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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 5, NO. 23 DECEMBER 15, 1965

SATELLITE SITUATION REPORT

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND THE SMITHSONIAN ASTROPHYSICAL OBSERVATORY AS OF 1200Z ON DECEMBER 15, 1965

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES									
ALPHA 1	EXPLORER 1	004	US	1 FEB	103.9	33.17	1535	350	
BETA 1	ROCKET BODY	016	US	17 MAR	138.4	34.24	4321	647	
BETA 2	VANGUARD 1	005	US	17 MAR	134.0	34.24	3939	650	
BETA 3		1576	US	17 MAR	132.7	34.20	3826	651	
1959 LAUNCHES									
ALPHA 1	VANGUARD 2	011	US	17 FEB	125.4	32.87	3285	555	
ALPHA 2	ROCKET BODY	012	US	17 FEB	129.7	32.92	3656	555	
ETA 1	VANGUARD 3	020	US	18 SEP	129.8	33.34	3715	511	
MU 1	LUNIK 1	112	USSR	2 JAN	HELIOCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	3 MAR	HELIOCENTRIC ORBIT				
IOTA 1	EXPLORER 7	022	US	13 OCT	101.1	50.28	1072	553	
IOTA 2	ROCKET BODY	023	US	13 OCT	100.9	50.29	1048	553	
1960 LAUNCHES									
ALPHA 1	PIONEER 5	027	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 1	ROCKET BODY	028	US	1 APR	99.1	48.39	740	690	
BETA 2	TIROS 1	029	US	1 APR	99.2	48.45	741	698	
BETA 3	NONE	101	US	1 APR	97.9	48.49	695	617	
BETA 4	NONE	115	US	1 APR	99.9	48.15	806	698	
GAMMA 2	TRANSIT 1B	031	US	13 APR	93.5	51.23	550	345	
GAMMA 4	NONE	099	US	13 APR	96.7	51.26	724	477	
ZETA 1	MIDAS 2	043	US	24 MAY	94.3	33.03	495	468	
ETA 1	TRANSIT 2A	045	US	22 JUN	101.6	66.70	1061	610	
ETA 2	GREB	046	US	22 JUN	101.6	66.72	1058	610	
ETA 3	ROCKET BODY	047	US	22 JUN	101.4	66.71	1041	609	
ETA 4		840	US	22 JUN	101.5	66.68	1055	608	
ETA 5		841	US	22 JUN	101.5	66.69	1051	609	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1960 LAUNCHES									
IOTA 1	ECHO I	049	US	12 AUG	113.4	47.20	1490	1278	
IOTA 2	ROCKET BODY	050	US	12 AUG	118.1	47.25	1686	1500	
IOTA 3	METAL OBJECT	051	US	12 AUG	118.2	47.30	1681	1522	
IOTA 4	METAL OBJECT	052	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED				
IOTA 5	METAL OBJECT	053	US	12 AUG	118.4	47.33	1684	1536	
NU 1	COURIER 1B	058	US	4 OCT	107.0	28.32	1206	969	
NU 2	ROCKET BODY	059	US	4 OCT	106.6	28.22	1213	918	
XI 1	EXPLORER 8	060	US	3 NOV	112.2	50.00	2240	419	
XI 2	ROCKET BODY	062	US	3 NOV	111.7	50.01	2195	418	
XI 3	NONE	069	US	3 NOV	108.6	49.40	1920	395	
XI 4	NONE	105	US	3 NOV	110.1	50.49	2046	416	
PI 1	TIROS 2	063	US	23 NOV	98.2	48.53	729	618	
PI 2	ROCKET BODY	064	US	23 NOV	98.1	48.50	723	611	
PI 3	NONE	074	US	23 NOV	98.1	48.52	722	617	
PI 4	NONE	075	US	23 NOV	98.3	48.53	731	621	
1961 LAUNCHES									
ALPHA 1	SAMOS 2	070	US	31 JAN	94.7	97.39	544	465	
ALPHA 2	METAL OBJECT	079	US	31 JAN	94.6	97.39	534	465	
GAMMA 1	VENUS PROBE	080	USSR	12 FEB	HELIOCENTRIC ORBIT				
DELTA 2	ROCKET BODY	082	US	16 FEB	118.5	38.85	2587	639	
DELTA 3	NONE	085	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED				
KAPPA 1	EXPLORER 10	098	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	107	US	27 APR	107.9	28.78	1774	484	
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.8	66.83	1002	878	$54$324$150$400
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.8	66.84	1004	877	
OMICRON 3-208**	METAL OBJECTS		US	29 JUN					
RHO 1	TIROS 3	162	US	12 JUL	100.4	47.91	814	740	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1961 LAUNCHES									
RHO 2	ROCKET BODY	165	US	12 JUL	100.3	47.90	805	742	
RHO 3	METAL OBJECT	166	US	12 JUL	98.8	47.93	793	612	
RHO 4	METAL OBJECT	167	US	12 JUL	102.0	47.87	931	775	
SIGMA 1	MIDAS 3	163	US	12 JUL	161.5	91.26	3539	3352	
SIGMA 3	METAL OBJECT	188	US	12 JUL	161.1	91.18	3541	3323	
SIGMA 4	METAL OBJECT	196	US	12 JUL	161.9	91.22	3571	3354	
UPSILON 1	EXPLORER 12	170	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED				
A DELTA 1	MIDAS 4	192	US	21 OCT	166.0	95.86	3752	3501	
A DELTA 3	METAL OBJECT	194	US	21 OCT	165.6	95.84	3739	3482	
A DELTA 4	METAL OBJECT	195	US	21 OCT	166.4	95.86	3802	3485	
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.8	32.42	1107	952	
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.43	1106	955	
A ETA 3	ROCKET BODY	204	US	15 NOV	105.6	32.43	1095	951	
1962 LAUNCHES									
ALPHA 1	RANGER 3	221	US	26 JAN	HELIOCENTRIC ORBIT				
ALPHA 2	ROCKET BODY	222	US	26 JAN	HELIOCENTRIC ORBIT				
BETA 1	TIROS 4	226	US	8 FEB	100.4	48.31	844	707	
BETA 2	ROCKET BODY	227	US	8 FEB	101.4	48.13	948	696	
BETA 3	METAL OBJECT	228	US	8 FEB	99.5	48.42	762	703	
BETA 4	METAL OBJECT	229	US	8 FEB	100.3	48.30	837	706	
ZETA 1	ORB.SOL.OBS. 1	255	US	7 MAR	96.0	32.83	589	544	
ZETA 2	ROCKET BODY	257	US	7 MAR	96.0	32.83	598	530	
KAPPA 1		271	US	9 APR	153.0	86.68	3411	2786	
KAPPA 3		273	US	9 APR	152.6	86.64	3369	2797	
KAPPA 4		274	US	9 APR	153.3	86.70	3423	2803	
MU 2	ROCKET BODY	282	US	23 APR	HELIOCENTRIC ORBIT				
OMICRON 1	ARIEL	285	US/UK	26 APR	100.4	53.88	1167	386	136.405
OMICRON 2	ROCKET BODY	288	US	26 APR	100.2	53.87	1150	387	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)									
A ALPHA 1	TIROS 5	309	US	19 JUN	100.5	58.16	967	595	
A ALPHA 2	ROCKET BODY	311	US	19 JUN	100.4	58.16	957	595	
A ALPHA 3	METAL OBJECT	312	US	19 JUN	101.7	58.23	1079	603	
A ALPHA 4	METAL OBJECT	313	US	19 JUN	99.1	58.01	852	579	
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.84	5646	941	
A EPSILON 2	ROCKET BODY	341	US	10 JUL	157.6	44.79	5628	946	
A OMICRON 1		369	US	23 AUG	99.5	98.70	855	620	
A OMICRON 2		370	US	23 AUG	98.2	98.62	749	600	
A OMICRON 3		378	US	23 AUG	100.8	98.76	973	621	
A OMICRON 4		388	US	23 AUG	99.5	98.70	855	618	
A RHO 1	MARINER 2	374	US	27 AUG	HELIOCENTRIC ORBIT				
A RHO 2	ROCKET BODY	375	US	27 AUG	HELIOCENTRIC ORBIT				
A PSI 1	TIROS 6	397	US	18 SEP	98.7	58.33	710	686	
A PSI 2	ROCKET BODY	398	US	18 SEP	98.6	58.35	709	680	
A PSI 3	METAL OBJECT	399	US	18 SEP	99.4	58.45	775	683	
A PSI 4	METAL OBJECT	400	US	18 SEP	98.0	58.22	692	636	
B ALPHA 1	ALOUETTE	424	CANADA	29 SEP	105.5	80.47	1034	1001	$136.591$136.078
B ALPHA 2	ROCKET BODY	426	US	29 SEP	105.4	80.47	1030	1001	
B ALPHA 3	METAL OBJECT	510	US	29 SEP	105.4	80.51	1024	1001	
B ALPHA 4	METAL OBJECT	511	US	29 SEP	105.5	80.44	1039	996	
B GAMMA 1	EXPLORER 14	432	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B GAMMA 2#	ROCKET BODY	NNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B ETA 1	RANGER 5	439	US	18 OCT	HELIOCENTRIC ORBIT				
B ETA 2	ROCKET BODY	440	US	18 OCT	HELIOCENTRIC ORBIT				
B KAPPA 1		444	US	26 OCT	122.6	71.38	3399	195	
B LAMBDA 1	EXPLORER 15	445	US	27 OCT	CURRENT ELEMENTS NOT MAINTAINED				
B LAMBDA 2#	ROCKET BODY	NNA	US	27 OCT	INSUFFICIENT OBSERVATIONS				
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.12	1183	1076	$162$324

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1962 LAUNCHES (CONT'D)									
B MU 2	ROCKET BODY	447	US	31 OCT	107.6	50.21	1161	1072	
B NU 3		450	USSR	1 NOV	HELIOCENTRIC ORBIT				
B TAU 1		502	US	13 DEC	104.1	70.35	1644	228	
B TAU 2	INJUN 3	504	US	13 DEC	109.8	70.40	2204	229	
B TAU 4		508	US	13 DEC	93.2	70.27	640	207	
B TAU 5		513	US	13 DEC	103.6	70.29	1625	229	
B TAU 6		520	US	13 DEC	108.6	70.35	2087	236	
B UPSILON 1	RELAY 1	503	US	13 DEC	185.1	47.53	7435	1323	$136.140;136.621
B UPSILON 2	ROCKET BODY	515	US	13 DEC	184.8	47.51	7420	1321	
B CHI 1	EXPLORER 16	506	US	16 DEC	104.4	52.07	1167	762	
B PSI 1	TRANSIT 5A	509	US	19 DEC	99.1	90.66	732	698	
B PSI 2		514	US	19 DEC	97.6	90.77	722	569	
B PSI 3		519	US	19 DEC	99.1	90.65	733	696	
B PSI 4		523	US	19 DEC	100.2	90.51	834	702	
1963 LAUNCHES									
1963 03A		527	US	16 JAN	94.4	81.89	518	460	
1963 04A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 04B	ROCKET BODY	532	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED				
1963 05A		533	US	19 FEB	97.6	100.47	794	501	
1963 05B		534	US	19 FEB	97.7	100.46	796	501	
1963 05C		535	US	19 FEB	96.8	100.49	734	476	
1963 05D		536	US	19 FEB	98.3	100.48	832	525	
1963 08B		566	USSR	2 APR	BARYCENTRIC ORBIT				
1963 09A	EXPLORER 17	564	US	3 APR	93.2	57.62	617	246	
1963 13A	TELSTAR 2	573	US	7 MAY	225.3	42.76	10808	964	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)									
1963 13B	ROCKET BODY	575	US	7 MAY	225.1	42.77	10788	968	
1963 14A		574	US	9 MAY	166.4	87.47	3683	3608	
1963 14B		579	US	9 MAY	166.4	87.29	4164	3127	
1963 14C		608	US	9 MAY	166.4	87.33	3689	3601	
1963 14D		589	US	9 MAY	CURRENT ELEMENTS NOT MAINTAINED				
1963 14E		602	US	9 MAY	166.1	87.35	3653	3610	
1963 14F		628	US	9 MAY	166.8	87.32	3669	3653	
1963 14G		629	US	9 MAY	166.4	87.33	3708	3582	
1963 14H		702	US	9 MAY	166.4	87.33	3675	3615	
1963 22A		594	US	16 JUN	99.7	90.01	756	734	$150$400
1963 22B		603	US	16 JUN	99.7	90.01	759	731	
1963 22C		610	US	16 JUN	101.2	90.20	891	742	
1963 22D		611	US	16 JUN	98.1	89.79	767	570	
1963 24A	TIROS 7	604	US	19 JUN	97.4	58.28	652	619	$136.233$136.924
1963 24B	ROCKET BODY	605	US	19 JUN	97.3	58.26	646	615	
1963 24C	METAL OBJECT	606	US	19 JUN	97.9	58.39	682	632	
1963 24D	METAL OBJECT	607	US	19 JUN	96.9	58.10	647	571	
1963 25B		614	US	27 JUN	132.0	82.15	4086	339	
1963 26A	RESEARCH SATELLITE FOR GEOPHYSICS	612	US	28 JUN	102.0	49.77	1290	415	
1963 27A		613	US	29 JUN	94.6	82.34	521	482	
1963 30A		622	US	18 JUL	167.8	88.49	3736	3669	
1963 30B		635	US	18 JUL	166.4	89.48	3979	3299	
1963 30C		630	US	18 JUL	167.5	88.42	3722	3654	
1963 30D		624	US	18 JUL	167.5	88.02	4645	2728	
1963 30E		631	US	18 JUL	168.3	88.44	3783	3656	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)									
1963 31A	SYNCOM 2	634	US	26 JUL	1436.0	31.78	35810	35759	$136.467$136.980 $1814.069 $1815.794 $1820.177
1963 31B	ROCKET BODY	625	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1963 38A		669	US	28 SEP	107.1	89.91	1113	1074	
1963 38B		670	US	28 SEP	107.4	89.91	1136	1075	
1963 38C		671	US	28 SEP	107.3	89.92	1138	1072	$136.653$162$324
1963 38D		672	US	28 SEP	107.3	89.94	1132	1076	
1963 38E		745	US	28 SEP	107.1	89.95	1107	1078	
1963 39A		674	US	17 OCT	6481.3	37.97	116742	100803	
1963 39B		675	US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1963 39C		692	US	17 OCT	6512.3	37.02	115029	103251	
1963 43A	POLYOT 1	683	USSR	1 NOV	102.2	58.95	1387	342	
1963 43B		684	USSR	1 NOV	98.6	58.64	1050	331	
1963 43D		686	USSR	1 NOV	98.1	59.79	1008	323	
1963 46A	EXPLORER 18	693	US	27 NOV	CURRENT ELEMENTS NOT MAINTAINED				
1963 47A	CENTAUR 2	694	US	27 NOV	107.8	30.34	1775	472	
1963 47B		696	US	27 NOV	107.2	30.05	1612	582	
1963 47C		697	US	27 NOV	107.4	30.05	1641	572	
1963 47D		698	US	27 NOV	108.0	29.89	1660	608	
1963 47E		699	US	27 NOV	108.6	30.45	1744	577	
1963 47F		700	US	27 NOV	108.6	30.44	1752	573	
1963 47G		701	US	27 NOV	107.8	29.99	1647	602	
1963 47H		739	US	27 NOV	105.9	30.40	1579	490	
1963 49A		703	US	5 DEC	106.8	89.94	1094	1066	
1963 49B		704	US	5 DEC	107.1	89.94	1123	1067	$150$400

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1963 LAUNCHES (CONT'D)									
1963 49C		705	US	5 DEC	107.1	89.94	1121	1067	
1963 49D		706	US	5 DEC	107.1	89.94	1124	1060	
1963 49E		715	US	5 DEC	107.1	89.95	1120	1067	
1963 49F		753	US	5 DEC	107.1	89.97	1121	1068	
1963 53A	EXPLORER 19	714	US	19 DEC	115.1	78.66	2285	638	
1963 53B		721	US	19 DEC	115.8	78.65	2398	592	
1963 53C		722	US	19 DEC	115.8	78.64	2379	601	
1963 53D		723	US	19 DEC	115.8	78.68	2397	591	
1963 53E		724	US	19 DEC	115.9	78.70	2394	610	
1963 53F		725	US	19 DEC	115.8	78.60	2343	638	
1963 53G		726	US	19 DEC	115.8	78.60	2362	620	
1963 53H		732	US	19 DEC	115.7	78.60	2376	605	
1963 54A	TIROS 8	716	US	21 DEC	99.4	58.54	746	710	$136.231$136.924
1963 54B		717	US	21 DEC	99.3	58.55	741	708	
1963 54C		720	US	21 DEC	101.1	58.50	915	703	
1963 54D		736	US	21 DEC	97.7	58.54	714	580	
1964 LAUNCHES									
1964 01A		727	US	11 JAN	103.4	69.92	934	911	
1964 01B	GGSE	728	US	11 JAN	103.4	69.93	939	906	
1964 01C	EGRS 1	729	US	11 JAN	103.4	69.93	938	907	136.805
1964 01D	SOLAR RAD.	730	US	11 JAN	103.5	69.93	937	908	136.886
1964 01E		731	US	11 JAN	103.5	69.93	932	914	
1964 02A		733	US	19 JAN	101.3	99.13	847	794	
1964 02B		734	US	19 JAN	101.3	99.11	835	804	
1964 02C		735	US	19 JAN	101.3	99.10	834	809	
1964 03A	RELAY 2	737	US	21 JAN	194.7	46.32	7409	2091	136.620$136.142

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)									
1964 03B		738	US	21 JAN	194.8	46.31	7415	2090	
1964 04A	ECHO 2	740	US	25 JAN	108.1	81.49	1262	1017	136.019;136.170
1964 04B		741	US	25 JAN	108.9	81.50	1308	1047	
1964 04C		742	US	25 JAN	108.8	81.49	1308	1041	
1964 04D		743	US	25 JAN	108.8	81.55	1312	1036	
1964 04E		749	US	25 JAN	93.3	81.53	601	273	
1964 05A	SATURN 5	744	US	29 JAN	91.6	31.44	455	243	
1964 06A	ELEKTRON 1	746	USSR	30 JAN	169.2	60.98	7104	411	
1964 06B	ELEKTRON 2	748	USSR	30 JAN	1356.3	58.49	66736	1685	
1964 06C		750	USSR	30 JAN	167.9	60.83	7022	388	
1964 06D		751	USSR	30 JAN	1384.1	58.60	67787	1738	
1964 11A		759	US	28 FEB	94.5	82.06	508	488	
1964 15A	ARIEL 2	771	US/UK	27 MAR	99.5	51.65	1179	288	136.557
1964 15B		775	US	27 MAR	98.7	51.70	1104	285	
1964 15C		847	US	27 MAR	103.1	51.37	1434	375	
1964 16D		785	USSR	2 APR	HELIOCENTRIC ORBIT				
1964 19B	POLYOT 2	784	USSR	12 APR	91.1	58.07	374	285	
1964 26A		801	US	4 JUN	103.1	90.52	951	860	$150$400
1964 26B		805	US	4 JUN	103.8	90.20	978	906	
1964 26C		806	US	4 JUN	102.3	90.87	939	797	
1964 26D		809	US	4 JUN	103.1	90.52	947	863	
1964 31A		812	US	18 JUN	101.6	99.75	838	830	
1964 31B		813	US	18 JUN	101.6	99.76	838	832	
1964 31C		815	US	18 JUN	101.6	99.80	840	828	
1964 35A		824	US	2 JUL	94.8	82.10	526	495	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)									
1964 38A	ELECKTRON 3	829	USSR	10 JUL	168.1	60.90	7018	405	
1964 38B	ELECKTRON 4	830	USSR	10 JUL	1313.8	59.12	65590	1127	
1964 38C		831	USSR	10 JUL	168.3	60.88	7026	416	
1964 38D		832	USSR	10 JUL	1341.2	59.20	66689	1130	
1964 40A		836	US	17 JUL	6024.8	39.08	104101	102500	
1964 40B		837	US	17 JUL	6004.3	40.75	114000	92103	
1964 40C		838	US	17 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1964 41B		843	US	28 JUL	BARYCENTRIC ORBIT				
1964 45B		851	US	14 AUG	126.2	95.67	3644	272	
1964 47A	SYNCOM 3	858	US	19 AUG	1436.2	.10	35792	35784	$136.470$136.980 $1820.177$1815.794 $1814.931
1964 47B		862	US	19 AUG	CURRENT ELEMENTS NOT MAINTAINED				
1964 49D	COSMOS 41	869	USSR	22 AUG	714.4	66.06	39291	790	
1964 49E		898	USSR	22 AUG	718.3	65.23	39856	525	
1964 50A	COSMOS 42	864	USSR	22 AUG	89.8	48.95	309	196	
1964 50C	COSMOS 43	867	USSR	22 AUG	90.4	48.87	358	199	
1964 51A	EXPLORER 20	870	US	25 AUG	103.9	79.92	1023	867	$136.326$136.350 $136.680
1964 51B		871	US	25 AUG	103.9	79.91	1014	870	
1964 51C		873	US	25 AUG	103.3	79.83	981	849	
1964 51D		874	US	25 AUG	103.3	79.86	1027	808	
1964 51E		875	US	25 AUG	103.4	79.81	1052	786	
1964 52A	NIMBUS 1	872	US	28 AUG	98.3	98.68	925	429	
1964 52B		878	US	28 AUG	98.3	98.69	929	428	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)									
1964 53A	COSMOS 44	876	USSR	28 AUG	99.5	65.09	873	599	
1964 53B		877	USSR	28 AUG	99.6	65.10	810	669	
1964 54A	OGO 1	879	US	5 SEP	3841.9	40.72	144824	4930	$136.200$400.25 $400.850
1964 60A	EXPLORER 21	889	US	4 OCT	2080.3	33.72	94288	917	136.147
1964 63A		893	US	6 OCT	106.3	89.92	1080	1035	
1964 63B		897	US	6 OCT	106.6	89.93	1082	1058	
1964 63C		900	US	6 OCT	106.6	89.91	1080	1057	
1964 63D		901	US	6 OCT	106.6	89.91	1079	1064	
1964 63E		902	US	6 OCT	106.6	89.92	1086	1056	
1964 63F		903	US	6 OCT	106.6	89.92	1086	1057	
1964 64A	EXPLORER 22	899	US	10 OCT	104.8	79.71	1081	888	$136.171$162$32 $20$40$41$360
1964 64B		907	US	10 OCT	104.7	79.71	1079	888	
1964 64C		976	US	10 OCT	104.0	79.33	1064	839	
1964 64D		977	US	10 OCT	105.5	80.06	1126	911	
1964 72A		922	US	4 NOV	94.9	82.04	523	509	
1964 72B		925	US	4 NOV	94.8	82.06	515	500	
1964 72C		926	US	4 NOV	94.1	82.06	477	471	
1964 72D		927	US	4 NOV	94.1	82.03	477	474	
1964 73A	MARINER 3	923	US	5 NOV	HELIOCENTRIC ORBIT				
1964 74A	EXPLORER 23	924	US	6 NOV	99.2	51.98	995	465	$136.078$136.86
1964 76A	EXPLORER 24	931	US	21 NOV	115.6	81.41	2372	592	136.709
1964 76B	EXPLORER 25	932	US	21 NOV	116.2	81.36	2493	531	$136.292$136.86
1964 76C		933	US	21 NOV	116.2	81.35	2492	534	
1964 76D		934	US	21 NOV	116.3	81.36	2487	548	
1964 76E		935	US	21 NOV	116.2	81.38	2488	537	

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OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1964 LAUNCHES (CONT'D)									
1964 76F		936	US	21 NOV	115.5	81.33	2369	592	
1964 76G		937	US	21 NOV	116.0	81.36	2471	538	
1964 76H		939	US	21 NOV	115.1	81.33	2333	592	
1964 76I		940	US	21 NOV	116.0	81.36	2477	531	
1964 76J		941	US	21 NOV	116.2	81.35	2475	548	
1964 76K		960	US	21 NOV	116.4	81.38	2450	587	
1964 76L		1411	US	21 NOV	116.3	81.39	2486	549	
1964 77A	MARINER 4	938	US	28 NOV	HELIOCENTRIC ORBIT				
1964 77B		942	US	28 NOV	HELIOCENTRIC ORBIT				
1964 78C	ZOND 2	945	USSR	30 NOV	HELIOCENTRIC ORBIT				
1964 83A		953	US	13 DEC	106.0	89.97	1071	1014	
1964 83B		956	US	13 DEC	106.3	90.00	1083	1030	
1964 83C		959	US	13 DEC	106.3	89.96	1087	1027	136.650$162$324
1964 83D		965	US	13 DEC	106.3	89.96	1090	1025	$150$400
1964 83E		966	US	13 DEC	106.3	89.98	1092	1022	
1964 83F		967	US	13 DEC	106.3	89.98	1090	1023	
1964 83G		1099	US	13 DEC	106.3	89.99	1086	1028	
1964 83H		1528	US	13 DEC	106.3	89.98	1093	1022	
1964 83J		1608	US	13 DEC	106.3	89.98	1087	1027	
1964 86A	EXPLORER 26	963	US	21 DEC	453.1	19.93	26063	260	136.273
1965 LAUNCHES									
1965 03A		973	US	19 JAN	97.6	98.73	832	459	
1965 04A	TIROS 9	978	US	22 JAN	119.2	96.39	2580	708	$136.234$136.198
1965 04B		979	US	22 JAN	119.3	96.41	2593	707	
1965 04C		1312	US	22 JAN	118.0	96.29	2517	670	
1965 04D		1313	US	22 JAN	120.4	96.62	2617	782	
1965 06A	COSMOS 53	983	USSR	30 JAN	95.5	48.71	870	214	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ (MC/S)
1965 LAUNCHES (CONT'D)									
1965 06B		984	USSR	30 JAN	91.6	48.69	481	212	
1965 07A	ORB.SOL.OBS. 2	987	US	3 FEB	96.6	32.85	626	549	136.713
1965 07B		988	US	3 FEB	96.5	32.85	635	547	
1965 08A		1000	US	11 FEB	145.6	32.12	2797	2781	
1965 08B		1001	US	11 FEB	145.4	32.14	2796	2760	
1965 08C		1002	US	11 FEB	145.7	32.12	2805	2781	
1965 09A	PEGASUS 1	1085	US	16 FEB	97.0	31.75	725	500	$136.410;136.890
1965 09B		1088	US	16 FEB	97.1	31.75	739	493	
1965 10B		1087	US	17 FEB	BARYCENTRIC ORBIT				
1965 11A	COSMOS 54	1089	USSR	21 FEB	103.9	56.12	1616	264	
1965 11B	COSMOS 55	1090	USSR	21 FEB	103.9	56.10	1623	263	
1965 11C	COSMOS 56	1091	USSR	21 FEB	103.0	56.12	1533	260	
1965 11D		1092	USSR	21 FEB	105.7	56.13	1770	278	
1965 11E		1094	USSR	21 FEB	97.7	56.09	1015	262	
1965 14A	COSMOS 58	1097	USSR	26 FEB	96.8	65.03	632	578	
1965 14B		1098	USSR	26 FEB	96.9	65.05	693	525	
1965 16A	GREB	1271	US	9 MAR	103.5	70.08	942	908	
1965 16B	GRAVITY GRADIENT II	1244	US	9 MAR	103.5	70.09	939	910	
1965 16C	GRAVITY GRADIENT III	1292	US	9 MAR	103.5	70.08	942	908	136.766
1965 16D	SOLAR RAD.	1291	US	9 MAR	103.5	70.08	942	908	136.800
1965 16E	EGRS III	1208	US	9 MAR	103.5	70.10	940	908	136.840
1965 16F	OSCAR III	1293	US	9 MAR	103.5	70.10	937	912	
1965 16G	SURCAL	1310	US	9 MAR	103.5	70.10	943	903	
1965 16H	DODECAHEDRON	1272	US	9 MAR	103.5	70.11	939	909	
1965 16J	ROCKET BODY	1245	US	9 MAR	103.5	70.11	942	905	
1965 17B	EGRS II	1250	US	11 MAR	97.3	89.98	978	288	
1965 17C		1228	US	11 MAR	97.1	89.98	961	282	
1965 17D		1248	US	11 MAR	97.1	90.00	955	289	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 17H		1323	US	11 MAR	91.1	89.95	388	250	
1965 20A	COSMOS 61	1267	USSR	15 MAR	103.9	56.08	1609	265	
1965 20B	COSMOS 62	1268	USSR	15 MAR	103.9	56.15	1622	260	
1965 20C	COSMOS 63	1269	USSR	15 MAR	103.0	56.08	1536	261	
1965 20D-20EE***			USSR	15 MAR					
1965 21A		1273	US	18 MAR	97.5	98.99	758	526	
1965 21C		1289	US	18 MAR	97.5	99.00	757	528	
1965 21E		1376	US	18 MAR	96.4	98.97	656	522	
1965 21F		1463	US	18 MAR	98.6	98.97	859	530	
1965 23B		1298	US	21 MAR	BARYCENTRIC ORBIT				
1965 27A		1314	US	3 APR	111.5	90.20	1320	1275	
1965 27B	EGRS IV	1315	US	3 APR	111.4	90.21	1319	1270	
1965 27C		1316	US	3 APR	111.5	90.23	1325	1267	
1965 27D		1389	US	3 APR	111.5	90.20	1317	1278	
1965 27E		1399	US	3 APR	111.5	90.22	1325	1270	
1965 28A	EARLY BIRD	1317	US	6 APR	1437.3	.13	36596	35025	
1965 28B	ROCKET BODY	1318	US	6 APR	CURRENT ELEMENTS NOT MAINTAINED				
1965 30A	MOLNIA 1	1324	USSR	23 APR	720.0	65.47	39741	710	
1965 31B		1329	US	28 APR	95.1	95.19	546	503	
1965 31G		1357	US	28 APR	94.1	95.16	484	461	
1965 32A	EXPLORER 27	1328	US	29 APR	107.8	41.17	1314	938	$136.740$162$324 $20$40$41$360
1965 32B		1358	US	29 APR	107.8	41.16	1317	933	
1965 34A		1359	US	6 MAY	157.0	32.12	3744	2779	
1965 34B		1360	US	6 MAY	309.9	32.09	14811	2771	
1965 34C		1361	US	6 MAY	145.1	32.13	2800	2774	
1965 38A		1377	US	20 MAY	100.0	98.63	966	553	
1965 38B		1378	US	20 MAY	100.0	98.61	969	552	
1965 38C		1379	US	20 MAY	99.9	98.64	957	558	
1965 38D		1380	US	20 MAY	98.6	98.81	841	545	
1965 38E		1461	US	20 MAY	101.0	98.64	1056	555	
1965 38F		1462	US	20 MAY	98.9	98.59	867	551	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 38G		1475	US	20 MAY	100.1	98.60	982	551	
1965 39A	PEGASUS 2	1381	US	25 MAY	97.2	31.76	733	509	$136.410;136.889
1965 39B	ROCKET BODY	1385	US	25 MAY	97.2	31.76	739	508	
1965 42A	EXPLORER 28	1388	US	29 MAY	8558.8	33.86	264247	196	136.125
1965 44A	LUNIK 6	1393	USSR	8 JUN	HELIOCENTRIC ORBIT				
1965 48A		1420	US	24 JUN	106.9	89.98	1140	1030	
1965 48B		1425	US	24 JUN	106.9	89.97	1140	1028	
1965 48C		1428	US	24 JUN	106.6	89.97	1114	1026	
1965 48D		1435	US	24 JUN	106.9	90.00	1142	1030	
1965 50A		1422	US	25 JUN	94.6	107.65	508	494	
1965 51A	TIROS 10	1430	US	2 JUL	100.7	98.60	837	745	$136.232$136.924
1965 51B		1433	US	2 JUL	100.7	98.64	843	744	
1965 51C		1440	US	2 JUL	99.3	98.51	842	614	
1965 51D		1529	US	2 JUL	102.0	98.72	887	824	
1965 52A	COSMOS 70	1431	USSR	2 JUL	97.2	48.74	1022	221	
1965 52B		1432	USSR	2 JUL	96.2	48.72	919	226	
1965 53A	COSMOS 71	1441	USSR	16 JUL	95.3	56.04	537	525	
1965 53B	COSMOS 72	1442	USSR	16 JUL	95.9	56.06	587	538	
1965 53C	COSMOS 73	1443	USSR	16 JUL	95.6	56.07	556	538	
1965 53D	COSMOS 74	1444	USSR	16 JUL	96.2	56.04	616	539	
1965 53E	COSMOS 75	1445	USSR	16 JUL	96.5	56.03	644	539	
1965 53F		1448	USSR	16 JUL	96.6	56.10	647	543	
1965 53G		1449	USSR	16 JUL	95.1	56.08	532	516	
1965 53H		1473	USSR	16 JUL	96.7	56.05	659	540	
1965 55A		1447	US	17 JUL	94.4	70.19	508	474	
1965 55B		1452	US	17 JUL	93.9	70.17	488	446	
1965 55C		1455	US	17 JUL	94.2	70.18	497	464	
1965 55D		1744	US	17 JUL	94.2	70.16	488	476	
1965 55E		1745	US	17 JUL	94.3	70.19	497	466	
1965 56A	ZOND 3	1454	USSR	18 JUL	HELIOCENTRIC ORBIT				
1965 58A		1458	US	20 JUL	6679.0	35.20	115839	106367	
1965 58B		1459	US	20 JUL	6712.7	34.22	121281	101715	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 58C		1460	US	20 JUL	2610.6	34.39	112694	153	136.768
1965 59A		1464	USSR	23 JUL	91.3	48.77	424	243	
1965 60A	PEGASUS 3	1467	US	30 JUL	95.1	28.87	536	512	$136.410;136.590
1965 60B		1468	US	30 JUL	95.2	28.88	538	515	
1965 62B		1472	US	3 AUG	94.7	107.36	506	505	
1965 63A	EGRS 5	1506	US	10 AUG	122.2	69.25	2425	1137	136.840
1965 63B		1502	US	10 AUG	122.2	69.26	2423	1140	
1965 64A	CENTUAR 6	1503	US	11 AUG	CURRENT ELEMENTS NOT MAINTAINED				
1965 65A		1504	US	13 AUG	107.4	90.02	1038	1038	
1965 65B		1508	US	13 AUG	107.9	90.02	1065	1095	
1965 65C		1510	US	13 AUG	108.1	90.05	1195	1083	
1965 65D		1511	US	13 AUG	108.1	90.05	1194	1086	
1965 65E		1512	US	13 AUG	108.1	90.05	1197	1084	
1965 65F		1514	US	13 AUG	108.1	90.05	1197	1086	
1965 65G		1515	US	13 AUG	108.1	90.02	1189	1088	
1965 65H		1520	US	13 AUG	108.1	90.05	1201	1082	
1965 65J		1521	US	13 AUG	108.1	90.02	1189	1092	
1965 65K		1522	US	13 AUG	108.1	90.04	1201	1082	
1965 65L		1577	US	13 AUG	108.1	90.05	1200	1082	
1965 70A	COSMOS 80	1570	USSR	3 SEP	115.0	56.10	1547	1360	
1965 70B	COSMOS 81	1571	USSR	3 SEP	115.3	56.12	1550	1392	
1965 70C	COSMOS 82	1572	USSR	3 SEP	115.7	56.09	1562	1411	
1965 70D	COSMOS 83	1573	USSR	3 SEP	116.1	56.08	1588	1419	
1965 70E	COSMOS 84	1574	USSR	3 SEP	116.4	56.09	1580	1461	
1965 70F		1575	USSR	3 SEP	114.6	56.14	1514	1360	
1965 72A		1580	US	10 SEP	101.9	98.63	1054	649	
1965 72B		1581	US	10 SEP	101.6	98.77	1018	652	
1965 72C		1582	US	10 SEP	101.7	98.66	1053	625	
1965 72D		1583	US	10 SEP	101.9	98.63	1054	650	
1965 73A	COSMOS 86	1584	USSR	18 SEP	115.1	56.07	1636	1281	
1965 73B	COSMOS 87	1585	USSR	18 SEP	115.5	56.04	1645	1308	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 73C	COSMOS 88	1586	USSR	18 SEP	115.8	56.12	1659	1328	
1965 73D	COSMOS 89	1587	USSR	18 SEP	116.2	56.09	1674	1350	
1965 73E	COSMOS 90	1588	USSR	18 SEP	116.7	56.09	1694	1368	
1965 73F		1589	USSR	18 SEP	116.8	56.11	1694	1380	
1965 73G		1590	USSR	18 SEP	116.5	56.11	1679	1370	
1965 73H		1591	USSR	18 SEP	116.7	56.04	1692	1373	
1965 73J		1617	USSR	18 SEP	117.5	56.14	1754	1385	
1965 73K		1618	USSR	18 SEP	117.7	56.21	1768	1388	
1965 78A		1613	US	5 OCT	125.7	144.28	3452	413	
1965 78B		1616	US	5 OCT	125.7	144.30	3449	412	
1965 80A	MOLNIYA II	1621	USSR	13 OCT	718.8	64.82	39935	459	
1965 81A	OGO 2	1620	US	14 OCT	104.4	87.36	1515	418	$136.200$400.250 $400.850
1965 81B		1625	US	14 OCT	104.3	87.36	1510	417	
1965 82A		1624	US	15 OCT	100.0	32.28	783	731	
1965 82B-82EC****			US	15 OCT					
1965 84A	COSMOS 93	1629	USSR	19 OCT	90.8	48.37	373	201	
1965 87A	PROTON 2	1701	USSR	2 NOV	91.7	63.45	526	178	
1965 87B		1702	USSR	2 NOV	91.0	63.46	465	173	
1965 88A	COSMOS 95	1706	USSR	4 NOV	90.9	48.43	415	214	
1965 88D		1740	USSR	4 NOV	91.0	48.40	389	207	
1965 89A	EXPLORER 29	1726	US	6 NOV	120.3	59.40	2276	1115	$136.830$162 $324$972
1965 89B		1729	US	6 NOV	120.3	59.37	2277	1113	
1965 91A	VENERA 2	1730	USSR	12 NOV	HELIOCENTRIC ORBIT				
1965 92A	VENERA 3	1733	USSR	16 NOV	HELIOCENTRIC ORBIT				
1965 92D		1736	USSR	16 NOV	HELIOCENTRIC ORBIT				

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI-NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 93A	EXPLORER 30	1738	US	19 NOV	100.8	59.70	891	702	136.530
1965 93B		1739	US	19 NOV	100.8	59.70	884	706	
1965 95A	COSMOS 97	1777	USSR	26 NOV	108.8	48.41	2123	212	
1965 95B		1779	USSR	26 NOV	108.5	48.42	2094	214	
1965 95C		1782	USSR	26 NOV	108.1	48.41	1759	214	
1965 95D		1783	USSR	26 NOV	108.5	48.43	1796	193	
1965 96A	A-1	1778	FRENCH	26 NOV	108.7	34.24	1801	527	
1965 96B		1805	FRENCH	26 NOV	108.8	34.23	1811	526	
1965 97B		1781	USSR	27 NOV	91.8	65.04	525	194	
1965 98A	ALOUETTE 2	1804	CANADA	29 NOV	121.4	79.84	2986	505	$136.080$136.590 136.980
1965 98B	EXPLORER 31	1806	US	29 NOV	121.3	79.85	2978	505	$136.380
1965 98C		1807	US	29 NOV	121.4	79.85	2980	505	
1965 98D		1808	US	29 NOV	121.2	79.89	2909	494	
1965 100A	GT-7	1812	US	4 DEC	90.0	28.89	306	232	
1965 101A	FR-1	1814	FRENCH	6 DEC	99.9	75.87	753	749	$136.350 136.800
1965 101B		1815	US	6 DEC	100.0	75.83	766	749	
1965 102A		1816	US	9 DEC	90.5	80.02	421	181	
1965 103A	COSMOS 99	1817	USSR	10 DEC	89.6	64.99	309	199	
1965 103B		1818	USSR	10 DEC	89.6	65.00	292	218	

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	DECAY
PLEASE ADD THE FOLLOWING TO THE DECAYED OBJECTS LIST:					
1965 20AP		1403	USSR	15 MAR	3 DEC 65
1965 20CF		1535	USSR	15 MAR	14 DEC 65
1965 59B		1465	USSR	23 JUL	4 DEC 65
1965 88E		1741	USSR	4 NOV	13 DEC 65
1965 92C		1735	USSR	16 NOV	3 DEC 65
1965 94A	COSMOS 96	1742	USSR	23 NOV	9 DEC 65
1965 94B		1743	USSR	23 NOV	4 DEC 65
1965 94G		1775	USSR	23 NOV	8 DEC 65
1965 94H		1776	USSR	23 NOV	8 DEC 65
1965 97A	COSMOS 98	1780	USSR	27 NOV	5 DEC 65
1965 97C		1803	USSR	27 NOV	8 DEC 65
1965 99A	LUNA 8	1810	USSR	3 DEC	6 DEC 65
1965 99B		1809	USSR	3 DEC	5 DEC 65
1965 99C		1811	USSR	3 DEC	6 DEC 65
1965 100B		1813	US	4 DEC	7 DEC 65
1965 102B		1838	US	9 DEC	15 DEC 65

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* APHELION PERIHELION IN ASTRONOMICAL UNITS, INCLINATION TO ECLIPTIC.

** TWO HUNDRED AND SIX 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.

*** ONE HUNDRED AND TWENTY TWO OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1965 20A, 1965 20B AND 1965 20C. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LISTS

**** ONE HUNDRED AND TWENTY TWO OBJECTS HAVE BEEN IDENTIFIED AS DEBRIS ASSOCIATED WITH 1965 82A.

$ TRANSMITTING ON COMMAND ONLY.

& TRANSMITTING WHEN IN SUNLIGHT ONLY.

NO CATALOGUE NUMBER ASSIGNED