	d USSR			TBC	} AZ?
1968-53C	Fragment	Jun 21	d USSR			TBC	
1968-53D	Fragment	Jun 21	d USSR			TBC	
1968-53E	Fragment	Jun 21	d USSR			TBC	
1968-53F	Fragment	Jun 21	d USSR			TBC	
1968-53G	KOCMOC 228 CAPSULE	Jun 21, 50	68 Jul 7, 37 USSR	153 153	51,6°	TBC	COSMIC RAY PACKAGES G. ...
1968-54A	KOCMOC 229	Jun 26	68 Jul 4 USSR	210 384	72,8°	PL	rec r
1968-54B	KOCMOC 229 ROCKET	Jun 26	d USSR			PL	} AZ?
1968-55A	EXPLORER 38	July 4	10000? USA	5852 5862	120,64°	THRU	RAE-A next to Altair
1968-55B	EXPLORER 38 ROCKET	July 4	2500? USA			THRU	
1968-55C	Fragment						
1968-56A	KOCMOC 230	Jul 5	USA	290 380	48,5°	K4	} BI sci
1968-56B	KOCMOC 230 ROCKET	Jul 5	d USSR			K2	

sci	1968-57A	МОЛНИЯ 1 J	Jul 8 71 Aug 15	USSR	420 39770	65°	TBC	com
	1968-57B	МОЛНИЯ 1 J ROCKET	Jul 8	d	USSR		TBC	Venus ST
	1968-57C	МОЛНИЯ 1 J LAUNCHER	Jul 8	d	USSR	241 473	65,01°	TBC } A2c
	1968-57F	МОЛНИЯ 1 J AB	Jul 8		USSR		TBC	e st.
meteor	1968-57D	fragments						
	1968-58A	КОСМОС 231	Jul 10	68 Jul 18?	USSR	211 330	65°	TBC } A1 rec
	1968-58B	КОСМОС 231 ROCKET	Jul 10	d	USSR		TBC	
	1968-59A	OVI-15 - SPADES	Jul 11	68 Nov 6	USA	154 1818	89,9°	WTR } A-D, radi
	1968-59B	CANNONBALL 1	Jul 11	68 Aug 19	USA	161 533	80,0°	WTR } ATLAS 1000s B F AT drag
1968-59C	OVI-15 ROCKET ?		Jul 11		USA		WTR	
1968-59D	OVI-16 ROCKET							
1968-60A	КОСМОС 232		Jul 16	68 Jun 24?	USSR	202 352	65°	PL } A2? rec r
1968-60B	КОСМОС 232 ROCKET		Jul 16	d	USSR		PL	
TAN	1968-61A	КОСМОС 233	Jul 18		USSR	210 1545	82°	PL } B1 sci
3C	1968-61B	КОСМОС 232 ROCKET	Jul 18	68 Jun 1	USSR		PL	
	1968-62A	КОСМОС 234	Jul 30	68 Aug 7?	USSR	210 310	57,8°	TBC } A2? rec r
Trandage	1968-62B	КОСМОС 234 ROCKET	Jul 30	d	USSR		TBC	
TBC-10	1968-63A	PROGRAM 8271 IS MEWS OPERATIONS 2222	Aug 6		USA	31689 39863	9,9°	WTR } ATLAS AVENT
rec r	1968-64A	OPERATIONS 5187	Aug 6	68 Aug 16	USA	142 394	110,0°	WTR } T1 TAW 3B T1 TAW 3D T3B-12 T1 TAD TAW 119
USAF Ther-Agena 118	1968-65A	OPERATIONS 5955	Aug 7	68 Aug 26	USA	157 257	82,1°	WTR } ADE
	1968-66A	EXPLORER 39	Aug 8	72?	USA	670 2538	80,66°	WTR } Injun 5
rec r	1968-66B	EXPLORER 40	Aug 8	72?	USA	680 2533	80,67°	WTR } Albeair
	1968-66C	ROCKET	Aug 8		USA		WTR	
	1968-66D	Fragment	Aug 8		USA		WTR	
	1968-66E	Fragment	Aug 8		USA		WTR	
	1968-66F	Fragment	Aug 8		USA		WTR	SCOUT
ISOMICRAY PACKAGE by method	1968-66G	Fragment	Aug 8		USA		WTR	
rec r	1968-66H	Fragment	Aug 8		USA		WTR	
	1968-66J	Fragment	Aug 8		USA		WTR	
	1968-67A	КОСМОС 235	Aug 9	68 Aug 17?	USSR	207 303	57,8°	TBC } A2? rec r
RAE-A MID north ST Albeair	1968-67B	КОСМОС 235 ROCKET	Aug 9	d	USSR		TBC	
sci	1968-68A	{ AT 5 4 CENTAUR AC-17 }	Aug 10	68 Oct 17	USA	219 725	29,04°	WTR } KSC ATLAS CENTAUR SERP ATLAS
	1968-69A	ESSA 7	Aug 16	12000?	USA	1464 1472	16,72°	WTR } E TOS 17 Albeair TOS 17 70
	1968-69B	ESSA 7 ROCKET	Aug 16		USA		WTR	

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1968-69C	Fragment	Aug 16	USA						
1968-69D	Fragment	Aug 16	USA						
1968-70A	KOcmoc 236	Aug 27	2020? USA	600	655	56,0°	TSC	A1	meteor
1968-70B	KOcmoc 236 ROCKET	Aug 27	2020? USSR				PSC		
1968-71A	KOcmoc 237	Aug 27	68 Sep 4	USSR	201	343	64,5°	PL	rec v
1968-71B	KOcmoc 237 ROCKET	Aug 27	d	USSR			PL	A2?	
1968-72A	KOcmoc 238	Aug 28	68 Sep 1	USSR	199	219	51,7°	PSC	Suzer
1968-72B	KOcmoc 238 ROCKET	Aug 28	d	USSR			TSC		
1968-73A	KOcmoc 239	Sep 5	68 Sep 13	USSR	202	282	51,8°	TSC	rec v
1968-73B	KOcmoc 239 ROCKET	Sep 5	d	USSR			TSC	A2?	
1968-74A	OPERATIONS 247	Sep 10	68 Sep 25	USA	126	403	106,16°	WTR	Titan 3B AUGNAD
1968-75A	KOcmoc 240	Sep 14	68 Sep 22?	USSR	197	293	51,8°	TSC	A2? rec v
1968-75B	KOcmoc 240 ROCKET	Sep 14	d	USSR			TSC		
1968-76A	30HJ 5	Sep 15	68 Sep 19	USSR					pendine 1950 USSR
1968-76B	30HJ 5 ROCKET	Sep 15	68 Sep 16	USSR					USSR
1968-76C	30HJ 5 LAUNCHER	Sep 15	68 Sep 18	USSR	193	218	51,62°	PSC	Sputnik 6
1968-77A	1968-77A Fragment	Sep 16	68 Sep 24?	USSR	201	343	65,4°	PSC	rec v
1968-77B	KOcmoc 241	Sep 16	d	USSR					
1968-77C	KOcmoc 241 ROCKET	Sep 16	d	USSR					
1968-78A	OPERATIONS 165	Sep 18	68 Oct 7	USA	167	343	83,02°	WTR	Titan 3C AUGNAD
1968-78B	USAF 8595	Sep 18	71?	USA	504	513	83,22°	WTR	
1968-79A	KOcmoc 242	Sep 20	??	USSR	280	440	71°	PL	BC
1968-79B	KOcmoc 242 ROCKET	Sep 20	68 Oct 22	USSR					
1968-80A	KOcmoc 243	Sep 23	68 Oct 4	USSR	209	319	71,3°	TSC	Suilly Antenne 120 cap
1968-80B	KOcmoc 243 ROCKET	Sep 23	d	USSR					
1968-80C	KOcmoc 243 CAPSULE	Sep 23	68 Oct 12	USSR	179	219	71,3°	PSC	PMP-A
1968-81A	OVS-5	Sep 26		USA	35716	35816	2,9°	KSC	
1968-81B	OVS-2	Sep 26	75?	USA	183	35790	26,31°	KSC	Titan 3C
1968-81C	OVS-4	Sep 26		USA	35778	35788	3,0°	KSC	
1968-81D	ZES 6	Sep 26		USA	35597	35786	3,0°	KSC	
1968-81E	TRANSTAGE Fragment 13	Sep 26		USA	35408	35744	3,04°	KSC	Titan 3C Transstage 13
1968-82A	KOcmoc 244	Oct 11	1968	USSR	140	212	50,0°	PSC	FORBS 13
1968-82B	KOcmoc 244 ROCKET	Oct 11	1968	USSR					

RD	1968-82C	KOСMOC 244 PLATFORM	Oct 3	USSR	282	509	71.0°	PC	TSC	
met	1968-83A	KOСMOC 245	Oct 3	USSR	282	509	71.0°	PC	TSC	sci
eur	1968-83B	KOСMOC 245 ROCKET	Oct 3	USSR	68Nw16					sci
	1968-84A	AURORAE	Oct 3	USA	70Apr?	253	1534	93.76°	wtr	Sci 01 A
	1968-84B	AURORAE ROCKET	Oct 3	USA					wtr	Sci 01 A
v2	1968-84C-D	Fragment	Oct 3	USA					wtr	Sci 01 A
	1968-85A	МОНИЯ 1K	Oct 5	USSR	76Jul11	490	39600	65.0°	TSC	com
eur	1968-85B	МОНИЯ 1K LAUNCHER ORS	Oct 5	USSR	68Nov5	233	422	64.96°	TSC	com
	1968-85C	МОНИЯ 1K ROCKET	Oct 5	USSR	68Oct30				TSC	com
SAMOS 60	1968-85D	МОНИЯ 1K AB	Oct 5	USSR	75				TSC	com
T30-13	1968-86A	USAF 0964	Oct 5	USA	71Mar29	483	572	74.97°	wtr	TAT AUGUA
eur	1968-87A	KOСMOC 246	Oct 7	USSR	68Oct15?	477	478	65.4°	PC	ret?
we 1952 km on	1968-87B	KOСMOC 246 ROCKET	Oct 7	USSR					PC	ret?
1968-88A	1968-88A	KOСMOC 247	Oct 11	USSR	68Oct19?	205	362	65.4°	PC	ret?
5 block 15F	1968-88B	KOСMOC 247 ROCKET	Oct 11	USSR					PC	ret?
3 release down	1968-89A	APOLLO 7	Oct 11, 63	USA	68Oct22, 47	232	297	31.63°	TSC	see SPACESHIPS
utrik 46	1968-89B	SATURN AS-205	Oct 11, 63	USA	68Oct18	227	307	31.60°	TSC	18
rec v	1968-90A	KOСMOC 248	Oct 19	USSR	787	547	2175	62°	TSC	54B (84A red with after sep) mv. target
Mar Agena 120	1968-90B	Fragment	Oct 19	USSR					TSC	
	1968-90C	Fragment	Oct 19	USSR					TSC	
Sci	1968-90D	Fragment	Oct 19	USSR					TSC	Flm
	1968-90E	Fragment	Oct 19	USSR					TSC	
Sci 18, Antenna 100 cap	1968-91A	KOСMOC 249	Oct 20	USSR	?	514	2177	62.4°	TSC	1st Interceptor mv.
P-A	1968-91B	KOСMOC 249 ROCKET	Oct 20	USSR	68Oct21	137	254	62°	TSC	
	1968-91C	Fragment	Oct 20	USSR	5700	2170	62°	TSC		
6528	1968-91D	Fragment	Oct 20	"	"	"	"	"		obv. approximate
6521	1968-91E	Fragment	"	"	"	"	"	"		
	1968-91F	Fragment	"	"	"	"	"	"		
	1968-91G	Fragment	"	"	"	"	"	"		
RAN 3C-11	1968-91H	Fragment	"	"	"	"	"	"		
in stage 13	1968-91I	Fragment	"	"	"	"	"	"		
FOBS 13	1968-91J	Fragment	"	"	"	"	"	"		
	1968-91K	Fragment	"	"	"	"	"	"		



1968

1968-91L	Fragment	Oct 20	USSR	500	2170	62°	TOL	} Film
1968-91M	Fragment	"	"	"	"	"	"	
1968-91N	Fragment	"	"	"	"	"	"	
1968-91P	Fragment	"	"	"	"	"	"	
1968-91Q	Fragment	"	"	"	"	"	"	
1968-91R	Fragment	"	"	"	"	"	"	
1968-91S	Fragment	"	"	"	"	"	"	
1968-91T	Fragment	"	"	"	"	"	"	
1968-91U	Fragment	"	"	"	"	"	"	
1968-91V	Fragment	"	"	"	"	"	"	
1968-91W	Fragment	"	"	"	"	"	"	
1968-91X	Fragment	"	"	"	"	"	"	
1968-91Y	Fragment	"	"	"	"	"	"	
1968-91Z	Fragment	"	"	"	"	"	"	
1968-91AA	Fragment	"	"	"	"	"	"	
1968-91AB	Fragment	"	"	"	"	"	"	
1968-92A	OPERATIONS	4078 Oct 23	2070? USA	746	855	99.0°	mm	} FROM BURNER 2
1968-92B	ROCKET	Oct 23	2040? USA				mm	
1968-93A	COROS 2	Oct 25	68 Oct 28 USSR	185	224	57.7°	TOL	} AZ
1968-93B	COROS 2 ROCKET	Oct 25	68 Oct 27 USSR				TOL	
1968-94A	COROS 3	Oct 26	68 Oct 28 USSR	205	225	57.7°	TOL	} AZ see SPACESTARS
1968-94B	COROS 3 ROCKET	Oct 26	68 Oct 28 USSR	199	244		TOL	
1968-95A	KOZMOC 250	Oct 30	78? USSR	523	556	71.0°	PL	} C1 elint
1968-95B	KOZMOC 250 ROCKET	Oct 30	USSR				PL	
1968-95C	Fragment							} AZ
1968-96A	KOZMOC 251	Oct 31	68 Nov 18 USSR	198	270	65°	TOL	
1968-96B	KOZMOC 251 ROCKET	Oct 31	68 Nov 16 USSR				TOL	
1968-96C	KOZMOC 251 CAPSULE	Oct 31	68 Nov 16 USSR	217	231	65°	TOL	} GRPA over Nov 11
1968-97A	KOZMOC 252	Nov 1	270? USSR	558	272	64.9°	TOL	
1968-97B	Fragment	Nov 1	USSR	530	2180	67.3°	TOL	} m(e)
1968-97C	Fragment	Nov 1	"	"	"	"	TOL	
1968-97D	Fragment	Nov 1	"	"	"	"	TOL	
1968-97E	Fragment	Nov 1	"	"	"	"	TOL	

	1968-97F	Fragment	Nov 1	USSR	530	2150	62°	T3C	} Flm
	1968-97G	Fragment	"	"	"	"	"	"	
	1968-97H	Fragment	"	"	"	"	"	"	
	1968-97J	Fragment	"	"	"	"	"	"	
	1968-97K	Fragment	"	"	"	"	"	"	
	1968-97L	Fragment	"	"	"	"	"	"	
	1968-97M	Fragment	"	"	"	"	"	"	
	1968-97N	Fragment	"	"	"	"	"	"	
	1968-97P	Fragment	"	"	"	"	"	"	
	1968-97Q	Fragment	"	"	"	"	"	"	
	1968-97R	Fragment	"	"	"	"	"	"	
	1968-97S	Fragment	"	"	"	"	"	"	
	1968-97T	Fragment	"	"	"	"	"	"	
	1968-97U	Fragment	"	"	"	"	"	"	
	1968-97V	Fragment	"	"	"	"	"	"	
	1968-97W	Fragment	"	"	"	"	"	"	
TSZ-7	1968-97X	Fragment	"	"	"	"	"	"	
Bumer 2 ms. n. much 168-949A	1968-97Y	Fragment	"	"	"	"	"	"	
	1968-97Z	Fragment	"	"	"	"	"	"	
	1968-97AA	DU fragments	"	"	"	"	"	"	
SPACEFLIPS	1968-98A	OPERATIONS 1315	Nov 3 68 Nov 3	USSR	150	288	82.15°	WTR LTTAD	Ther 121
	1968-99A	OPERATIONS 5296	Nov 6 68 Nov 20	USSR	130	390	106.04°	WTR	PTAWIS SAMOS 67 ACENTIO T3B-14
elint	1968-100A	PIONEER 9	Nov 8 (→) USA	USA				parking orbit	see ARTIFICIAL SATELLITES
	1968-100B	TTS 2	Nov 8 78?	USA	338	940	37.5°	KSC	TETR Apollo Test frequency 603
more	1968-100C	PIONEER 9 ROCKET STAGE 2	Nov 8 75?	USA				KSC	TAD Delta 60
	1968-100D	PIONEER 9 ROCKET ST. 3	Nov 8 (→) USA	USA				KSC	Delta 60
GRPA over Nov 11	1968-101A	30HJ 6	Nov 10 68 Nov 17	USSR				perilous 2420 barycentric orbit	TDC see MINIMUM PERIL perilous 2420 km Nov 14
mv(ie)	1968-101B	30HJ 6 ROCKET	Nov 10 68 Nov 13	USSR				TDC	
	1968-101C	30HJ 6 LAUNCHER	Nov 10 68 Nov 12	USSR				TDC	
	1968-101D	Fragment	Nov 10	USSR				TDC	} Die
	1968-101E	Fragment	Nov 10	USSR				TDC	
	1968-102A	KOCMOC 253	Nov 18 68 Nov 18	USSR	206	335	65°	TDC	
	1968-102D 1968-102E	Fragment	Nov 8, 41	USA				KSC	rel r 25

1969

1969-02B	BEHEPA 6 ROCKET	Jan 10	d	USSR				TBL	APL
1969-02C	BEHEPA 6 LAUNCHER	Jan 10 69	Jan 13	USSR	201	207	65,07°	TBL	Sputnik 6
1969-03A	KOCMOC 263	Jan 12 69	Jan 20?	USSR	205	346	65,4°	PL	rec r
1969-03B	KOCMOC 263 ROCKET	Jan 12	d	USSR				PL	AZ?
1969-03C	Fragment	Jan 12	d	USSR				PL	
1969-04A	COVOS 4	Jan 14, 30	Jan 17, 28	USSR	173	224	57,7°	TBL	see SPACESHIPS
1969-04B	COVOS 4 ROCKET	Jan 14, 30	d	USSR				TBL	AZ
1969-05A	COVOS 5	Jan 15, 30	Jan 18, 33	USSR	200	230	57,7°	TBL	see SPACESHIPS
1969-05B	COVOS 5 ROCKET	Jan 15, 30	d	USSR				TBL	AZ
1969-05C	Fragment	Jan 15, 30	d	USSR				TBL	
1969-06A	OSO 5	Jan 22	84?	USA	248	533	32,95°	KSC	see OSO 5
1969-06B	OSO 5 ROCKET	Jan 22	84?	USA				KSC	see OSO 5
1969-07A	OPERATIONS 7585	Jan 22	84 Feb 3	USA	142	1091	106,5°	WTR	TITAN 3B
1969-07B	Fragment	Jan 22	d	USA				WTR	see OSO 5
1969-08A	KOCMOC 264	Jan 23	89 Feb 4	USSR	219	330	70°	TBL	MIRCT
1969-08B	KOCMOC 264 ROCKET	Jan 23	d	USSR				TBL	AZ?
1969-08C	KOCMOC 264 CAPSULE	Jan 23	89 Feb 13	USSR	209	303	70°	TBL	not reach?
1969-09A	ISIS 1	Jan 30	2220?	CANADA	580	3405	88,42°	WTR	LITAD
1969-09B	ISIS 1 ROCKET	Jan 30	2220?	USA				WTR	see OSO 5
1969-10A	OPERATIONS 3890	Feb 5	69 Feb 24	USA	179	240	81,53°	WTR	LITAD
1969-10B	USAF 2644	Feb 5	12000?	USA	1395	1440	80,41°	WTR	see OSO 5
1969-10C	Fragment	Feb 5							
1969-11A	INTELSAT 3C	Feb 5		INTELSAT	35761	35787	134°	WTR	LITAD
1969-11B	INTELSAT 3C ROCKET	Feb 5	89?	USA				WTR	see OSO 5
1969-12A	KOCMOC 265	Feb 7	81 Apr?	USSR	285	485	71°	PL	BI
1969-12B	KOCMOC 265 ROCKET	Feb 7	d	USSR				PL	
1969-13A	TACSAT 1 (USAF 0759)	Feb 9		USA	35919	36023	0,65°	KSC	TITAN 3C
1969-13B	TRANSTATOE	Feb 9		USA	35940	36044	0,65°	KSC	Titan 3C-12
1969-14A	MARINER 6	Feb 25	(-HC)	USA				KSC	see ARTIFICIAL PLANETS
1969-14B	MARINER 6 ROCKET	Feb 25	(-HC)	USA				KSC	see ARTIFICIAL PLANETS
1969-15A	KOCMOC 266	Feb 25	69 Mar 5	USSR	208	358	72,9°	PL	rec r
1969-15B	KOCMOC 266 ROCKET	Feb 25	d	USSR				PL	AZ?
1969-15C	Fragment	Feb 25	d	USSR				PL	

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1969-21R	Fragment	Mar 5	USSR				PL	
1969-21S	Fragment	"	"				"	
1969-21T	Fragment	"	"				"	
1969-21U	Fragment	"	"				"	
1969-21V	Fragment	"	"				"	
1969-22A	KOCMOC 270	Mar 6 69	Mar 14 USSR	205	350	65.4°	PL	rec r
1969-22B	KOCMOC 270 ROCKET	Mar 6	d USSR				PL	
1969-23A	KOCMOC 271	Mar 15 69	Mar 23 USSR	200	342	65.4°	PL	rec r
1969-23B	KOCMOC 271 ROCKET	Mar 15	d USSR				PL	
1969-24A	KOCMOC 272	Mar 17	5000? USSR	195	120	74°	PL	geodesy
1969-24B	KOCMOC 272 ROCKET	Mar 17	4000? USSR				PL	
1969-25A	OVI-17	Mar 18	70 Jul? USA	398	463	99.18°	WTR	m 170
1969-25B	OVI-18	Mar 18	78? USA	465	583	98.86°	WTR	n 141 radn m 104
1969-25C	OVI-19	Mar 18	2220? USA	465	5765	104.77°	WTR	
1969-25D	OVI-17 A	Mar 18	69 Mar 24 USA	175	309	99.10°	WTR	ATTAS m 200 10705 F OVI 18 Jul 2
1969-25E	OVI-19 ROCKET	Mar 18	77? USA				WTR	
1969-25F	OVI-18 ROCKET	Mar 18	2220? USA				WTR	
1969-26A	OPERATIONS 3722	Mar 19 69	Mar 23 USA	179	241	83.04°	WTR	Shortly after 12:30 USAF
1969-26B	OPERATIONS 2285	Mar 19 71	Dec 6 USA	504	513	83.08°	WTR	AGENDA USAF resec Mar 19
1969-27A	KOCMOC 273	Mar 22 69	Mar 30 USSR	205	356	65.4°	PL	rec r
1969-27B	KOCMOC 273 ROCKET	Mar 22	d USSR				PL	
1969-28A	KOCMOC 274	Mar 24 69	April 1 USSR	213	323	65.5°	PL	rec r
1969-28B	KOCMOC 274 ROCKET	Mar 24	d USSR				PL	
1969-29A	METEOP 1	Mar 26	2030? USSR	644	713	81.2°	PL	meteor met
1969-29B	METEOP 1 ROCKET	Mar 26	USSR				PL	lum. stage
1969-29C	Fragment	Mar 26	d USSR				"	
1969-29D	Fragment	"	d USSR				"	
1969-29E	Fragment	"	USSR				"	
1969-29F	Fragment	"	USSR				"	
1969-29G	Fragment	"	USSR				"	
1969-29H	Fragment	"	USSR				"	
1969-29J	Fragment	"	USSR				"	

	1969-29K	Fragment	Mar 26	USSR	PL	
	1969-29L	Fragment	"	"	"	
	1969-29M	Fragment	"	"	"	
	1969-29N	Fragment	"	"	"	
	1969-29P	Fragment	"	"	"	
rec r	1969-29Q	Fragment	"	"	"	A1
	1969-29R	Fragment	"	"	"	
rec r	1969-29S	Fragment	"	"	"	
	1969-29T	Fragment	"	"	"	
codexy	1969-29U	Fragment	"	"	"	
	1969-29V	Fragment	"	"	"	
• m) 70	1969-29W	Fragment	"	"	"	
n 141 radn m 104	1969-29X	Fragment	"	"	"	
m 200 107005 Ovhis Cal 2	1969-29Y	Fragment	"	"	"	
	1969-29Z	Fragment	"	"	"	
	1969-29AA	Fragment	"	"	"	
	1969-29AB	Fragment	"	"	"	
TherHofna 128 USAF	1969-29AC	Fragment	"	"	"	
o USAF see Mar 19	1969-29AD	Fragment	"	"	"	
rec r	1969-29AE	Fragment	"	"	"	
	1969-29AF	Fragment	"	"	"	
rec r	1969-29AG	Fragment	"	"	"	
	1969-29AH	Fragment	"	"	"	
meteor met Lunc. stage	1969-29AS	Fragment S	"	"	"	
	1969-30A	MARINER 7	Mar 27 69	(SAC) USA	parking orbit	KSC } ATLAS KSC } CENTUR
	1969-30B	MARINER 7 ROCKET	Mar 27	(SAC) USA	"	
	1969-31A	KOCMOC 275	Mar 28	USSR 248 805	71.0° PL	} R1 sci
	1969-31B	KOCMOC 275 ROCKET	Mar 28	USSR 69 Sep	PL	
	1969-32A	KOCMOC 276	Apr 4 69	Apr 11	USSR 214 410 81.4° PL	} AZ rec r
	1969-32B	KOCMOC 276 ROCKET	Apr 4	d	USSR	
	1969-33A	KOCMOC 277	Apr 4 69	Jun	USSR 280 494 71.0° PL	} R1 sci
	1969-33B	KOCMOC 277 ROCKET	Apr 4 69	May 18	USSR	

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1969-34A	KOСMOC 278	Apr 9 69	Apr 17	USSR	203 338	65,0°	TL	rec r	
1969-34B	KOСMOC 278 ROCKET	Apr 9	d	USSR				TL	
1969-35A	MOЛHИЯ 1 L	Apr 11 74	Apr 17	USSR	2470 39700	65,0°	TL	TL	Com
1969-35B	MOЛHИЯ 1 L ROCKET	Apr 11	d	USSR				TL	
1969-35C	MOЛHИЯ 1 L AB	Apr 11	75?	USSR				TL	
1969-35D	MOЛHИЯ 1 L LAUNCHER	Apr 11	69	May 5	USSR	222 400	65,0°	TL	
1969-36A	BMEWS 2 (PROGRAM 821)	Apr 3		USA	31862 34862	9,9°	TL	TL	ATLAS #021A EW
1969-37A	NIMBUS 3	Apr 14	69	May 5	USA	1070 1131	99,91°	TL	TL
1969-37B	SEZOR 13	Apr 14	4000?	USA				TL	TL
1969-37C	NIMBUS 3 ROCKET	Apr 14		USA				TL	TL
1969-38A	KOСMOC 279	Apr 15		USSR	194 280	57,8°	TL	TL	rec r
1969-38B	KOСMOC 279 ROCKET	Apr 15	d	USSR				TL	
1969-39A	OPERATIONS 5310	Apr 15 69	Apr 30	USA	135 410	108,70°	TL	TL	TL
1969-40A	KOСMOC 280	Apr 23 69	May 5	USSR	206 272	57,6°	TL	TL	TL
1969-40B	KOСMOC 280 ROCKET	Apr 23	d	USSR				TL	
1969-40C	KOСMOC 280 CAPSULE	Apr 23 69	May 8	USSR	208 239	57,6°	TL	TL	TL
1969-40D	Fragment	Apr 23	d	USSR				TL	
1969-41A	OPERATIONS 1101	May 2 69	May 23	USA	174 307	64,97°	TL	TL	TL
1969-41B	OPERATIONS 1721	May 2	70	May 16 86	USA	401 473	65,71°	TL	TL
1969-41C	Fragment	May 2	70	May 16 86	USA			TL	
1969-42A	KOСMOC 281	May 13 69	May 21	USSR	144 317	65,4°	TL	TL	TL
1969-42B	KOСMOC 281 ROCKET	May 13	d	USSR				TL	
1969-43A	CHARLIE BROWN	May 18 70	(S)	USA	183 184	72,8°	TL	TL	TL
1969-43B	SATURN AS-SDS	May 18 70	(S)	USA	170 553000	53,6°	TL	TL	TL
1969-43C	SNOOPY DESCENT STAGE	May 18 70	(S)	USA				TL	TL
1969-43D	SNOOPY ASCENT STAGE	May 18 70	(S)	USA				TL	TL
1969-43E	SLA PANEL	May 18 70		USA				TL	TL
1969-43F	SLA PANEL	May 18 70		USA				TL	TL
1969-43G	SLA PANEL	May 18 70		USA				TL	TL
1969-43H	SLA PANEL	May 18 70		USA				TL	TL
1969-44A	KOСMOC 282	May 20 69	May 28	USSR	209 343	65,4°	TL	TL	TL
1969-44B	KOСMOC 282 ROCKET	May 20	d	USSR				TL	
1969-45A	INTELSAT 30	May 21 69		USA	35226 35671	0,5°	TL	TL	TL

rec r	1969-45B	INTELSAT 3 D ROCKET	May 28 81? USA						Delta 68
	1969-46A	OVS-5 ERS 29	May 23	USA 17076	111641	33°	ksc		Alcham
Com	1969-46B	OVS-6 ERS 26	May 23	USA 16927	111631	32,80°	ksc		ERS in 7.5
	1969-46C	OVS-9	May 23	USA 17043	111598	32,7°	ksc		
Aze	1969-46D	VELA 9	May 23	USA 17703	111045	32,8°	ksc		
	1969-46E	VELA 10	May 23	USA 17703	111045	32,8°	ksc		
HLAS DEVA	1969-46F	TRANSTAR 6E	May 23	USA 1106720	102283		ksc		Operated Velas
next/ERS gladys CBS	1969-47A	KOCMOC 283	May 27	64 Dec? USSR	210 1539	82,0°	PL		Titus 3C-13 last aupt. kn
	1969-47B	KOCMOC 283 ROCKET	May 27	64 Dec? USSR			PL		sci
	1969-48A	KOCMOC 284	May 29	64 Jun 6 USSR	207 51,8°	51,8°	TBL		rec r
2 rec r	1969-48B	KOCMOC 284 ROCKET	May 29	d USSR			TBL		AZ
	1969-48C	Fragment	May 29	d USSR			TBL		
NSB SPMOS M-D 65	1969-49A	KOCMOC 285	Jun 3	USSR	279 51,8°	71,0°	PL		sci
rec r	1969-49B	KOCMOC 285 ROCKET	Jun 3	64 Dec? USSR			PL		sci
see May 5	1969-50A	OPERATIONS 1077	Jun 3	64 Jun 14 USA	137 414	110,0°	WTR		STANOS 65
elec May 5	1969-51A	OGO 6	Jun 5	94? USA	315 1098	82,0°	WTR		max Suast revel Agena
	1969-51B	OGO 6 ROCKET	Jun 5	94? USA			WTR		
Max Agena 126 TAT ENH 5	1969-52A	KOCMOC 286	Jun 15	64 Jun 23 USSR	206 349	65,4°	PL		rec r
	1969-52B	KOCMOC 286 ROCKET	Jun 15	USSR			PL		AZ
rec r	1969-53A	EXPLORER 41	Jun 21	73? USA	343 17800	57,0°	WTR		IMP G.
	1969-53B	EXPLORER 41 ROCKET	Jun 21	USA			WTR		Altair Delta 69
SPACESHIP 22 CUMMINS CORP	1969-54A	KOCMOC 287	Jun 24	USSR	268 268	57,8°	TBL		rec r
see MULTIKOR PLANETS	1969-54B	KOCMOC 287 ROCKET	Jun 24	d USA			TBL		AZ
see SPACESHIP	1969-55A	KOCMOC 288	Jun 27	USSR	201 281	57,8°	TBL		rec r
	1969-55B	KOCMOC 288 ROCKET	Jun 27	d USSR			TBL		AZ
EN	1969-56A	BIOSATELLITE 3	Jun 28	64 Jul 7 USA	322 323	33,5°	WTR		BIOS 0 monitored after recovery
adapted panels	1969-56B	BIOSATELLITE 3 ADAPTER	Jun 28	64 Aug USA			WTR		
	1969-56C	BIOSATELLITE 3 ROCKET	Jun 28	64 Sep USA			WTR		TAT Delta 70
	1969-57A	Fragment							
rec r	1969-57B	KOCMOC 289	Jul 10	64 Jul 18 USSR	200 350	65,4°	PL		rec r
	1969-58A	LYMA 15	Jul 13, 12	(-X) USSR	182 247	9,85°	TBL		see WTR PROCES
com 3a Pacific P-4 174°E	1969-58B	LYMA 15 ROCKET	Jul 13, 12	d USSR			TBL		
	1969-58C	LYMA 15 W/ WETTER	Jul 13, 12	d USSR			TBL		
	1969-58D	see WTR ARDEES	Jul 13, 12	64 Jul 16 USSR	190 288	57,5°	TBL		DI c SPOL



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1969-59A COLUMBIA Jul 16, 56 (→SC) USA 132 197 39 51°
 1969-59B SATURN AS-506 Jul 24 174 533000 33.3°
 1969-59C EAGLE ASCENT STAGE Jul 16, 56 (→R) USA " " " } SEC SPACESHIPS
 1969-59D EAGLE DESCENT STAGE Jul 16, 56 (→SC) USA " " " } SEC SPACESHIPS
 1969-59E SLA PANEZ Jul 16, 56 ? USA " " " } SEC SPACESHIPS
 1969-59F SLA PANEZ Jul 16, 56 ? USA " " " } SATURN 5
 1969-59G SLA PANEZ Jul 16, 56 ? USA " " " }
 1969-59H SLA PANEZ Jul 16, 56 ? USA " " " }
 1969-59J } see LUNAR PROBES Jul 16, 56 ? USA " " " }
 1969-59K } Jul 16, 56 USA " " " }
 1969 Jul 20, 84 58 }
 FIRST MANNED LUNAR LANDING

1969-59C(II) EAGLE ASCENT STAGE Jul 21, 74 (→SC) USA : see LUNAR PROBES, SPACESHIPS
 1969-60A КОСМОС 290 Jul 22 69 Jul 30? USSR 200 352 65.4° PL } AZ reit
 1969-60B КОСМОС 290 ROCKET Jul 22 d USSR " " " }
 1969-61A МОЛНИЯ 1 M Jul 22 71 Jun 18 USSR 520 351540 64.9° PL }
 1969-61B МОЛНИЯ 1 M ROCKET Jul 22 d USSR " " " }
 1969-61C МОЛНИЯ 1 M LAUNCHER Jul 22 69 Aug 23 USSR 214 525 65° PL }
 1969-61D МОЛНИЯ 1 M AB Jul 22 USSR " " " }
 1969-62A OPERATIONS 1127 Jul 23 2030? USA 756 555 98.8° }
 1969-62B ROCKET Jul 23 2030? USA " " " }
 1969-63A USATF 3654 Jul 24 69 Aug 23 USA 177 221 74.98° }
 1969-63B INTERSAT 3E Jul 26 69 Aug 23? INTERSAT 272 5396 39.33° }
 1969-63C * Fragments Jul 26 79? USA " " " }
 1969-64A OPERATIONS 8285 Jul 31 73 Jun 472 USA 461 540 75.02° }
 1969-64B КОСМОС 291 Aug 6 69 Aug 10? USSR 153 574 62.3° }
 1969-64C КОСМОС 291 ROCKET Aug 6 d USSR " " " }
 1969-65A ЗОНД 7 Aug 7 69 Aug 14 USSR 183 191 57.51° }
 1969-65B ЗОНД 7 LAUNCHER Aug 7 69 Aug 9 USSR " " " }
 1969-65C ЗОНД 7 ROCKET Aug 7 d USSR " " " }
 1969-65D Fragment Aug 7 d USSR " " " }
 1969-65E OSO 6 Aug 9 89? USA 491 553 32.96° }
 orbital obs

Category	ID	Name	Date	Origin	Altitude	Lat	Long	Notes
SATURN 5	1969-68B	PAC 1	Aug 9 77?	USA	485	534	32,95°	DELTA control (Delta 2)
	1969-68C	OSOG ROCKET	Aug 9	USA				
	1969-69A	ATS 5	Aug 12	USA	35776	31740	2,6°	ATLAS CENTAUR AC-19
	1969-69B	ATS 5 ROCKET	Aug 12	USA	2157	36446	17,53°	
	1969-69C	Fragment						
	1969-69D	ATS 5 APOLLO motor	Aug 12	USA				geostationary?
	1969-70A	KOCMOC 292	Aug 13	USSR	747	786	74,0°	PL CI now? elint?
	1969-70B	KOCMOC 292 ROCKET	Aug 13	USSR				
	1969-70C	Fragment						
	1969-71A	KOCMOC 293	Aug 16	USSR	202	270	57,8°	TBL AZ rec r
1969-71B	KOCMOC 293 ROCKET	Aug 16	USSR					
1969-72A	KOCMOC 294	Aug 19	USSR	202	348	65,4°	PL AZ rec r	
1969-72B	KOCMOC 294 ROCKET	Aug 19	USSR					
1969-73A	KOCMOC 295	Aug 22	USSR	292	500	71,0°	PL AZ sci	
1969-73B	KOCMOC 295 ROCKET	Aug 22	USSR					
1969-74A	USAF 7807	Aug 22	USA	133	365	108,0°	USAF SAMOS 68	
1969-75A	KOCMOC 296	Aug 29	USSR	211	322	65,0°	TBL AZ rec r	
1969-75B	KOCMOC 296 ROCKET	Aug 29	USSR					
1969-76A	KOCMOC 297	Sep 2	USSR	211	334	72,9°	PL AZ rec r	
1969-76B	KOCMOC 297 ROCKET	Sep 2	USSR					
1969-77A	KOCMOC 298	Sep 15	USSR	140	212	50,0°	TBL FOBS 14	
1969-77B	KOCMOC 298 ROCKET	Sep 15	USSR					
1969-77C	KOCMOC 298 PLATFORM	Sep 15	USSR				TBL FI-	
1969-77D	Fragment	Sep 15	USSR				TBL	
1969-77E	Fragment	Sep 15	USSR				TBL	
1969-78A	KOCMOC 299	Sep 18	USSR	214	311	65,0°	TBL AZ rec r	
1969-78B	KOCMOC 299 ROCKET	Sep 18	USSR					
1969-79A	USAF 3531	Sep 22	USA	178	252	85,03°	USAF Thor/Agena 129	
1969-79B	USAF 4760	Sep 22	USA	488	496	85,16°	USAF Thor/Agena 0 m 34	
1969-80A	KOCMOC 300	Sep 23	USSR	140	208	57,5°	TBL Die Failed Luna?	
1969-80B	KOCMOC 300 ROCKET	Sep 23	USSR					
1969-81A	KOCMOC 301	Sep 24	USSR	197	302	65,4°	PL AZ m? rec r	
1969-81B	KOCMOC 301 ROCKET	Sep 24	USSR					
1969-81C	KOCMOC 301 CAPSULES	Sep 24	USSR				PL AZ eye cap 27?	

Bumer 2	1969-82AJ	Fragment	50030	USA				WTC
Gravity gradient- intellib + 6	1969-82AK	Fragment	"	"				"
Formation nurseries long fragments	1969-82AL	Fragment	"	"				"
	1969-82AM	Fragment	"	"				"
Observation Targets	1969-82AN	Fragment	"	"				"
	1969-82AP	Fragment	"	"				"
	1969-82AQ	Fragment	"	"				"
	1969-82AR	Fragment	"	"				"
1969-82AS	1969-82AS	Fragment	"	"				"
broke up	1969-82AT	Fragment	"	"				"
	1969-82AU	Fragment	"	"				"
	1969-82AV	Fragment	"	"				"
	1969-82AW	Fragment	"	"				"
	1969-82AX	Fragment	"	"				"
	1969-82AY	USAF	"	909 927	70,04°			Calibration Target
	1969-82AZ	Fragment	"	"				"
	1969-82BA	Fragment	"	"				"
	1969-82BB	Fragment	"	"				"
	1969-82BC	Fragment	"	"				"
	1969-82BD	Fragment	"	"				"
	1969-82BE	Fragment	"	"				"
	1969-82BF	Fragment	"	"				"
	1969-82BG	Fragment	"	"				"
	1969-82BH	Fragment	"	"				"
	1969-82BJ	Fragment	"	"				"
	1969-82BK	Fragment	"	"				"
	1969-82BL	Fragment	"	"				"
	1969-82BM	Fragment	"	"				"
	1969-82BN	Fragment	"	"				"
	1969-82BP	Fragments	"	"				"
	to		"	"				"
	1969-82RK							

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1969

1969-83A	BOREAS	Oct 1	69 Nov 23	USSR	306 393	85,13°	WTR	sci	1969-98B
1969-83B	BOREAS ROCKET	Oct 1	d	USA			WTR	sci	1969-98C
1969-83C	Fragment	Oct 1	d	USA			WTR	sci	1969-98D
1969-83D	Fragment	Oct 1	d	USA			WTR	sci	1969-98E
1969-84A	METEOR 2	Oct 6		USSR	630 690	91,2°	PC	sci	1969-99A
1969-84B	METEOR 2 ROCKET	Oct 6		USSR			PC	sci	1969-99B
1969-85A	COVOS 6	Oct 11/23	69 Oct 16, 28	USSR	186 194 200	223 230 225	57,7°	TBL	sci
1969-85B	COVOS 6 ROCKET	Oct 11/23	69 Oct 13, 28	USSR			TBL	sci	1969-99C
1969-86A	COVOS 7	Oct 12, 24	69 Oct 17, 31	USSR	208 200	225 225	57,7°	TBL	sci
1969-86B	COVOS 7 ROCKET	Oct 12, 24	69 Oct 14	USSR			TBL	sci	1969-99D
1969-87A	COVOS 8	Oct 13, 25	69 Oct 18, 31	USSR	204 200 190	223 225 226	57,7°	TBL	sci
1969-87B	COVOS 8 ROCKET	Oct 13, 25	69 Oct 15	USSR			TBL	sci	1969-99E
1969-88A	INTERKOSMOS 1	Oct 14	70 Jan 2, 55	USSR	260 640	48,4°	KY	sci	1969-99F
1969-88B	INTERKOSMOS 1 ROCKET	Oct 14	d	USSR			KY	sci	1969-99G
1969-89A	KOSMOC 302	Oct 17	69 Oct 25?	USSR	202 340	65,4°	PC	sci	1969-99H
1969-89B	KOSMOC 302 ROCKET	Oct 17	d	USSR			PC	sci	1969-99I
1969-90A	KOSMOC 303	Oct 18		USSR	282 492	71,0°	PC	sci	1969-99J
1969-90B	KOSMOC 303 ROCKET	Oct 18	d	USSR			PC	sci	1969-99K
1969-91A	KOSMOC 304	Oct 21		USSR	747 774	74,0°	PC	sci	1969-99L
1969-91B	KOSMOC 304 ROCKET	Oct 21	2050?	USSR			PC	sci	1969-99M
1969-92A	KOSMOC 305	Oct 22		USSR	193 205	57,0°	TBL	sci	1969-99N
1969-92B	KOSMOC 305 ROCKET	Oct 22	d	USSR			TBL	sci	1969-99O
1969-93A	KOSMOC 306	Oct 24	69 Nov 1	USSR	208 332	65,0°	TBL	sci	1969-99P
1969-93B	KOSMOC 306 ROCKET	Oct 24	d	USSR			TBL	sci	1969-99Q
1969-94A	KOSMOC 307	Oct 24		USSR	220 278	48,4°	KY	sci	1969-99R
1969-94B	KOSMOC 307 ROCKET	Oct 24	70 Aug?	USSR			KY	sci	1969-99S
1969-95A	USAF 8455	Oct 24	69 Nov 8	USA	137 740	108,0°	WTR	sci	1969-99T
1969-96A	KOSMOC 308	Nov 4	70 Jan 4	USSR	281 422	71,0°	PC	sci	1969-99U
1969-96B	KOSMOC 308 ROCKET	Nov 4	d	USSR			PC	sci	1969-99V
1969-97A	AZUR	Nov 8	2070?	GERMANY	386 350	102,9°	WTR	sci	1969-99W
1969-97B	AZUR ROCKET	Nov 8	2010?	USA			WTR	sci	1969-99X
1969-98A	KOSMOC 309	Nov 12	69 Nov 10?	USSR	203 384	65,4°	PC	sci	1969-99Y

ESPIONAGE Sci	969-98B	KOCMOC 309 ROCKET	Nov 12 d USSR				PL	} AZ
Altair	969-98C	Fragment	Nov 12 d USSR				PL	
SOVT	969-98D	Fragment	Nov 12 d USSR				PL	
	969-98E	Fragment CAPSULE	Nov 12 d USSR				PL	
net	969-99A	YANKEE CLIPPER	Nov 14, 68	(→SC) USA	183 199 32,58°		KSC	} see SPACESHIPS Nov 4 1968 see ARTIFICIAL PLANETS
	969-99B	SATURN AS-507	Nov 14, 68	(→SC) USA	174 533000 33.2°		KSC	
see SPACESHIPS	969-99C	INTREPID ASCENT STAGE	Nov 14, 68	(→SC) USA			KSC	} see SPACESHIPS Nov 4 1968
	969-99D	INTREPID DESCENT STAGE	Nov 14, 68	(→SC) USA			KSC	
see SPACESHIPS	969-99E	SLA PANEL	Nov 14, 68	USA			KSC	} SATURN 5 Adapter panels
	969-99F	SLA PANEL	Nov 14, 68	USA			KSC	
see SPACESHIPS	969-99G	SLA PANEL	Nov 14, 68	USA			KSC	
	969-99H	SLA PANEL	Nov 14, 68	USA			KSC	
sci	969-99J	} see LUNAR PROBES						
	969-99K							
AZ rec r	969-100A	KOCMOC 310	Nov 15 69 Nov 27?	USSR	208 347 65°		TBL	} AZ
	969-100B	KOCMOC 310 ROCKET	Nov 15 d	USSR			TBL	
sci	969-99C(i)	INTREPID ASCENT STAGE	Nov 20, 68					} see SPACESHIPS, LUNAR PROBES
	967-35E							
new? clint?	967-35F							
< failed lunar	967-35G							
	967-35H							
	967-35J							
rec r	969-101A	SKYNET 1A	Nov 21	UK	34700 25840 24.0°		KSC	} TAD? 1.5 UK mikon Indian Pella 74 Altair
	969-101B	SKYNET 1A ROCKET	Nov 21	USA			KSC	
sci	969-102A	KOCMOC 311	Nov 24 70 Mar 10	USSR	284 496 71.0°		PL	} BI
	969-102B	KOCMOC 311 ROCKET	Nov 24 d	USSR			PL	
MAD Samps CMAO CS	969-103A	KOCMOC 312	Nov 24 5000?	USSR	1145 1187 74.0°		PL	} CI geodesy
sci	969-103B	KOCMOC 312 ROCKET	Nov 24 3500?	USSR			PL	
	969-104A	Fragment						} AZ
	969-104B	KOCMOC 313	Dec 3 69 Dec 11	USSR	204 276 65.4°		PL	
sci	969-104C	KOCMOC 313 ROCKET	Dec 3 d	USSR			PL	
660 not marked 6.10.1968	969-105A	OPERATIONS 6617	Dec 4 70 Jan 10	USA	160 257 81.48°		WTR	} BI sci Thor Agen ALCANT 128
rec r	969-106A	KOCMOC 314	Dec 11 70 Mar 22	USSR	282 491 71.0°		PL	

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1969
1970

1969-106B	KOcmoc 314 ROCKET	Dec 11	d	USSR					
1969-107A	KOcmoc 315	Dec 20		USSR	521	536	74.0°	PC	elint
1969-107B	KOcmoc 315 ROCKET	Dec 20	79?	USSR				PC	
1969-107C	Fragment	Dec 20		USSR				PC	
1969-107D	Fragment	Dec 20		USSR				PC	
1969-107E	Fragment	Dec 20		USSR				PC	
1969-108A	KOcmoc 316	Dec 23	DOA?	USSR	154	160	49.5°	PC	rec r
1969-108B	Fragment	Dec 23		USSR	204	302	65.4°	PC	
1969-109A	KOcmoc 317	Dec 23		USSR				PC	rec r
1969-109B	KOcmoc 317 ROCKET	Dec 23		USSR				PC	
1969-109C	Fragment CAPSULE	Dec 23		USSR				PC	
1969-109D	Fragment	Dec 23		USSR				PC	rec r
1969-110A	INTERKOcmoc 2	Dec 26		USSR	260	640	48.1°	Ky	
1969-110B	INTERKOcmoc 2 ROCKET	Dec 26		USSR				Ky	
1970-01A	KOcmoc 318	Jan 9, 39		USSR	204	215	64.97°	PC	rec r
1970-01B	KOcmoc 318 ROCKET	Jan 9, 39		USSR				PC	
1970-02A	OPERATIONS ES 31	Jan 14, 78		USA	134	383	109.96°	PC	rec r
1970-03A	INTELSAT 3 F	Jan 15, 01		USA				PC	
1970-03B	INTELSAT 3 F ROCKET	Jan 15, 01		USA	35742	35808	91.0°	PC	rec r
1970-04A	KOcmoc 319	Jan 15, 57		USSR	209	1537	81.96°	PC	
1970-04B	KOcmoc 319 ROCKET	Jan 15, 57		USSR				PC	rec r
1970-05A	KOcmoc 320	Jan 16, 46		USSR	200	342	48.40°	Ky	
1970-05B	KOcmoc 320 ROCKET	Jan 16, 46		USSR				Ky	
1970-05C	Fragment	Jan 16, 46		USSR				Ky	rec r
1970-05D	Fragment	Jan 16, 46		USSR				Ky	
1970-05E	Fragment	Jan 16, 46		USSR				Ky	
1970-05F	Fragment	Jan 16, 46		USSR				Ky	
1970-05G	Fragment	Jan 16, 46		USSR				Ky	
1970-06A	KOcmoc 321	Jan 20, 85		USSR	280	507	79.50°	PC	
1970-06B	KOcmoc 321 ROCKET	Jan 20, 85		USSR				PC	
1970-06C	Fragment	Jan 20, 85		USSR				PC	rec r
1970-06D	Fragment	Jan 20, 85		USSR				PC	
1970-07A	KOcmoc 322	Jan 21, 80		USSR	200	300	80.0°	PC	

1970-07B
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1970-10B
1970-11A
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