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SPACE OPERATIONS CONTROL CENTER

SATELLITE SITUATION REPORT

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GODDARD SPACE FLIGHT CENTER

GREENBELT, MD.

SPACE OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 4 NO. 3 FEBRUARY 15, 1964

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND SMITHSONIAN ASTROPHSICAL OBSERVATORY AS OF 1200Z ON FEBRUARY 15, 1964.

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ.(MC/S)
1958 LAUNCHES								
ALPHA 1	EXPLORER 1	US	1 FEB	104.9	33.19	1629	346	
BETA 1	ROCKET BODY	US	17 MAR	138.5	34.31	4326	651	
BETA 2	VANGUARD 1	US	17 MAR	134.1	34.24	3964	633	108.012 &
1959 LAUNCHES								
ALPHA 1	VANGUARD 2	US	17 FEB	125.5	32.86	3309	542	
ALPHA 2	ROCKET BODY	US	17 FEB	129.7	32.92	3658	565	
ETA 1	VANGUARD 3	US	18 SEP	129.9	33.33	3722	515	
MU 1*	LUNIK 1	USSR	2 JAN	HELIOCENTRIC ORBIT				
NU 1*	PIONEER 4	US	3 MAR	HELIOCENTRIC ORBIT				
IOTA 1	EXPLORER 7	US	13 OCT	101.2	50.33	1076	552	
IOTA 2	ROCKET BODY	US	13 OCT	100.9	50.30	1050	556	
1960 LAUNCHES								
ALPHA 1*	PIONEER 5	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 1	ROCKET BODY	US	1 APR	99.1	48.39	737	698	
BETA 2	TIROS 1	US	1 APR	99.2	48.38	768	674	
BETA 3	NONE	US	1 APR	97.9	48.48	706	611	
BETA 4	NONE	US	1 APR	99.9	48.14	804	705	
GAMMA 2	TRANSIT 1B	US	13 APR	94.1	51.25	588	358	
GAMMA 4	NONE	US	13 APR	96.8	51.24	729	479	
EPSILON 3	NONE	USSR	15 MAY	91.5	64.95	441	253	
ZETA 1	MIDAS 2	US	24 MAY	94.4	33.03	495	483	
ETA 1	TRANSIT 2A	US	22 JUN	101.6	66.69	1054	613	
ETA 2	GREB	US	22 JUN	101.6	66.69	1051	613	
ETA 3	ROCKET BODY	US	22 JUN	101.4	66.66	1033	613	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1960 LAUNCHES (CONT'D)								
IOTA 1	ECHO 1	US	12 AUG	114.8	47.20	1549	1345	
IOTA 2	ROCKET BODY	US	12 AUG	118.1	47.25	1697	1493	
IOTA 3	METAL OBJECT	US	12 AUG	118.3	47.22	1688	1518	
IOTA 4	METAL OBJECT	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED				
IOTA 5	METAL OBJECT	US	12 AUG	118.5	47.28	1690	1533	
NU 1	COURIER 1B	US	4 OCT	107.1	28.35	1212	974	
NU 2	ROCKET BODY	US	4 OCT	106.6	28.26	1198	945	
XI 1	EXPLORER 8	US	3 NOV	112.4	49.92	2258	412	
XI 2	ROCKET BODY	US	3 NOV	112.0	49.91	2218	416	
XI 3	NONE	US	3 NOV	109.5	49.37	2004	400	
XI 4	NONE	US	3 NOV	110.7	50.51	2098	419	
PI 1	TIROS 2	US	23 NOV	98.3	48.51	737	614	
PI 2	ROCKET BODY	US	23 NOV	98.1	48.50	729	610	
PI 3	NONE	US	23 NOV	98.2	48.53	727	616	
PI 4	NONE	US	23 NOV	98.3	48.50	732	625	
1961 LAUNCHES								
ALPHA 1	SAMOS 2	US	31 JAN	94.7	97.42	538	467	
ALPHA 2	METAL OBJECT	US	31 JAN	94.6	97.42	539	459	
GAMMA 1*	VENUE PROBE	USSR	12 FEB	HELIOCENTRIC ORBIT				
DELTA 1	EXPLORER 9	US	16 FEB	107.5	38.99	1882	337	
DELTA 2	ROCKET BODY	US	16 FEB	118.6	38.84	2600	634	
DELTA 3	NONE	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED				
KAPPA 1	EXPLORER 10	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	US	27 APR	108.0	28.82	1798	475	
OMICRON 1	TRANSIT 4A	US	29 JUN	103.8	66.81	995	879	150;400
OMICRON 2	INJUN-SR-3	US	29 JUN	103.8	66.81	996	879	
OMICRON 3-206**	METAL OBJECTS	US	29 JUN					
RHO 1	TIROS 3	US	12 JUL	100.4	47.88	814	744	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1961 LAUNCHES (CONT'D)								
RHO 2	ROCKET BODY	US	12 JUL	100.4	47.88	804	748	
RHO 3	METAL OBJECT	US	12 JUL	98.9	47.93	798	611	
RHO 4	METAL OBJECT	US	12 JUL	102.0	47.84	942	767	
SIGMA 1	MIDAS 3	US	12 JUL	161.4	91.20	3580	3305	
SIGMA 3	METAL OBJECT	US	12 JUL	161.1	91.22	3558	3300	
SIGMA 4	METAL OBJECT	US	12 JUL	161.8	91.23	3592	3326	
UPSILON 1	EXPLORER 12	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED				
A DELTA 1	MIDAS 4	US	21 OCT	165.9	95.91	3738	3510	
A DELTA 3	METAL OBJECT	US	21 OCT	165.5	96.86	3709	3506	
A DELTA 4	METAL OBJECT	US	21 OCT	166.3	95.86	3762	3419	
A ETA 1	TRANSIT 4B	US	15 NOV	105.9	32.43	1120	949	
A ETA 2	TRAAC	US	15 NOV	105.9	32.44	1107	964	
A ETA 3	ROCKET BODY	US	15 NOV	105.7	32.45	1117	938	
1962 LAUNCHES								
ALPHA 1*	RANGER 3	US	26 JAN	HELIOCENTRIC ORBIT				
ALPHA 2*	ROCKET BODY	US	26 JAN	HELIOCENTRIC ORBIT				
BETA 1	TIROS 4	US	8 FEB	100.4	48.30	847	707	
BETA 2	ROCKET BODY	US	8 FEB	101.4	48.14	937	711	
BETA 3	METAL OBJECT	US	8 FEB	99.5	48.42	770	698	
BETA 4	METAL OBJECT	US	8 FEB	100.3	48.27	837	711	
ZETA 1	ORB.SOL.OBS. 1	US	7 MAR	96.1	32.84	588	557	
ZETA 2	ROCKET BODY	US	7 MAR	96.1	32.82	595	551	
KAPPA 1		US	9 APR	152.9	86.73	3402	2787	
KAPPA 3		US	9 APR	152.6	86.66	3356	2802	
KAPPA 4		US	9 APR	153.3	86.65	3423	2796	
MU 2	ROCKET BODY	US	23 APR	HELIOCENTRIC ORBIT				
OMICRON 1	ARIEL	US/UK	26 APR	100.6	53.84	1179	395	136.405
OMICRON 2	ROCKET BODY	US/UK	26 APR	100.5	53.86	1169	397	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)								
A ALPHA 1	TIROS 5	US	19 JUN	100.5	58.09	976	585	
A ALPHA 2	ROCKET BODY	US	19 JUN	100.4	58.08	975	578	
A ALPHA 3	METAL OBJECT	US	19 JUN	101.7	58.21	1093	589	
A ALPHA 4	METAL OBJECT	US	19 JUN	99.1	57.99	865	566	
A EPSILON 1	TELSTAR 1	US	10 JUL	157.8	44.80	5639	952	
A EPSILON 2	ROCKET BODY	US	10 JUL	157.7	44.79	5630	947	
A OMICRON 1		US	23 AUG	99.5	98.69	856	611	
A OMICRON 2		US	23 AUG	98.2	98.68	755	589	
A OMICRON 3		US	23 AUG	100.7	98.68	964	623	
A OMICRON 4		US	23 AUG	99.5	98.69	859	606	
A RHO 1*	MARINER	US	27 AUG	HELIOCENTRIC ORBIT				
A RHO 2*	ROCKET BODY	US	27 AUG	HELIOCENTRIC ORBIT				
A UPSILON		US	1 SEP	92.0	82.80	478	272	
A PSI 1	TIROS 6	US	18 SEP	98.7	58.28	714	681	
A PSI 2	ROCKET BODY	US	18 SEP	98.7	58.28	711	679	
A PSI 3	METAL OBJECT	US	18 SEP	99.4	58.44	755	701	
A PSI 4	METAL OBJECT	US	18 SEP	98.0	58.21	679	645	
B ALPHA 1	ALOUETTE	CANADA	29 SEP	105.4	80.47	1036	991	136.978;$136.590 $136.077
B ALPHA 2	ROCKET BODY	US	29 SEP	105.4	80.47	1030	992	
B ALPHA 3	METAL OBJECT	US	29 SEP	105.3	80.51	1014	1003	
B ALPHA 4	METAL OBJECT	US	29 SEP	105.4	80.42	1045	983	
B GAMMA 1	EXPLORER 14	US	2 OCT	2184.7	42.77	96189	2601	136.440
B GAMMA 2	ROCKET BODY	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B ETA 1*	RANGER 5	US	18 OCT	HELIOCENTRIC ORBIT				
B ETA 2*	ROCKET BODY	US	18 OCT	HELIOCENTRIC ORBIT				
B THETA 1		USSR	20 OCT	91.6	48.97	490	216	
B KAPPA 1		US	26 OCT	137.0	71.37	4658	196	
B LAMBDA 1	EXPLORER 15	US	27 OCT	312.8	18.04	17464	310	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)								
B LAMBDA 2	ROCKET BODY	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	US	31 OCT	107.9	50.15	1196	1065	162;324
B MU 2	ROCKET BODY	US	31 OCT	107.6	50.16	1164	1069	
B NU 3*		USSR	1 NOV	HELIOCENTRIC ORBIT				
B TAU 1		US	13 DEC	111.5	70.33	2365	224	
B TAU 2	INJUN 3	US	13 DEC	113.6	70.33	2552	234	
B TAU 4		US	13 DEC	109.0	70.33	2133	231	
B TAU 5		US	13 DEC	111.4	70.33	2352	227	
B TAU 6		US	13 DEC	113.1	70.33	2502	238	
B UPSILON 1	RELAY 1	US	13 DEC	185.1	47.53	7441	1320	136.139;$136.620
B UPSILON 2	ROCKET BODY	US	13 DEC	184.7	47.72	7296	1434	
B CHI 1	EXPLORER 16	US	16 DEC	104.4	52.01	1189	742	
B PSI 1	TRANSIT 5A	US	19 DEC	99.0	90.62	740	683	
B PSI 2		US	19 DEC	97.7	90.75	712	584	
B PSI 3		US	19 DEC	99.0	90.63	728	694	
B PSI 4		US	19 DEC	100.1	90.47	846	684	
1963 LAUNCHES								
1963 3A		US	16 JAN	94.4	81.88	531	452	
1963 4A	SYNCOM	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 4B	ROCKET BODY	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 5A		US	19 FEB	97.6	100.50	800	492	
1963 5B		US	19 FEB	97.6	100.50	807	485	
1963 5C		US	19 FEB	96.9	100.52	752	466	
1963 5D		US	19 FEB	98.3	100.49	837	518	
1963 8B		USSR	2 APR	BARYCENTRIC ORBIT				
1963 9A	EXPLORER 17	US	3 APR	95.4	57.62	823	255	
1963 13A	TELSTAR 2	US	7 MAY	225.3	42.73	10807	969	136.050

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 13B	ROCKET BODY	US	7 MAY	225.1	42.80	10767	992	
1963 14A		US	9 MAY	166.4	87.33	3650	3634	
1963 14B		US	9 MAY	166.4	87.38	3694	3591	
1963 14C		US	9 MAY	166.4	87.42	3659	3625	
1963 14D		US	9 MAY	166.3	87.36	3673	3609	
1963 14E		US	9 MAY	166.0	87.47	3667	3589	
1963 14F		US	9 MAY	166.8	87.38	3695	3620	
1963 14G		US	9 MAY	166.4	87.32	3665	3619	
1963 14H		US	9 MAY	166.4	87.32	3681	3603	
1963 17A		USSR	22 MAY	93.6	48.93	648	255	
1963 17C		USSR	22 MAY	95.0	49.20	701	332	
1963 17G		USSR	22 MAY	91.3	49.04	427	250	
1963 22A		US	16 JUN	99.6	90.01	764	718	150;400
1963 22B		US	16 JUN	99.6	90.01	754	727	
1963 22C		US	16 JUN	101.2	90.19	881	746	
1963 22D		US	16 JUN	98.1	89.83	782	553	
1963 24A	TIROS 7	US	19 JUN	97.4	58.22	641	629	136.233;136.922
1963 24B	ROCKET BODY	US	19 JUN	97.4	58.22	635	629	
1963 24C	METAL OBJECT	US	19 JUN	97.9	58.38	682	632	
1963 24D	METAL OBJECT	US	19 JUN	96.9	58.09	629	590	
1963 25B		US	27 JUN	132.4	82.14	4110	339	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	US	28 JUN	102.1	49.74	1302	415	
1963 27A		US	29 JUN	94.7	82.32	519	484	
1963 27B		US	29 JUN	93.9	82.31	468	461	
1963 30A		US	19 JUL	167.8	88.42	3713	3685	
1963 30B		US	19 JUL	167.8	88.41	3728	3670	
1963 30C		US	19 JUL	167.4	88.31	3716	3653	
1963 30D		US	19 JUL	167.9	88.51	3939	3469	
1963 30E		US	19 JUL	168.2	88.44	3774	3658	

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 31A	SYNCOM 2	US	26 JUL	1436.4	32.83	35798	35788	$136.980;$136.468 $1814.069;$1815.794 &1820.177
1963 31B	ROCKET BODY	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1963 33A		USSR	6 AUG	90.5	49.01	343	254	
1963 38A		US	28 SEP	107.0	89.91	1099	1078	
1963 38B		US	28 SEP	107.3	89.91	1124	1078	
1963 38C		US	28 SEP	107.3	89.91	1124	1077	136.651
1963 38D		US	28 SEP	107.3	89.93	1120	1081	
1963 38E		US	28 SEP	107.0	89.91	1100	1077	
1963 39A		US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1963 39B		US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1963 39C		US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1963 42B		US	29 OCT	92.9	89.97	550	283	
1963 43A	POLYOT 1	USSR	1 NOV	102.4	58.91	1402	342	
1963 43B		USSR	1 NOV	102.1	58.62	1377	335	
1963 43C		USSR	1 NOV	100.3	58.95	1242	307	
1963 43D		USSR	1 NOV	101.6	59.80	1330	335	
1963 46A	EXPLORER 18	US	27 NOV	5583.160	33.34	195553	1197	136.110
1963 47A	CENTAUR 2	US	27 NOV	107.9	30.38	1781	478	
1963 47B		US	27 NOV	107.3	30.08	1622	586	
1963 47C		US	27 NOV	107.6	30.07	1631	599	
1963 47D		US	27 NOV	108.1	29.94	1640	640	
1963 47E		US	27 NOV	108.7	30.47	1764	573	
1963 47F		US	27 NOV	108.7	30.47	1759	577	
1963 47G		US	27 NOV	107.9	30.03	1642	619	
1963 47H		US	27 NOV	107.9	30.40	1689	567	
1963 49A		US	5 DEC	106.7	89.98	1077	1073	
1963 49B		US	5 DEC	107.1	89.96	1122	1059	150;400

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)								
1963 49C		US	5 DEC	107.0	89.97	1123	1056	54;162;324;648
1963 49D		US	5 DEC	107.0	89.97	1117	1058	
1963 49E		US	5 DEC	107.0	89.98	1127	1052	
1963 50A	COSMOS 23	USSR	13 DEC	91.4	49.04	463	221	
1963 50B		USSR	13 DEC	90.9	49.03	421	212	
1963 53A	EXPLORER 19	US	19 DEC	115.8	78.59	2391	591	
1963 53B		US	19 DEC	115.7	78.60	2389	589	
1963 53C		US	19 DEC	115.9	78.61	2395	597	
1963 53D		US	19 DEC	115.9	78.58	2394	594	
1963 53E		US	19 DEC	115.8	78.57	2396	589	
1963 53F		US	19 DEC	115.8	78.58	2400	583	
1963 53G		US	19 DEC	115.8	78.58	2389	592	
1963 53H		US	19 DEC	115.8	78.60	2374	606	
1963 54A	TIROS 8	US	21 DEC	99.3	58.49	754	701	136.233;136.923
1963 54B		US	21 DEC	99.3	58.49	750	699	
1963 54C		US	21 DEC	101.1	58.48	922	695	
1963 54D		US	21 DEC	97.7	58.49	709	586	
1963 55B		US	21 DEC	91.5	64.52	385	312	
1964 LAUNCHES								
1964 1A		US	11 JAN	103.4	69.90	933	906	
1964 1B	GGSE	US	11 JAN	103.4	69.92	932	907	136.319
1964 1C	EGRS	US	11 JAN	103.4	69.89	934	904	136.804
1964 1D	SOLAR RADIATION	US	11 JAN	103.4	69.90	933	907	136.886
1964 1E		US	11 JAN	103.4	69.87	936	904	
1964 2A		US	19 JAN	101.3	99.04	833	804	
1964 2B		US	19 JAN	101.2	99.04	824	806	
1964 2C		US	19 JAN	101.2	99.06	829	806	
1964 3A	RELAY 2	US	21 JAN	194.7	46.30	7406	2096	136.140;$136.621

OBJECTS IN ORBIT

OBJECT	CODE NAME	SOURCE	LAUNCH	NODAL PERIOD	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)								
1964 3B		US	21 JAN	194.8	46.30	7422	2086	
1964 4A	ECHO 2	US	25 JAN	108.8	81.49	1323	1021	136.020;136.170
1964 4B		US	25 JAN	108.8	81.49	1313	1034	
1964 4C		US	25 JAN	108.8	81.47	1310	1030	
1964 4D		US	25 JAN	108.8	81.52	1314	1025	
1964 4E		US	25 JAN	100.7	81.58	1294	292	
1964 5A	SATURN 5	US	29 JAN	94.8	31.45	752	265	136.995
1964 6A	ELEKTRON 1	USSR	30 JAN	169.3	60.63	7127	393	
1964 6B	ELEKTRON 2	USSR	30 JAN	1356.6	60.87	67996	436	
1964 6C		USSR	30 JAN	168.3	60.86	7043	393	
1964 6D		USSR	30 JAN	1384.3	60.88	69108	425	

* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.

** TWO HUNDRED AND FOUR METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LISTS.

$ TRANSMITTING ON COMMAND ONLY.

& TRANSMITTING WHEN IN SUNLIGHT ONLY.

PLEASE ADD THE FOLLOWING TO THE DECAYED OBJECTS LIST.

OBJECT	CODE NAME	SOURCE	LAUNCH	DECAY
1963 7A	RANGER 6	US	30 JAN	2 FEB 64