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30 Pages

(Including Cover Sheet)

14 00040406D

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-21

VEHICLE NO. 1615

MISSION NO. 1021-2

CAMERA NOS. 166 & 167

Prepared by: [redacted]

Checked by: [redacted]

Approved by: [redacted]

Approved by: [redacted] Manager

Declassified and Released by the N R O

In Accordance with E. O. 12958

on NOV 26 1997

LOGGED [redacted]

3 JUN 1965

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NG

SYSTEM NO. F-21
VEHICLE NO. 1615
MISSION NO. 1021-2
CAMERA NOS. 166/167

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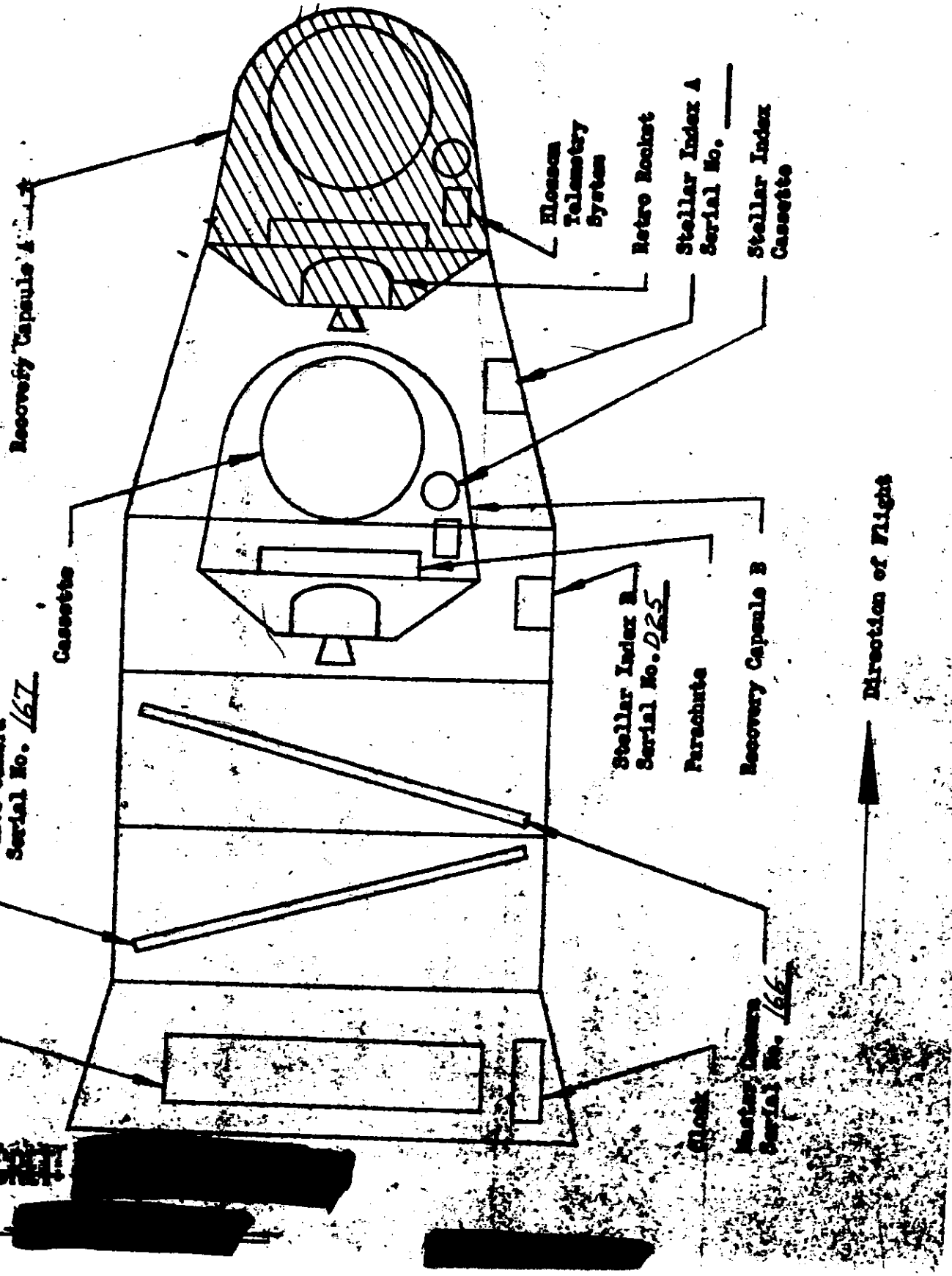
TOP SECRET [redacted]

VEHICLE LAYOUT: NO. [redacted]



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GENERAL FLIGHT DATA:

Master Camera Serial No. 166

Slave Camera Serial No. 167

Stellar Index "A" Serial No. D63/69/69/4

Stellar Index "B" Serial No. D25/27/25

Launch Date 18 MAY, 1965

Reactivation Date NONE

Reactivation Orbit No. NONE

Orbital Parameters: (Rev. 120)

Period 89.74 Min. Eccentricity 0.00965

Perigee 179.67 NM Perigee Latitude 37.707 Deg. N

Apogee 110.52 NM Inclination Angle 75.02 Deg. N

Recovery Orbit No. 161

Recovery Date 28 MAY, 1965

REMARKS: VEHICLE IS NOT YAWED AROUND ON THIS MISSION— MASTER CAMERA IS LOOKING AFT ON FLIGHT PATH & SLAVE CAMERA IS LOOKING FORWARD ON FLIGHT PATH.

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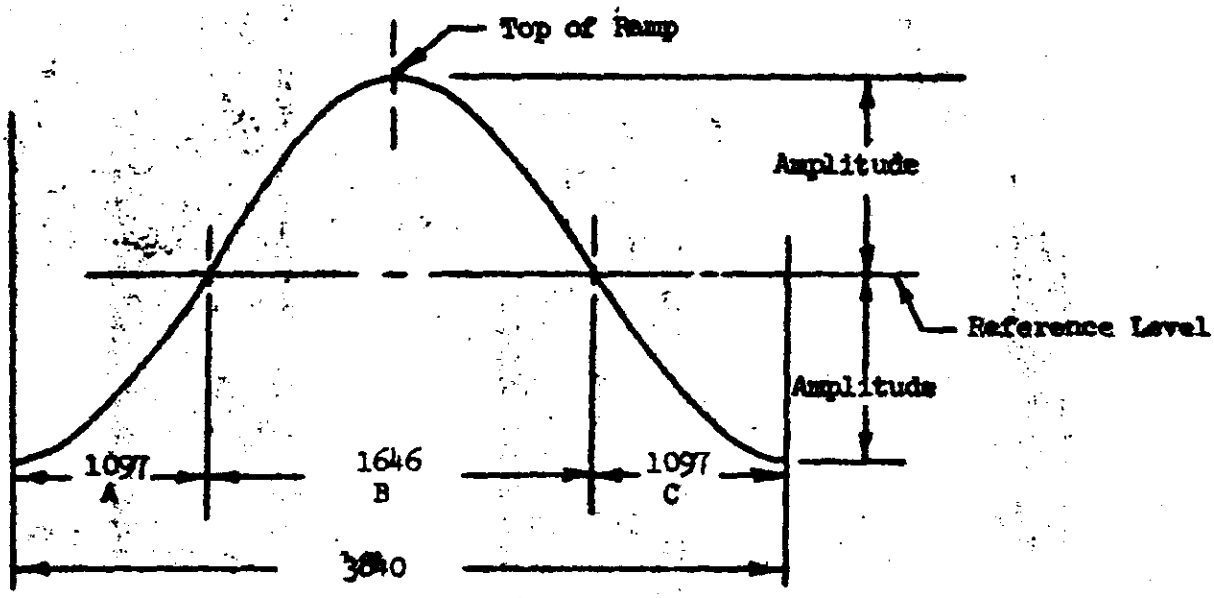
V/H RAMP CONFIGURATION AND CONSTANTS:



Cycle Rate Computation:

A. 0 to 1097 Sec Up Ramp: CPS = R+A Sin (1.5 X -1.5707963)

B. 1097 to 2743 Sec Up Ramp: CPS = R+A Sin (2 X -2.0943951) ≤ .4625

C. 2743 to 3840 Sec Up Ramp: CPS = R+A Sin (1.5 X -0.7853982)

FMC Rate Computation:

$$\text{FMC Rate (In/Sec)} = 2\pi \left\{\frac{0.3223}{CP}\right\} = 2.02507 \times CPS$$

$$\text{FMC Rate (Radians/Sec)} = 2\pi \left\{\frac{0.3224}{24\ CP}\right\} = 0.84378 \times CPS$$

Scan Velocity Computation:

$$\text{Scan Velocity (In/Sec)} = \frac{48\pi}{CP} = 150.796 \times CPS$$

$$\text{Scan Velocity (Radians/Sec)} = \frac{48\pi}{24\ CP} = 6.28319 \times CPS$$

$$\text{Exposure Time (Milliseconds)} = 1000 \left\{\frac{CP \times SLIT}{48\pi}\right\} = 6.63146 \left\{\frac{SLIT}{CPS}\right\}$$

WHERE: $X = \frac{\text{Time Up Ramp (Seconds)}}{1047.6942}$

$A = \frac{1}{2}$ (CPS top - CPS bottom)

$R = \frac{1}{2}$ (CPS(top) + CPS(bottom))

CP = Camera Cycle Period in Sec/Cycle

CPS = Camera Cycle Rate in Cycles/Sec

SLIT = Slit Width in Inches

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NO [redacted]

CYCLE PERIOD DATA:

PRE-FLIGHT CYCLE PERIODS:

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Time Up Ramp Sec
		Master	Slave	
6	6	3.617	3.626	247
6	6	2.313	2.311	1814
10	2	6.650	6.583	280
6	6	2.319	2.315	1785
6	6	3.585	3.595	300
6	6	2.312	2.307	1831
6	6	3.557	3.567	340
6	6	2.367	2.363	1626

IN-FLIGHT CYCLE PERIODS

	V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
			Master	Slave		
*	6	6	3.678	3.725	89	247
*	6	6	2.340	2.400	95	1814
* *	10	2	6.520	6.330	105	280
* *	6	6	2.392	2.414	111	1785
* *	6	6	3.700	3.690	120	300
* *	6	6	2.385	2.398	127	1831
* *	6	6	3.665	3.675	136	340
* *	6	6	2.385	2.384	143	1626

* INCORRECT FILM TRANSPORTING (OUT-OF-RAILS) ON MASTER CAMERA

** NO FILM TRANSPORT ON MASTER CAMERA

TOP SECRET [redacted]
NO [redacted]

[redacted] NO. [redacted]

A. 1021-2 LAUNCH 18022 05718/85 10004
B. DRY 10005
C. PERFORMANCE ESTIMATE, PART 1 10006
10007

OPERATIONS SUMMARY 10010
FWD PAN CAMERA NUMBER 167 10011

OPN	NO	FRA		Q	LAT	LONG	HEIGHT	RANGE	DA	H	M	S	LTIM	S-TIM	
CUT/WRAP 5															10013
85	6	1	27 ON	2	54 43	103 16E	712690	738738	24	01	14	12	0807	04452	11001
			OFF	2	50 22	106 21E	701507	727132	24	01	15	23	0820	04523	11002
85	6	2	34 ON	2	34 46	113 27E	672766	697305	24	01	19	28	0853	04768	11003
			OFF	2	29 22	115 09E	667327	691662	24	01	20	51	0901	04851	11004
85	6	3	17 ON	3	08 31	123 41E	705465	731238	24	01	30	29	0945	05429	11005
			OFF	3	11 30	124 19E	714155	740256	24	01	31	15	0948	05475	11006
85	6	4	31 ON	3	14 59	125 05E	725236	751756	24	01	32	08	0952	05528	11007
			OFF	3	20 30	126 22E	744771	772032	24	01	33	33	0959	05613	11008
86	3	1	19 ON	2	41 46	088 09E	683059	707986	24	02	47	26	0840	10046	11009
			OFF	2	38 41	089 24E	677930	702664	24	02	48	14	0845	10094	11010
86	3	2	36 ON	2	34 50	090 47E	672612	697145	24	02	49	14	0852	10154	11011
			OFF	2	29 10	092 34E	667010	691332	24	02	50	41	0900	10241	11012
86	3	3	54 ON	2	23 55	094 00E	664346	688568	24	02	52	02	0908	10322	11013
			OFF	2	15 16	096 04E	665530	689796	24	02	54	14	0918	10454	11014
87	5	1	106 ON	2	36 50	067 27E	674978	699600	24	04	18	29	0848	15509	11015
			OFF	2	20 15	072 16E	663936	688142	24	04	22	44	0911	15764	11016
88	6	1	60 ON	2	27 48	047 40E	665796	690072	24	05	50	35	0901	21035	11017
			OFF	2	18 22	050 05E	664242	688460	24	05	52	59	0913	21179	11018
89	4	0	13 ON	1	38 51	127 30W	947477	982502	24	06	52	59	2222	24779	11019
			OFF	1	41 50	126 17W	939032	973731	24	06	53	47	2228	24827	11020
89	4	1	86 ON	2	21 58	026 34E	663790	687991	24	07	21	50	0908	26510	11021
			OFF	2	08 22	029 38E	671906	696413	24	07	25	17	0923	26717	11022
90	6	1	72 ON	2	23 52	003 27E	664178	688394	24	08	51	07	0904	31867	11023
			OFF	2	12 25	006 08E	667879	692234	24	08	54	02	0918	32042	11024
93	2	1	56 ON	2	70 21	102 57W	761922	789837	24	13	07	32	0615	47252	11025
			OFF	2	62 17	085 43W	731795	758566	24	13	10	11	0727	47411	11026
93	9	1	67 ON	3	21 05	054 37W	750529	778009	24	13	31	48	0953	48708	11027
			OFF	3	33 37	051 06W	803393	832884	24	13	35	02	1010	48902	11028
95	9	1	28 ON	2	34 35	112 53W	671636	696133	24	16	17	09	0845	58629	11029
			OFF	2	30 06	111 28W	667570	691914	24	16	18	18	0852	58698	11030
96	9	1	25 ON	2	66 19	160 18W	744383	771632	24	17	38	11	0656	63491	11031
			OFF	2	60 09	150 57W	724154	750636	24	17	40	03	0736	63603	11032
98	6	1	47 ON	2	66 24	154 15E	743846	771074	24	20	37	41	0654	74261	11033
			OFF	2	59 14	164 46E	720834	747189	24	20	39	50	0738	74390	11034
101	6	1	25 ON	3	16 22	123 09E	737070	764039	25	01	28	38	0941	05318	11035
			OFF	3	20 53	124 12E	753749	781351	25	01	29	47	0946	05387	11036
102	5	1	67 ON	2	36 24	088 00E	673729	698304	25	02	44	57	0837	09897	11037
			OFF	2	25 51	091 15E	666154	690444	25	02	47	40	0852	10060	11038
102	5	2	28 ON	2	06 35	095 42E	678366	703116	25	02	52	33	0915	10353	11039
			OFF	2	01 56	096 39E	686550	711608	25	02	53	44	0920	10424	11040
103	4	1	29 ON	2	53 16	056 52E	703813	729524	25	04	10	15	0757	15015	11041
			OFF	2	48 45	059 48E	693738	719069	25	04	11	28	0810	15088	11042
103	4	2	22 ON	2	46 16	061 10E	688802	713946	25	04	12	07	0816	15127	11043
			OFF	2	42 47	062 50E	682652	707565	25	04	13	02	0824	15182	11044

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103	4	3	81	ON	2	31	24	067	01E	669016	693414	25	04	15	59	0844	15359	11045
				OFF	2	18	48	070	23E	666795	691109	25	04	19	12	0900	15552	11046
104	7	1	80	ON	2	25	21	046	07E	666304	690599	25	05	47	16	0851	20836	11047
				OFF	2	12	46	049	07E	671167	695646	25	05	50	28	0906	21028	11048
105	3	0	8	ON	1	39	38	129	27W	931677	966092	25	06	49	11	2211	24551	11049
				OFF	1	42	33	128	14W	923396	957491	25	06	49	59	2217	24599	11050
105	3	1	108	ON	2	20	16	024	44E	666692	691002	25	07	18	18	0857	26298	11051
				OFF	2	02	47	028	32E	685976	711012	25	07	22	44	0916	26564	11052
106	6	1	79	ON	2	26	19	000	32E	666481	690784	25	08	46	33	0848	31593	11053
				OFF	2	13	56	003	32E	670326	694772	25	08	49	42	0903	31782	11054
109	5	1	99	ON	3	16	02	058	03W	739072	766117	25	13	26	41	0934	48401	11055
				OFF	3	34	40	053	01W	816394	846382	25	13	31	28	0959	48688	11056
111	5	2	22	ON	2	37	37	116	12W	673785	698363	25	16	12	31	0827	58351	11057
				OFF	2	34	04	114	57W	670206	694649	25	16	13	26	0833	58406	11058
114	5	1	28	ON	2	66	31	151	46E	736882	763846	25	20	33	47	0640	74027	11059
				OFF	2	62	18	158	49E	723558	750018	25	20	35	05	0710	74105	11060
117	5	1	48	ON	2	34	48	108	58E	670709	695171	26	01	11	43	0827	04303	11061
				OFF	2	27	12	111	17E	666653	690962	26	01	13	40	0838	04420	11062
117	5	2	3	ON	3	01	46	117	48E	699005	724533	26	01	21	02	0912	04862	11063
				OFF	3	02	15	117	54E	700205	725778	26	01	21	09	0912	04869	11064
117	5	3	17	ON	3	08	42	119	14E	718041	744289	26	01	22	47	0919	04967	11065
				OFF	3	11	38	119	51E	727318	753918	26	01	23	32	0923	05012	11066
117	5	4	20	ON	3	17	58	121	16E	749558	777000	26	01	25	09	0930	05109	11067
				OFF	3	21	36	122	08E	763556	791530	26	01	26	05	0934	05165	11068
119	9	1	61	ON	2	33	52	064	00E	669952	694385	26	04	11	27	0827	15087	11069
				OFF	2	24	20	066	47E	666645	690954	26	04	13	54	0841	15234	11070
120	8	0	13	ON	1	38	50	109	20W	922044	956087	26	05	15	24	2158	18924	11071
				OFF	1	41	43	108	10W	913860	947588	26	05	16	10	2203	18970	11072
120	8	1	86	ON	2	37	49	039	59E	673519	698087	26	05	40	10	0820	20410	11073
				OFF	2	24	24	044	08E	666755	691068	26	05	43	37	0840	20617	11074
120	8	2	40	ON	2	10	57	047	16E	675990	700650	26	05	47	02	0856	20822	11075
				OFF	2	04	25	048	38E	686524	711582	26	05	48	41	0903	20921	11076
121	4	1	73	ON	2	20	00	022	35E	668114	692478	26	07	14	29	0844	26069	11077
				OFF	2	08	25	025	10E	679906	704713	26	07	17	26	0858	26246	11078
127	9	1	19	ON	2	36	18	117	54W	671172	695652	26	16	08	43	0817	58123	11079
				OFF	2	33	20	116	54W	668982	693379	26	16	09	29	0821	58169	11080
128	2	1	28	ON	2	66	34	165	13W	730905	757642	26	17	30	08	0629	63008	11081
				OFF	2	62	25	158	13W	718482	744749	26	17	31	25	0658	63085	11082
129	7	1	21	ON	2	74	38	134	22E	768897	797077	26	18	56	13	0353	68173	11083
				OFF	2	73	11	148	32E	757480	785226	26	18	57	16	0451	68236	11084
129	7	2	21	ON	2	71	43	156	36E	749874	777332	26	18	57	59	0524	68279	11085
				OFF	2	69	14	165	36E	739641	766709	26	18	58	58	0601	68338	11086
132	3	1	29	ON	2	44	49	125	24E	680475	705305	26	23	35	10	0756	84910	11087
				OFF	2	40	15	127	25E	674650	699260	26	23	36	21	0806	84981	11088
132	3	2	42	ON	3	12	54	140	36E	737349	764329	26	23	49	55	0912	85795	11089
				OFF	3	20	33	142	21E	765926	793990	26	23	51	52	0921	85912	11090
133	3	1	42	ON	2	27	01	109	11E	666986	691308	27	01	09	30	0826	04170	11091
				OFF	2	20	19	110	54E	668860	693252	27	01	11	12	0834	04272	11092
133	3	2	24	ON	3	18	52	119	19E	759693	787520	27	01	21	10	0918	04870	11093
				OFF	3	23	29	120	27E	778289	806823	27	01	22	21	0924	04941	11094
134	7	1	67	ON	2	29	57	085	42E	667363	691699	27	02	38	29	0821	09509	11095
				OFF	2	19	25	088	29E	669492	693908	27	02	41	10	0835	09670	11096
135	7	1	18	ON	2	70	08	027	00E	740178	767267	27	03	57	01	0545	14221	11097
				OFF	2	67	48	033	34E	731844	758617	27	03	57	51	0612	14271	11098

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135	7	2	73	ON	2	35	32	061	17E	670003	694438	27	04	06	46	0811	14806	11099
				OFF	2	23	58	064	43E	667402	691739	27	04	09	44	0828	14984	11100
136	6	0	12	ON	1	38	39	111	33W	910275	943864	27	05	11	08	2144	18668	11101
				OFF	1	41	31	110	25W	902115	935390	27	05	11	54	2150	18714	11102
136	6	1	60	ON	2	31	59	039	49E	667949	692307	27	05	37	25	0816	20245	11103
				OFF	2	22	31	042	28E	667935	692292	27	05	39	50	0829	20390	11104
136	6	2	45	ON	2	10	33	045	12E	679344	704130	27	05	42	53	0843	20573	11105
				OFF	2	03	07	046	45E	692984	718285	27	05	44	46	0851	20686	11106
137	8	1	25	ON	2	52	24	007	49E	692115	717385	27	07	01	48	0733	25308	11107
				OFF	2	48	31	010	17E	685150	710157	27	07	02	51	0744	25371	11108
137	8	2	97	ON	3	04	47	025	44E	713206	739271	27	07	16	30	0859	26190	11109
				OFF	3	22	18	029	38E	775033	803444	27	07	20	58	0919	26458	11110
143	8	2	18	ON	2	41	15	121	56W	674581	699189	27	16	03	05	0755	57785	11111
				OFF	2	38	25	120	48W	671882	696388	27	16	03	49	0800	57829	11112
143	8	3	17	ON	2	36	05	119	57W	670118	694558	27	16	04	26	0804	57866	11113
				OFF	2	33	16	118	59W	668573	692954	27	16	05	10	0809	57910	11114
145	7	1	22	ON	2	74	38	132	06E	760378	788234	27	18	51	51	0340	67911	11115
				OFF	2	73	13	146	17E	749535	776979	27	18	52	54	0438	67974	11116
145	7	2	21	ON	2	71	45	154	23E	742303	769473	27	18	53	36	0511	68016	11117
				OFF	2	69	15	163	25E	732635	759438	27	18	54	35	0548	68075	11118
146	4	1	19	ON	2	72	30	127	56E	745382	772669	27	20	22	58	0454	73378	11119
				OFF	2	70	26	137	00E	736524	763475	27	20	23	51	0531	73431	11120
148	4	1	19	ON	2	39	58	125	26E	673036	697586	27	23	32	01	0753	84721	11121
				OFF	2	36	54	126	36E	670619	695078	27	23	32	49	0759	84769	11122
148	4	2	41	ON	3	12	52	138	30E	743497	770709	27	23	45	29	0859	85529	11123
				OFF	3	20	29	140	14E	772495	800809	27	23	47	26	0908	85646	11124
149	4	1	49	ON	2	35	59	104	17E	670045	694482	28	01	02	46	0759	03766	11125
				OFF	2	28	19	106	43E	667928	692285	28	01	04	44	0811	03884	11126
149	4	2	19	ON	3	18	53	117	13E	766555	794643	28	01	16	44	0905	04604	11127
				OFF	3	22	32	118	07E	781410	810063	28	01	17	40	0910	04660	11128
150	7	1	60	ON	2	28	52	083	55E	667998	692358	28	02	34	18	0810	09258	11129
				OFF	2	19	25	086	23E	671905	696411	28	02	36	43	0822	09403	11130
151	3	1	19	ON	2	70	02	025	11E	732998	759815	28	03	52	35	0533	13955	11131
				OFF	2	67	36	031	57E	724885	751394	28	03	53	27	0601	14007	11132
151	3	2	56	ON	2	65	38	036	04E	719068	745357	28	03	54	05	0618	14045	11133
				OFF	2	57	20	047	00E	698891	724417	28	03	56	31	0704	14191	11134
152	4	1	21	ON	2	60	42	020	48E	706098	731897	28	05	25	17	0648	19517	11135
				OFF	2	57	35	024	08E	699164	724701	28	05	26	10	0702	19570	11136
152	4	2	67	ON	2	55	29	026	00E	694919	720295	28	05	26	45	0710	19605	11137
				OFF	2	45	11	032	35E	678381	703133	28	05	29	31	0739	19771	11138
152	4	3	61	ON	2	31	51	037	46E	668457	692834	28	05	32	58	0804	19978	11139
				OFF	2	22	17	040	26E	670192	694634	28	05	35	25	0817	20125	11140
152	4	4	43	ON	2	09	57	043	14E	684274	709246	28	05	38	33	0831	20313	11141
				OFF	2	02	48	044	43E	698619	724133	28	05	40	22	0839	20422	11142
153	4	1	54	ON	2	20	58	018	07E	671214	695694	28	07	05	28	0817	25528	11143
				OFF	2	12	18	020	06E	680786	705627	28	07	07	40	0828	25660	11144
154	4	1	23	ON	2	32	29	007	40W	668709	693095	28	08	32	14	0801	30734	11145
				OFF	2	28	47	006	33W	668344	692716	28	08	33	11	0806	30791	11146
154	4	2	58	ON	2	26	29	005	55W	668691	693077	28	08	33	46	0810	30826	11147
				OFF	2	17	19	003	37W	674631	699240	28	08	36	06	0821	30966	11148
158	5	1	26	ON	2	19	05	094	33W	673635	698206	28	14	34	29	0816	52469	11149
				OFF	2	14	52	093	35W	678352	703101	28	14	35	33	0821	52533	11150
159	5	1	49	ON	2	60	50	137	44W	704344	730076	28	15	53	12	0642	57192	11151
				OFF	2	53	24	130	44W	689550	714723	28	15	55	17	0712	57317	11152

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159	5	2	20	ON	2	36	27	122	09W	670300	694747	28	15	59	45	0751	57585	11153
				OFF	2	33	21	121	05W	669092	693493	28	16	00	33	0756	57633	11154
																		11155
																		11156

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OPERATIONS SUMMARY

AFT PAN CAMERA NUMBER 166

OPN NO	FRA	Q	LAT	LONG	HEIGHT	RANGE	DA	H	M	S	LTIM	S-TIM
CUT/WRAP 5												
85 6 1	28 ON	2	55 39	102 26E	712690	738738	24	01	14	12	0804	04452
	OFF	2	51 18	105 41E	701507	727132	24	01	15	23	0818	04523
85 6 2	35 ON	2	35 43	113 04E	672766	697305	24	01	19	28	0851	04768
	OFF	2	30 18	114 49E	667327	691662	24	01	20	51	0900	04851
85 6 3	17 ON	3	07 31	123 25E	705465	731238	24	01	30	29	0944	05429
	OFF	3	10 29	124 02E	714155	740256	24	01	31	15	0947	05475
85 6 4	31 ON	3	13 57	124 47E	725236	751756	24	01	32	08	0951	05528
	OFF	3	19 27	126 02E	744771	772032	24	01	33	33	0957	05613
86 3 1	19 ON	2	42 42	087 41E	683059	707986	24	02	47	26	0838	10046
	OFF	2	39 37	088 59E	677930	702664	24	02	48	14	0844	10094
86 3 2	36 ON	2	35 47	090 24E	672612	697145	24	02	49	14	0850	10154
	OFF	2	30 06	092 14E	667010	691332	24	02	50	41	0859	10241
86 3 3	55 ON	2	24 51	093 42E	664346	688568	24	02	52	02	0906	10322
	OFF	2	16 13	095 48E	665530	689796	24	02	54	14	0917	10454
87 5 1	108 ON	2	37 47	067 02E	674978	699600	24	04	18	29	0846	15509
	OFF	2	21 11	071 59E	663936	688142	24	04	22	44	0910	15764
88 6 1	62 ON	2	28 44	047 20E	665796	690072	24	05	50	35	0859	21035
	OFF	2	19 18	049 48E	664242	688460	24	05	52	59	0912	21179
89 4 0	12 ON	1	37 32	128 05W	947477	982502	24	06	52	59	2220	24779
	OFF	1	40 32	126 55W	939032	973731	24	06	53	47	2226	24827
89 4 1	88 ON	2	22 54	026 16E	663790	687991	24	07	21	50	0906	26510
	OFF	2	09 19	029 23E	671906	696413	24	07	25	17	0922	26717
90 6 1	73 ON	2	24 48	003 09E	664178	688394	24	08	51	07	0903	31867
	OFF	2	13 22	005 52E	667879	692234	24	08	54	02	0917	32042
93 2 1	57 ON	2	71 03	105 36W	761922	789837	24	13	07	32	0605	47252
	OFF	2	63 11	087 02W	731795	758566	24	13	10	11	0722	47411
93 9 1	68 ON	3	20 01	054 57W	750529	778009	24	13	31	48	0952	48708
	OFF	3	32 30	051 32W	803393	832884	24	13	35	02	1008	48902
95 9 1	28 ON	2	35 31	113 15W	671636	696133	24	16	17	09	0844	58629
	OFF	2	31 02	111 48W	667570	691914	24	16	18	18	0851	58698
96 9 1	25 ON	2	67 09	162 07W	744383	771632	24	17	38	11	0649	63491
	OFF	2	61 03	152 06W	724154	750636	24	17	40	03	0731	63603
98 6 1	47 ON	2	67 13	152 26E	743846	771074	24	20	37	41	0647	74261
	OFF	2	60 09	163 41E	720834	747189	24	20	39	50	0734	74390
101 6 1	25 ON	3	15 19	122 50E	737070	764039	25	01	28	38	0940	05318
	OFF	3	19 49	123 53E	753749	781351	25	01	29	47	0945	05387

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PHOTOGRAPHIC SUMMARY

FWD OPN	PAN NO	CAMERA FRA	NO 167 FEET	0.2500 ET	SLIT W/25 S-EL	S-DIR	FILTER EV	4404 FILM FULL	INT	PRI	
CUT/WRAP		5	13.2								10033
85	6 1	27	71.4	ON 230	35.5	-48.2	11.70	12.03	11.43	10.83	13001
				OFF 235	38.6	-51.1	11.73	12.06	11.46	10.86	13002
85	6 2	34	89.9	ON 247	47.5	-64.6	11.80	12.10	11.50	10.90	13003
				OFF 249	49.7	-70.6	11.82	12.10	11.50	10.90	13004
85	6 3	17	45.0	ON 233	46.5	-117.5	11.72	12.10	11.50	10.90	13005
				OFF 230	45.0	-120.3	11.70	12.09	11.49	10.89	13006
85	6 4	31	82.0	ON 225	43.1	-123.3	11.67	12.08	11.48	10.88	13007
				OFF 219	39.8	-127.4	11.63	12.07	11.47	10.87	13008
86	3 1	19	50.3	ON 243	43.8	-58.0	11.78	12.09	11.49	10.89	13009
				OFF 245	45.5	-60.8	11.79	12.09	11.49	10.89	13010
86	3 2	36	95.2	ON 247	47.3	-64.6	11.80	12.10	11.50	10.90	13011
				OFF 250	49.6	-70.9	11.82	12.10	11.50	10.90	13012
86	3 3	54	142.8	ON 251	51.1	-77.3	11.82	12.10	11.50	10.90	13013
				OFF 250	52.2	-88.6	11.82	12.10	11.50	10.90	13014
87	5 1	106	280.4	ON 246	46.2	-62.8	11.80	12.10	11.50	10.90	13015
				OFF 250	51.6	-82.1	11.82	12.10	11.50	10.90	13016
88	6 1	60	158.7	ON 250	49.7	-72.7	11.82	12.10	11.50	10.90	13017
				OFF 250	51.6	-84.6	11.82	12.10	11.50	10.90	13018
89	4 0	13	34.4	ON 158	-26.5	316.4	11.16	0.	0.	0.	13019
				OFF 159	-24.2	317.4	11.17	0.	0.	0.	13020
89	4 1	86	227.5	ON 251	50.9	-80.0	11.82	12.10	11.50	10.90	13021
				OFF 247	51.2	-97.7	11.80	12.10	11.50	10.90	13022
90	6 1	72	190.4	ON 248	50.4	-77.7	11.81	12.10	11.50	10.90	13023
				OFF 246	51.4	-92.4	11.80	12.10	11.50	10.90	13024
93	2 1	56	148.1	ON 205	21.1	-41.3	11.54	11.78	11.18	10.58	13025
				OFF 219	28.8	-45.5	11.63	11.96	11.36	10.76	13026
93	9 1	67	177.2	ON 215	38.4	-126.3	11.60	12.06	11.46	10.86	13027
				OFF 199	30.0	-133.3	11.49	11.98	11.38	10.78	13028
95	9 1	28	74.1	ON 246	46.0	-66.2	11.79	12.10	11.50	10.90	13029
				OFF 247	47.7	-71.0	11.80	12.10	11.50	10.90	13030
96	9 1	25	66.1	ON 155	25.1	-43.9	11.13	11.89	11.29	10.69	13031
				OFF 155	30.3	-47.2	11.13	11.98	11.38	10.78	13032
98	6 1	47	124.3	ON 213	24.8	-44.3	11.59	11.89	11.29	10.69	13033
				OFF 224	30.8	-48.1	11.66	11.99	11.39	10.79	13034
101	6 1	25	66.1	ON 220	40.1	-121.6	11.63	12.07	11.47	10.87	13035
				OFF 214	37.5	-124.8	11.60	12.05	11.45	10.85	13036
102	5 1	67	177.2	ON 245	44.1	-65.5	11.79	12.09	11.49	10.89	13037
				OFF 248	47.7	-76.4	11.81	12.10	11.50	10.90	13038
102	5 2	28	74.1	ON 242	48.5	-99.2	11.77	12.10	11.50	10.90	13039
				OFF 239	47.5	-104.4	11.75	12.10	11.50	10.90	13040
103	4 1	29	76.7	ON 232	34.6	-52.5	11.71	12.03	11.43	10.83	13041
				OFF 236	37.5	-55.6	11.74	12.05	11.45	10.85	13042
103	4 2	22	58.2	ON 239	39.0	-57.4	11.75	12.06	11.46	10.86	13043
				OFF 241	40.9	-60.1	11.77	12.07	11.47	10.87	13044
103	4 3	81	214.2	ON 247	45.9	-70.6	11.80	12.10	11.50	10.90	13045
				OFF 248	48.7	-84.7	11.81	12.10	11.50	10.90	13046
104	7 1	80	211.6	ON 252	47.5	-77.2	11.83	12.10	11.50	10.90	13047
				OFF 249	48.7	-91.8	11.82	12.10	11.50	10.90	13048

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105	3	0	8	21.2	ON	90	-24.7	313.6	10.35	0.	0.	0.	13049
					OFF	92	-22.5	314.6	10.38	0.	0.	0.	13050
105	3	1	108	285.7	ON	252	48.2	-83.0	11.83	12.10	11.50	10.90	13051
					OFF	243	47.1	-103.2	11.78	12.10	11.50	10.90	13052
106	6	1	79	209.0	ON	252	46.9	-76.3	11.83	12.10	11.50	10.90	13053
					OFF	250	48.3	-90.5	11.82	12.10	11.50	10.90	13054
109	5	1	99	261.9	ON	222	39.1	-120.0	11.65	12.06	11.46	10.86	13055
					OFF	198	27.8	-130.8	11.49	11.94	11.34	10.74	13056
111	5	2	22	58.2	ON	249	42.2	-65.7	11.81	12.08	11.48	10.88	13057
					OFF	250	43.6	-69.0	11.82	12.09	11.49	10.89	13058
114	5	1	28	74.1	ON	219	23.6	-47.3	11.63	11.86	11.26	10.66	13059
					OFF	225	27.1	-49.5	11.67	11.93	11.33	10.73	13060
117	5	1	48	127.0	ON	251	42.4	-69.1	11.82	12.08	11.48	10.88	13061
					OFF	252	44.7	-76.4	11.83	12.09	11.49	10.89	13062
117	5	2	3	7.9	ON	237	43.8	-106.9	11.74	12.09	11.49	10.89	13063
					OFF	237	43.6	-107.3	11.74	12.09	11.49	10.89	13064
117	5	3	17	45.0	ON	229	41.3	-113.1	11.69	12.08	11.48	10.88	13065
					OFF	226	40.1	-115.5	11.67	12.07	11.47	10.87	13066
117	5	4	20	52.9	ON	218	37.0	-120.1	11.62	12.05	11.45	10.85	13067
					OFF	213	35.0	-122.5	11.59	12.03	11.43	10.83	13068
119	9	1	61	161.3	ON	251	42.4	-70.2	11.82	12.08	11.48	10.88	13069
					OFF	252	45.0	-79.5	11.83	12.09	11.49	10.89	13070
120	8	0	13	34.4	ON	160	-24.0	310.5	11.18	0.	0.	0.	13071
					OFF	161	-22.0	311.5	11.19	0.	0.	0.	13072
120	8	1	86	227.5	ON	249	40.7	-66.9	11.81	12.07	11.47	10.87	13073
					OFF	252	44.8	-79.5	11.83	12.09	11.49	10.89	13074
120	8	2	40	105.8	ON	247	45.6	-93.7	11.80	12.09	11.49	10.89	13075
					OFF	242	44.8	-100.5	11.77	12.09	11.49	10.89	13076
121	4	1	73	193.1	ON	251	45.3	-84.2	11.82	12.09	11.49	10.89	13077
					OFF	245	45.2	-96.4	11.79	12.09	11.49	10.89	13078
127	9	1	19	50.3	ON	250	40.2	-69.2	11.82	12.07	11.47	10.87	13079
					OFF	251	41.3	-71.7	11.82	12.08	11.48	10.88	13080
128	2	1	28	74.1	ON	221	22.6	-50.0	11.64	11.83	11.23	10.63	13081
					OFF	227	25.8	-52.1	11.68	11.91	11.31	10.71	13082
129	7	1	21	55.5	ON	203	12.8	-45.4	11.52	11.34	10.74	10.14	13083
					OFF	208	15.7	-46.5	11.55	11.53	10.93	10.33	13084
129	7	2	21	55.5	ON	212	17.6	-47.5	11.58	11.64	11.04	10.44	13085
					OFF	217	20.2	-48.8	11.61	11.75	11.15	10.55	13086
132	3	1	29	76.7	ON	246	35.9	-63.3	11.80	12.04	11.44	10.84	13087
					OFF	249	37.9	-66.7	11.81	12.05	11.45	10.85	13088
132	3	2	42	111.1	ON	221	37.2	-114.4	11.64	12.05	11.45	10.85	13089
					OFF	211	33.6	-119.5	11.58	12.02	11.42	10.82	13090
133	3	1	42	111.1	ON	252	42.0	-78.1	11.83	12.08	11.48	10.88	13091
					OFF	250	43.0	-84.5	11.82	12.08	11.48	10.88	13092
133	3	2	24	63.5	ON	213	34.3	-118.3	11.59	12.02	11.42	10.82	13093
					OFF	207	31.9	-121.0	11.55	12.00	11.40	10.80	13094
134	7	1	67	177.2	ON	252	41.1	-75.5	11.83	12.07	11.47	10.87	13095
					OFF	250	42.9	-85.4	11.82	12.08	11.48	10.88	13096
135	7	1	18	47.6	ON	216	18.9	-49.5	11.60	11.70	11.10	10.50	13097
					OFF	220	21.1	-50.7	11.63	11.78	11.18	10.58	13098
135	7	2	73	193.1	ON	250	39.2	-70.9	11.82	12.06	11.46	10.86	13099
					OFF	250	42.2	-81.1	11.82	12.08	11.48	10.88	13100
136	6	0	12	31.7	ON	161	-22.6	307.6	11.18	0.	0.	0.	13101
					OFF	162	-20.7	308.5	11.19	0.	0.	0.	13102

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136	6	1	60	158.7	ON	251	40.2 -74.0	11.82	12.07	11.47	10.87	13103
					OFF	250	42.2 -82.5	11.82	12.08	11.48	10.88	13104
136	6	2	45	119.0	ON	244	42.6 -94.0	11.78	12.08	11.48	10.88	13105
					OFF	238	41.6-100.9	11.75	12.08	11.48	10.88	13106
137	8	1	25	66.1	ON	240	31.3 -59.2	11.76	11.99	11.39	10.79	13107
					OFF	243	33.4 -61.7	11.78	12.01	11.41	10.81	13108
137	8	2	97	256.6	ON	229	39.3-107.6	11.70	12.06	11.46	10.86	13109
					OFF	207	32.0-119.8	11.55	12.00	11.40	10.80	13110
143	8	2	18	47.6	ON	248	35.9 -67.6	11.81	12.04	11.44	10.84	13111
					OFF	249	37.0 -69.7	11.81	12.05	11.45	10.85	13112
143	8	3	17	45.0	ON	250	37.8 -71.5	11.82	12.05	11.45	10.85	13113
					OFF	250	38.7 -73.7	11.82	12.06	11.46	10.86	13114
145	7	1	22	58.2	ON	204	12.3 -48.5	11.53	11.29	10.69	10.09	13115
					OFF	210	15.0 -49.6	11.57	11.49	10.89	10.29	13116
145	7	2	21	55.5	ON	214	16.7 -50.5	11.59	11.59	10.99	10.39	13117
					OFF	218	19.2 -51.9	11.62	11.71	11.11	10.51	13118
146	4	1	19	50.3	ON	212	15.8 -50.2	11.58	11.54	10.94	10.34	13119
					OFF	217	18.0 -51.4	11.61	11.66	11.06	10.46	13120
148	4	1	19	50.3	ON	249	35.6 -69.2	11.81	12.04	11.44	10.84	13121
					OFF	250	36.7 -71.5	11.82	12.04	11.44	10.84	13122
148	4	2	41	108.4	ON	218	34.6-112.4	11.62	12.03	11.43	10.83	13123
					OFF	208	31.3-117.1	11.55	11.99	11.39	10.79	13124
149	4	1	49	129.6	ON	250	36.9 -72.3	11.82	12.05	11.45	10.85	13125
					OFF	251	38.9 -78.4	11.82	12.06	11.46	10.86	13126
149	4	2	19	50.3	ON	210	31.9-116.1	11.56	12.00	11.40	10.80	13127
					OFF	205	30.2-118.1	11.53	11.98	11.38	10.78	13128
150	7	1	60	158.7	ON	253	38.6 -78.1	11.83	12.06	11.46	10.86	13129
					OFF	250	39.9 -86.1	11.82	12.07	11.47	10.87	13130
151	3	1	19	50.3	ON	220	18.1 -52.6	11.63	11.66	11.06	10.46	13131
					OFF	224	20.1 -53.8	11.66	11.75	11.15	10.55	13132
151	3	2	56	148.1	ON	227	21.6 -54.8	11.68	11.80	11.20	10.60	13133
					OFF	238	27.0 -59.0	11.75	11.93	11.33	10.73	13134
152	4	1	21	55.5	ON	234	24.9 -57.4	11.73	11.89	11.29	10.69	13135
					OFF	238	26.7 -59.0	11.75	11.92	11.32	10.72	13136
152	4	2	67	177.2	ON	240	27.9 -60.1	11.76	11.94	11.34	10.74	13137
					OFF	248	33.0 -66.3	11.81	12.01	11.41	10.81	13138
152	4	3	61	161.3	ON	253	37.5 -75.9	11.83	12.05	11.45	10.85	13139
					OFF	251	39.3 -83.8	11.83	12.06	11.46	10.86	13140
152	4	4	43	113.7	ON	244	39.5 -94.4	11.78	12.06	11.46	10.86	13141
					OFF	238	38.5-100.4	11.75	12.06	11.46	10.86	13142
153	4	1	54	142.8	ON	251	39.3 -84.9	11.82	12.06	11.46	10.86	13143
					OFF	246	39.4 -92.4	11.79	12.06	11.46	10.86	13144
154	4	1	23	60.8	ON	253	37.1 -75.6	11.83	12.05	11.45	10.85	13145
					OFF	252	37.9 -78.5	11.83	12.05	11.45	10.85	13146
154	4	2	58	153.4	ON	252	38.3 -80.4	11.83	12.06	11.46	10.86	13147
					OFF	249	39.3 -88.1	11.81	12.06	11.46	10.86	13148
158	5	1	26	68.8	ON	249	38.5 -86.8	11.81	12.06	11.46	10.86	13149
					OFF	247	38.6 -90.3	11.80	12.06	11.46	10.86	13150
159	5	1	49	129.6	ON	235	24.1 -58.6	11.73	11.87	11.27	10.67	13151
					OFF	243	28.3 -62.5	11.78	11.95	11.35	10.75	13152
159	5	2	20	52.9	ON	252	35.1 -73.2	11.83	12.03	11.43	10.83	13153
					OFF	253	36.0 -75.5	11.83	12.04	11.44	10.84	13154
												13155
												13156

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PHOTOGRAPHIC SUMMARY NO. [redacted] 10040

AFT PAN CAMERA NO 166 0.1750 SLIT W/21 FILTER 4404 FILM 10041

OPN NO	FRA	FEET		ET	S-EL	S-DIR	EV	FULL	INT	PRI	
CUT/WRAP	5	13.2									10043
85 6 1	28	74.1	ON	334	34.8	-48.4	12.23	12.68	12.08	11.48	14001
			OFF	341	37.9	-51.0	12.26	12.70	12.10	11.50	14002
85 6 2	35	92.6	ON	359	47.0	-63.9	12.34	12.75	12.15	11.55	14003
			OFF	362	49.3	-69.7	12.35	12.75	12.15	11.55	14004
85 6 3	17	45.0	ON	338	46.9	-116.4	12.25	12.75	12.15	11.55	14005
			OFF	333	45.5	-119.3	12.23	12.74	12.14	11.54	14006
85 6 4	31	82.0	ON	327	43.6	-122.3	12.21	12.74	12.14	11.54	14007
			OFF	317	40.4	-126.5	12.16	12.72	12.12	11.52	14008
86 3 1	19	50.3	ON	353	43.2	-57.6	12.31	12.74	12.14	11.54	14009
			OFF	356	44.9	-60.3	12.33	12.74	12.14	11.54	14010
86 3 2	36	95.2	ON	359	46.9	-63.9	12.34	12.75	12.15	11.55	14011
			OFF	362	49.2	-70.0	12.35	12.75	12.15	11.55	14012
86 3 3	55	145.5	ON	364	50.8	-76.3	12.36	12.75	12.15	11.55	14013
			OFF	362	52.1	-87.5	12.35	12.75	12.15	11.55	14014
87 5 1	108	285.7	ON	358	45.7	-62.1	12.33	12.75	12.15	11.55	14015
			OFF	363	51.4	-81.0	12.36	12.75	12.15	11.55	14016
88 6 1	62	164.0	ON	363	49.3	-71.8	12.36	12.75	12.15	11.55	14017
			OFF	363	51.4	-83.5	12.36	12.75	12.15	11.55	14018
89 4 0	12	31.7	ON	229	-27.5	315.4	11.69	0.	0.	0.	14019
			OFF	230	-25.2	316.5	11.70	0.	0.	0.	14020
89 4 1	88	232.8	ON	364	50.7	-79.0	12.36	12.75	12.15	11.55	14021
			OFF	358	51.3	-96.5	12.33	12.75	12.15	11.55	14022
90 6 1	73	193.1	ON	356	50.1	-76.7	12.33	12.75	12.15	11.55	14023
			OFF	353	51.4	-91.2	12.32	12.75	12.15	11.55	14024
93 2 1	57	150.8	ON	294	20.3	-43.6	12.05	12.40	11.80	11.20	14025
			OFF	314	28.0	-46.3	12.15	12.60	12.00	11.40	14026
93 9 1	68	179.9	ON	308	39.0	-125.4	12.12	12.71	12.11	11.51	14027
			OFF	285	30.8	-132.5	12.01	12.64	12.04	11.44	14028
95 9 1	28	74.1	ON	353	45.6	-65.6	12.31	12.74	12.14	11.54	14029
			OFF	355	47.3	-70.1	12.32	12.75	12.15	11.55	14030
96 9 1	25	66.1	ON	221	24.2	-45.3	11.64	12.52	11.92	11.32	14031
			OFF	221	29.5	-47.8	11.64	12.62	12.02	11.42	14032
98 6 1	47	124.3	ON	306	24.0	-45.7	12.11	12.52	11.92	11.32	14033
			OFF	321	30.1	-48.6	12.18	12.63	12.03	11.43	14034
101 6 1	25	66.1	ON	315	40.6	-120.7	12.15	12.72	12.12	11.52	14035
			OFF	307	38.1	-123.9	12.11	12.70	12.10	11.50	14036
											14037
											14038

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TOP SECRET [redacted]

[redacted] NO. [redacted]

STELLAR-INDEX SUMMARY 10050

CAMERA DATA ET FILM FILTER GRID ASSEMBLY NO D25 10051

STELLAR 2.0 4401 NONE 27. 10052

INDEX 1/500 4400 W/21 25 10053

PERFORMANCE SUMMARY 10054

OPN	NO	FR	STEL FEET	INDX FEET	H	M	S	Q	ON LAT	ON LONG	Q	OFF LAT	OFF LONG	SEC DUR	
85	6	1	4	0.40	0.79	01	14	12	2	54	103E	2	50	106E	71	15001
85	6	2	5	0.50	0.99	01	19	28	2	34	113E	2	29	115E	83	15002
85	6	3	2	0.20	0.40	01	30	29	3	08	123E	3	11	124E	46	15003
85	6	4	5	0.50	0.99	01	32	08	3	14	125E	3	20	126E	85	15004
86	3	1	3	0.30	0.59	02	47	26	2	41	088E	2	38	089E	48	15005
86	3	2	5	0.50	0.99	02	49	14	2	34	090E	2	29	092E	87	15006
86	3	3	7	0.69	1.39	02	52	02	2	23	094E	2	15	096E	132	15007
87	5	1	16	1.58	3.17	04	18	29	2	36	067E	2	20	072E	255	15008
88	6	1	8	0.79	1.58	05	50	35	2	27	047E	2	18	050E	144	15009
89	4	0	2	0.20	0.40	06	52	59	1	38	127W	1	41	126W	48	15010
89	4	1	12	1.19	2.38	07	21	50	2	21	026E	2	08	029E	207	15011
90	6	1	11	1.09	2.18	08	51	07	2	23	003E	2	12	006E	175	15012
93	2	1	8	0.79	1.58	13	07	32	2	70	102W	2	62	085W	159	15013
93	9	1	9	0.89	1.78	13	31	48	3	21	054W	3	33	051W	194	15014
95	9	1	4	0.40	0.79	16	17	09	2	34	112W	2	30	111W	69	15015
96	9	1	4	0.40	0.79	17	38	11	2	66	160W	2	60	150W	112	15016
98	6	1	6	0.59	1.19	20	37	41	2	66	154E	2	59	164E	129	15017
101	6	1	4	0.40	0.79	01	28	38	3	16	123E	3	20	124E	69	15018
102	5	1	10	0.99	1.98	02	44	57	2	36	088E	2	25	091E	163	15019
102	5	2	4	0.40	0.79	02	52	33	2	06	095E	2	01	096E	71	15020
103	4	1	4	0.40	0.79	04	10	15	2	53	056E	2	48	059E	73	15021
103	4	2	3	0.30	0.59	04	12	07	2	46	061E	2	42	062E	55	15022
103	4	3	11	1.09	2.18	04	15	59	2	31	067E	2	18	070E	193	15023
104	7	1	12	1.19	2.38	05	47	16	2	25	046E	2	12	049E	192	15024
105	3	0	1	0.10	0.20	06	49	11	1	39	129W	1	42	128W	48	15025
105	3	1	15	1.48	2.97	07	18	18	2	20	024E	2	02	028E	266	15026
106	6	1	12	1.19	2.38	08	46	33	2	26	000E	2	13	003E	189	15027
109	5	1	14	1.39	2.77	13	26	41	3	16	058W	3	34	053W	287	15028
111	5	2	3	0.30	0.59	16	12	31	2	37	116W	2	34	114W	55	15029
114	5	1	4	0.40	0.79	20	33	47	2	66	151E	2	62	158E	78	15030
117	5	1	7	0.69	1.39	01	11	43	2	34	108E	2	27	111E	117	15031
117	5	3	3	0.30	0.59	01	22	47	3	08	119E	3	11	119E	45	15032
117	5	4	3	0.30	0.59	01	25	09	3	17	121E	3	21	122E	56	15033
119	9	1	8	0.79	1.58	04	11	27	2	33	064E	2	24	066E	147	15034
120	8	0	2	0.20	0.40	05	15	24	1	38	109W	1	41	108W	46	15035
120	8	1	12	1.19	2.38	05	40	10	2	37	039E	2	24	044E	207	15036
120	8	2	6	0.59	1.19	05	47	02	2	10	047E	2	04	048E	99	15037
121	4	1	11	1.09	2.18	07	14	29	2	20	022E	2	08	025E	177	15038
127	9	1	2	0.20	0.40	16	08	43	2	36	117W	2	33	116W	46	15039
128	2	1	4	0.40	0.79	17	30	08	2	66	165W	2	62	158W	77	15040
129	7	1	3	0.30	0.59	18	56	13	2	74	134E	2	73	148E	63	15041
129	7	2	3	0.30	0.59	18	57	59	2	71	156E	2	69	165E	59	15042
132	3	1	4	0.40	0.79	23	35	10	2	44	125E	2	40	127E	71	15043
132	3	2	6	0.59	1.19	23	49	55	3	12	140E	3	20	142E	117	15044
133	3	1	6	0.59	1.19	01	09	30	2	27	109E	2	20	110E	102	15045

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TOP SECRET [redacted]

NO. [redacted]

[redacted] NO. [redacted]

133	3	2	4	0.40	0.79	01	21	10	3	18	119E	3	23	120E	71	15046
134	7	1	9	0.89	1.78	02	38	29	2	29	085E	2	19	088E	161	15047
135	7	1	3	0.30	0.59	03	57	01	2	70	027E	2	67	033E	50	15048
135	7	2	10	0.99	1.98	04	06	46	2	35	061E	2	23	064E	178	15049
136	6	0	2	0.20	0.40	05	11	08	1	38	111W	1	41	110W	46	15050
136	6	1	9	0.89	1.78	05	37	25	2	31	039E	2	22	042E	145	15051
136	6	2	6	0.59	1.19	05	42	53	2	10	045E	2	03	046E	113	15052
137	8	1	4	0.40	0.79	07	01	48	2	52	007E	2	48	010E	63	15053
137	8	2	14	1.39	2.77	07	16	30	3	04	025E	3	22	029E	268	15054
143	8	2	2	0.20	0.40	16	03	05	2	41	121W	2	38	120W	44	15055
143	8	3	3	0.30	0.59	16	04	26	2	36	119W	2	33	118W	44	15056
145	7	1	3	0.30	0.59	18	51	51	2	74	132E	2	73	146E	63	15057
145	7	2	3	0.30	0.59	18	53	36	2	71	154E	2	69	163E	59	15058
146	4	1	2	0.20	0.40	20	22	58	2	72	127E	2	70	137E	53	15059
148	4	1	3	0.30	0.59	23	32	01	2	39	125E	2	36	126E	48	15060
148	4	2	6	0.59	1.19	23	45	29	3	12	138E	3	20	140E	117	15061
149	4	1	7	0.69	1.39	01	02	46	2	35	104E	2	28	106E	118	15062
149	4	2	3	0.30	0.59	01	16	44	3	18	117E	3	22	118E	56	15063
150	7	1	8	0.79	1.58	02	34	18	2	28	083E	2	19	086E	145	15064
151	3	1	3	0.30	0.59	03	52	35	2	70	025E	2	67	031E	52	15065
151	3	2	8	0.79	1.58	03	54	05	2	65	036E	2	57	047E	146	15066
152	4	1	3	0.30	0.59	05	25	17	2	60	020E	2	57	024E	53	15067
152	4	2	10	0.99	1.98	05	26	45	2	55	026E	2	45	032E	166	15068
152	4	3	8	0.79	1.58	05	32	58	2	31	037E	2	22	040E	147	15069
152	4	4	6	0.59	1.19	05	38	33	2	09	043E	2	02	044E	109	15070
153	4	1	8	0.79	1.58	07	05	28	2	20	018E	2	12	020E	132	15071
154	4	1	3	0.30	0.59	08	32	14	2	32	007W	2	28	006W	57	15072
154	4	2	9	0.89	1.78	08	33	46	2	26	005W	2	17	003W	140	15073
158	5	1	3	0.30	0.59	14	34	29	2	19	094W	2	14	093W	64	15074
159	5	1	7	0.69	1.39	15	53	12	2	60	137W	2	53	130W	125	15075
159	5	2	3	0.30	0.59	15	59	45	2	36	122W	2	33	121W	48	15076
																10060
																10061

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NOTE - THE CYCLE COUNTER FOR INSTRUMENT 166 APPEARED TO BE DROPPING CYCLES RANDOMLY IN THE EARLY PORTION OF MISSION 1021-1, BUT NOW APPEARS TC BE OPERATING CORRECTLY. ALL CONSUMPTION FIGURES ARE BASED ON CYCLE COUNTER READINGS IN-FLIGHT. 10062 10063 10064 10065 10066

NOTE - THE CAMERAS WERE TURNED OFF PREMATURELY ON OPERATION 117-05-2 BY AN EXTRANEOUS BRUSH 28 (REDUNDANT OFF). 10067 10068 10069

NOTE - THE FIRST FIVE FRAMES IN THE B MISSION RECOVERY BUCKET ARE THE LAST FIVE FRAMES CF OPERATION 079-09-1 WHICH WAS TAKEN DURING THE A MISSION. 10070 10071 10072 10073

NOTE - CUT/WRAP CCCURRED ON REV 081. 10074 10075

NOTE - THE FILM APPARENTLY PULLED OUT OF THE RAILS ON THE MASTER PAN CAMERA, INSTRUMENT 166, BETWEEN OPERATION 079-09-1 AND OPERATION C89-04-0. THIS CONDITION RESULTED IN THE FILM MOVING AWAY FROM THE PLATEN AND OUT OF THE FOCAL PLANE. QUALITY OF FILM IMAGERY IS QUESTIONABLE. ALSO, SOMEWHERE BETWEEN OPERATION 096-09-1 AND OPERATION 101-06-1 THE FILM ON THE MASTER PAN CAMERA STOPPED MOVING. FOR THIS REASCN NO DATA IS PRESENTED FOR INSTRUMENT 166 AFTER OPERATICN 101-06-1. 10076 10077 10078 10079 10080 10081 10082 10083 10084 10085

NOTE - T/M DATA INDICATE THAT THE SLAVE PAN CAMERA, INSTRUMENT 167, AND THE STELLAR INDEX CAMERA WERE OUT OF FILM PRIOR TO THE START CF OPERATION 159-05-2. 10086 10087 10088 10089

NOTE - MISSION 1021 IS BEING FLOWN WITH THE AGENA MOVING NOSE-FIRST THROUGH ORBIT INSTEAD OF THE USUAL TAIL-FIRST FLIGHT. AS A RESULT OF THIS CHANGE IN AGENA ORIENTATION THE FOLLOWING VARIATIONS IN NORMAL SYSTEM PARAMETERS SHOULD BE NOTED - 10090 10091 10092 10093

(1) AT THE DESCENDING NODE THE STELLAR CAMERA NOW LOOKS WESTWARD INSTEAD OF EASTWARD. 10094 10095

(2) THE MASTER PAN CAMERA, INSTRUMENT 166, IS THE AFT LOOKING CAMERA AND THE SLAVE PAN CAMERA, INSTRUMENT 167, IS THE FORWARD LOOKING CAMERA. 10096 10097 10098

RATE ESTIMATE
FWD PAN CAMERA NUMBER 167

OPN	NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN RATE R/SEC	SCAN RATE I/SEC	PCT CALIB	RATE REQD	
85	6 1	27	6	6 ON	1412	0.3823	0.03226	2.402	57.65	-4.2	1.4	21001
				OFF	71	0.3902	0.03293	2.452	58.85	-4.2	1.8	21002
85	6 2	34	6	6 ON	1728	0.4111	0.03468	2.583	61.98	-4.2	2.5	21003
				OFF	83	0.4145	0.03497	2.604	62.50	-4.2	2.5	21004
85	6 3	17	6	6 ON	2389	0.3868	0.03264	2.431	58.33	-4.2	1.6	21005
				OFF	46	0.3817	0.03221	2.399	57.57	-4.2	1.6	21006
85	6 4	31	6	6 ON	2488	0.3746	0.03160	2.353	56.48	-4.2	1.3	21007
				OFF	85	0.3634	0.03066	2.283	54.80	-4.2	1.1	21008
86	3 1	19	6	6 ON	1622	0.4039	0.03408	2.538	60.91	-4.2	2.4	21009
				OFF	48	0.4073	0.03437	2.559	61.42	-4.2	2.4	21010
86	3 2	36	6	6 ON	1730	0.4111	0.03469	2.583	62.00	-4.2	2.5	21011
				OFF	87	0.4146	0.03498	2.605	62.52	-4.2	2.5	21012
86	3 3	54	6	6 ON	1898	0.4161	0.03511	2.615	62.75	-4.2	2.4	21013
				OFF	132	0.4146	0.03498	2.605	62.52	-4.2	2.3	21014
87	5 1	106	6	6 ON	1700	0.4095	0.03455	2.573	61.74	-4.2	2.5	21015
				OFF	255	0.4161	0.03511	2.614	62.74	-4.2	2.3	21016
88	6 1	60	6	6 ON	1841	0.4153	0.03505	2.610	62.63	-4.2	2.5	21017
				OFF	144	0.4156	0.03507	2.612	62.68	-4.2	2.3	21018
89	4 0	13	6	6 ON	201	0.2630	0.02220	1.653	39.67	-4.2	-5.3	21019
				OFF	48	0.2646	0.02233	1.663	39.91	-4.2	-5.7	21020
89	4 1	86	6	6 ON	1933	0.4162	0.03512	2.615	62.76	-4.2	2.3	21021
				OFF	207	0.4095	0.03456	2.573	61.76	-4.2	2.1	21022
90	6 1	72	6	6 ON	1907	0.4125	0.03481	2.592	62.21	-5.0	1.5	21023
				OFF	175	0.4090	0.03451	2.570	61.68	-5.0	1.3	21024
93	2 1	56	6	6 ON	1139	0.3412	0.02879	2.144	51.46	-5.0	-2.9	21025
				OFF	159	0.3636	0.03068	2.284	54.82	-5.0	-0.8	21026
93	9 1	67	6	6 ON	2595	0.3566	0.03009	2.241	53.78	-5.0	0.1	21027
				OFF	194	0.3303	0.02787	2.075	49.81	-5.0	-0.3	21028
95	9 1	28	6	6 ON	1748	0.4085	0.03447	2.566	61.60	-5.0	1.7	21029
				OFF	69	0.4110	0.03468	2.582	61.98	-5.0	1.7	21030
96	9 1	25	11	11 ON	1226	0.2574	0.02172	1.617	38.81	-5.0	-39.8	21031
				OFF	112	0.2574	0.02172	1.617	38.81	-5.0	-44.0	21032
98	6 1	47	6	6 ON	1229	0.3545	0.02991	2.227	53.45	-5.0	-1.6	21033
				OFF	129	0.3718	0.03137	2.336	56.06	-5.0	-0.2	21034
101	6 1	25	6	6 ON	2535	0.3650	0.03080	2.293	55.04	-5.0	0.5	21035
				OFF	69	0.3558	0.03002	2.235	53.65	-5.0	0.3	21036
102	5 1	67	6	6 ON	1730	0.4075	0.03439	2.561	61.45	-5.0	1.8	21037
				OFF	163	0.4124	0.03480	2.591	62.19	-5.0	1.8	21038
102	5 2	28	6	6 ON	2186	0.4028	0.03398	2.531	60.73	-5.0	1.4	21039
				OFF	71	0.3973	0.03353	2.497	59.92	-5.0	1.4	21040
103	4 1	29	6	6 ON	1465	0.3851	0.03250	2.420	58.08	-5.0	0.8	21041
				OFF	73	0.3926	0.03312	2.467	59.20	-5.0	1.2	21042
103	4 2	22	6	6 ON	1577	0.3966	0.03346	2.492	59.81	-5.0	1.4	21043
				OFF	55	0.4009	0.03383	2.519	60.46	-5.0	1.6	21044
103	4 3	81	6	6 ON	1809	0.4108	0.03467	2.581	61.95	-5.0	1.9	21045
				OFF	193	0.4117	0.03474	2.587	62.08	-5.0	1.8	21046
104	7 1	80	6	6 ON	1904	0.4186	0.03532	2.630	63.12	-3.6	3.3	21047
				OFF	192	0.4143	0.03496	2.603	62.48	-3.6	3.1	21048

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105	3	0	8	10	2 ON	233	0.1505	0.01270	0.945	22.69	-3.6	-87.5	21049
					OFF	48	0.1536	0.01296	0.965	23.17	-3.6	-85.4	21050
105	3	1	108	6	6 ON	1981	0.4181	0.03527	2.627	63.04	-3.6	3.2	21051
					OFF	266	0.4040	0.03409	2.538	60.92	-3.6	2.9	21052
106	6	1	79	6	6 ON	1893	0.4185	0.03531	2.629	63.11	-3.6	3.3	21053
					OFF	189	0.4150	0.03502	2.607	62.58	-3.6	3.1	21054
109	5	1	99	6	6 ON	2549	0.3683	0.03107	2.314	55.53	-3.6	1.6	21055
					OFF	287	0.3297	0.02782	2.072	49.72	-3.6	1.3	21056
111	5	2	22	6	6 ON	1733	0.4137	0.03490	2.599	62.38	-3.6	3.3	21057
					OFF	55	0.4160	0.03510	2.614	62.73	-3.6	3.3	21058
114	5	1	28	6	6 ON	1261	0.3642	0.03073	2.288	54.92	-3.6	0.1	21059
					OFF	78	0.3746	0.03161	2.354	56.49	-3.6	1.0	21060
117	5	1	48	6	6 ON	1790	0.4162	0.03512	2.615	62.76	-3.6	3.4	21061
					OFF	117	0.4186	0.03532	2.630	63.12	-3.6	3.3	21062
117	5	2	3	6	6 ON	2349	0.3936	0.03321	2.473	59.36	-3.6	2.3	21063
					OFF	7	0.3932	0.03317	2.470	59.29	-3.6	2.4	21064
117	5	3	17	6	6 ON	2454	0.3810	0.03215	2.394	57.46	-3.6	2.0	21065
					OFF	45	0.3756	0.03169	2.360	56.63	-3.6	1.9	21066
117	5	4	20	6	6 ON	2596	0.3616	0.03051	2.272	54.53	-3.6	1.3	21067
					OFF	56	0.3540	0.02987	2.224	53.37	-3.6	1.2	21068
119	9	1	61	6	6 ON	1809	0.4164	0.03514	2.616	62.79	-3.7	3.3	21069
					OFF	147	0.4180	0.03527	2.626	63.03	-3.7	3.2	21070
120	8	0	13	6	6 ON	265	0.2666	0.02250	1.675	40.20	-3.7	-7.0	21071
					OFF	46	0.2686	0.02266	1.687	40.50	-3.7	-7.3	21072
120	8	1	86	6	6 ON	1751	0.4141	0.03494	2.602	62.44	-3.7	3.3	21073
					OFF	207	0.4180	0.03527	2.626	63.03	-3.7	3.2	21074
120	8	2	40	6	6 ON	2162	0.4098	0.03458	2.575	61.80	-3.7	2.8	21075
					OFF	99	0.4022	0.03394	2.527	60.66	-3.7	2.6	21076
121	4	1	73	6	6 ON	2026	0.4165	0.03514	2.617	62.81	-3.7	3.1	21077
					OFF	177	0.4072	0.03436	2.558	61.40	-3.7	2.7	21078
127	9	1	19	6	6 ON	1788	0.4157	0.03507	2.612	62.68	-3.7	3.4	21079
					OFF	46	0.4170	0.03519	2.620	62.88	-3.7	3.3	21080
128	2	1	28	6	6 ON	1289	0.3678	0.03103	2.311	55.46	-3.7	0.2	21081
					OFF	77	0.3778	0.03188	2.374	56.97	-3.7	1.1	21082
129	7	1	21	6	6 ON	1073	0.3369	0.02842	2.117	50.80	-3.7	-3.2	21083
					OFF	63	0.3449	0.02910	2.167	52.01	-3.7	-2.4	21084
129	7	2	21	6	6 ON	1178	0.3517	0.02968	2.210	53.04	-3.7	-1.5	21085
					OFF	59	0.3599	0.03036	2.261	54.27	-3.7	-0.7	21086
132	3	1	29	6	6 ON	1665	0.4091	0.03452	2.570	61.68	-3.7	3.2	21087
					OFF	71	0.4132	0.03487	2.596	62.31	-3.7	3.3	21088
132	3	2	42	6	6 ON	2550	0.3678	0.03104	2.311	55.47	-3.7	1.3	21089
					OFF	117	0.3513	0.02964	2.207	52.98	-3.7	0.8	21090
133	3	1	42	6	6 ON	1944	0.4181	0.03527	2.627	63.04	-3.7	3.3	21091
					OFF	102	0.4160	0.03510	2.614	62.73	-3.7	3.1	21092
133	3	2	24	6	6 ON	2644	0.3543	0.02990	2.226	53.43	-3.7	0.7	21093
					OFF	71	0.3442	0.02905	2.163	51.91	-3.7	0.5	21094
134	7	1	67	6	6 ON	1901	0.4181	0.03528	2.627	63.05	-3.7	3.3	21095
					OFF	161	0.4154	0.03505	2.610	62.64	-3.7	3.1	21096
135	7	1	18	6	6 ON	1231	0.3581	0.03022	2.250	54.00	-4.1	-1.1	21097
					OFF	50	0.3648	0.03078	2.292	55.00	-4.1	-0.5	21098
135	7	2	73	6	6 ON	1817	0.4150	0.03502	2.608	62.58	-4.1	3.0	21099
					OFF	178	0.4158	0.03508	2.612	62.69	-4.1	2.8	21100
136	6	0	12	6	6 ON	297	0.2670	0.02253	1.677	40.26	-4.1	-8.4	21101
					OFF	46	0.2691	0.02270	1.691	40.58	-4.1	-8.6	21102

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136	6	1	60	6	6 ON	1875	0.4162	0.03512	2.615	62.76	-4.1	3.0	21103
					OFF	145	0.4152	0.03503	2.609	62.60	-4.1	2.8	21104
136	6	2	45	6	6 ON	2202	0.4054	0.03421	2.547	61.13	-4.1	2.2	21105
					OFF	113	0.3955	0.03337	2.485	59.65	-4.1	1.9	21106
137	8	1	25	6	6 ON	1555	0.3983	0.03361	2.503	60.06	-4.1	2.4	21107
					OFF	63	0.4036	0.03406	2.536	60.86	-4.1	2.6	21108
137	8	2	97	6	6 ON	2437	0.3813	0.03217	2.396	57.50	-4.1	1.3	21109
					OFF	268	0.3442	0.02905	2.163	51.91	-4.1	0.0	21110
143	8	2	18	6	6 ON	1741	0.4120	0.03476	2.589	62.13	-4.1	3.0	21111
					OFF	44	0.4138	0.03492	2.600	62.40	-4.1	3.0	21112
143	8	3	17	6	6 ON	1821	0.4151	0.03503	2.608	62.60	-4.1	3.1	21113
					OFF	44	0.4160	0.03510	2.614	62.73	-4.1	3.0	21114
145	7	1	22	6	6 ON	1105	0.3395	0.02864	2.133	51.19	-4.1	-3.6	21115
					OFF	63	0.3483	0.02939	2.189	52.53	-4.1	-2.6	21116
145	7	2	21	6	6 ON	1210	0.3551	0.02996	2.231	53.54	-4.1	-1.7	21117
					OFF	59	0.3631	0.03063	2.281	54.75	-4.1	-0.8	21118
146	4	1	19	6	6 ON	1194	0.3528	0.02976	2.216	53.19	-4.1	-1.9	21119
					OFF	53	0.3600	0.03038	2.262	54.29	-4.1	-1.1	21120
148	4	1	19	6	6 ON	1775	0.4135	0.03489	2.598	62.36	-4.1	3.1	21121
					OFF	48	0.4151	0.03502	2.608	62.59	-4.1	3.1	21122
148	4	2	41	6	6 ON	2583	0.3617	0.03052	2.273	54.55	-4.1	0.5	21123
					OFF	117	0.3451	0.02912	2.168	52.04	-4.1	-0.1	21124
149	4	1	49	6	6 ON	1837	0.4155	0.03506	2.611	62.66	-4.1	3.2	21125
					OFF	118	0.4163	0.03513	2.616	62.78	-4.1	3.0	21126
149	4	2	19	6	6 ON	2676	0.3482	0.02938	2.188	52.50	-4.1	-0.0	21127
					OFF	56	0.3403	0.02871	2.138	51.31	-4.1	-0.3	21128
150	7	1	60	6	6 ON	1948	0.4195	0.03539	2.636	63.25	-3.4	3.8	21129
					OFF	145	0.4154	0.03505	2.610	62.65	-3.4	3.5	21130
151	3	1	19	6	6 ON	1263	0.3654	0.03083	2.296	55.10	-3.4	-0.1	21131
					OFF	52	0.3722	0.03141	2.339	56.13	-3.4	0.5	21132
151	3	2	56	6	6 ON	1353	0.3778	0.03188	2.374	56.98	-3.4	1.2	21133
					OFF	146	0.3952	0.03335	2.483	59.60	-3.4	2.6	21134
152	4	1	21	6	6 ON	1444	0.3892	0.03284	2.446	58.69	-3.4	2.2	21135
					OFF	53	0.3949	0.03332	2.482	59.56	-3.4	2.6	21136
152	4	2	67	6	6 ON	1532	0.3989	0.03366	2.507	60.16	-3.4	2.9	21137
					OFF	166	0.4124	0.03480	2.591	62.19	-3.4	3.7	21138
152	4	3	61	6	6 ON	1905	0.4196	0.03540	2.636	63.27	-3.4	3.9	21139
					OFF	147	0.4172	0.03520	2.621	62.91	-3.4	3.6	21140
152	4	4	43	6	6 ON	2240	0.4053	0.03420	2.547	61.12	-3.4	3.0	21141
					OFF	109	0.3949	0.03332	2.481	59.55	-3.4	2.6	21142
153	4	1	54	6	6 ON	2074	0.4162	0.03512	2.615	62.76	-3.4	3.5	21143
					OFF	132	0.4083	0.03445	2.566	61.57	-3.4	3.2	21144
154	4	1	23	6	6 ON	1900	0.4195	0.03540	2.636	63.26	-3.4	3.9	21145
					OFF	57	0.4194	0.03539	2.635	63.25	-3.4	3.8	21146
154	4	2	58	6	6 ON	1992	0.4188	0.03534	2.632	63.16	-3.4	3.7	21147
					OFF	140	0.4134	0.03488	2.597	62.33	-3.4	3.4	21148
158	5	1	26	6	6 ON	2115	0.4142	0.03495	2.602	62.46	-3.4	3.4	21149
					OFF	64	0.4103	0.03462	2.578	61.88	-3.4	3.3	21150
159	5	1	49	6	6 ON	1457	0.3908	0.03298	2.456	58.94	-3.4	2.3	21151
					OFF	125	0.4035	0.03405	2.535	60.84	-3.4	3.2	21152
159	5	2	20	6	6 ON	1850	0.4189	0.03534	2.632	63.17	-3.4	4.0	21153
					OFF	48	0.4195	0.03540	2.636	63.26	-3.4	3.9	21154
													21155
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RATE ESTIMATE
AFT PAN CAMERA NUMBER 166

OPN	NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN R/SEC	RATE I/SEC	PCT CALIB	RATE REQD	
85	6 1	28	6	6 ON	1412	0.3879	0.03273	2.437	58.49	-3.0	2.8	20020
				OFF	71	0.3960	0.03341	2.488	59.72	-3.0	3.2	20021
85	6 2	35	6	6 ON	1728	0.4172	0.03521	2.622	62.92	-3.0	4.0	20022
				OFF	83	0.4207	0.03550	2.643	63.44	-3.0	3.9	20023
85	6 3	17	6	6 ON	2389	0.3925	0.03312	2.466	59.19	-3.0	3.0	22001
				OFF	46	0.3873	0.03268	2.434	58.41	-3.0	3.0	22002
85	6 4	31	6	6 ON	2488	0.3800	0.03206	2.387	57.30	-3.0	2.7	22003
				OFF	85	0.3686	0.03110	2.316	55.58	-3.0	2.5	22004
86	3 1	19	6	6 ON	1622	0.4100	0.03459	2.576	61.82	-3.0	3.8	22005
				OFF	48	0.4134	0.03488	2.597	62.34	-3.0	3.8	22006
86	3 2	36	6	6 ON	1730	0.4173	0.03521	2.622	62.93	-3.0	3.9	22007
				OFF	87	0.4209	0.03551	2.645	63.47	-3.0	3.9	22008
86	3 3	55	6	6 ON	1898	0.4224	0.03564	2.654	63.70	-3.0	3.9	22009
				OFF	132	0.4209	0.03551	2.644	63.46	-3.0	3.7	22010
87	5 1	108	6	6 ON	1700	0.4156	0.03507	2.611	62.67	-3.0	3.9	22011
				OFF	255	0.4224	0.03564	2.654	63.69	-3.0	3.8	22012
88	6 1	62	6	6 ON	1841	0.4216	0.03558	2.649	63.58	-3.0	3.9	22013
				OFF	144	0.4219	0.03560	2.651	63.62	-3.0	3.8	22014
89	4 0	12	6	6 ON	201	0.2661	0.02246	1.672	40.13	-3.0	-4.1	22015
				OFF	48	0.2677	0.02259	1.682	40.38	-3.0	-4.5	22016
89	4 1	88	6	6 ON	1933	0.4225	0.03565	2.655	63.71	-3.0	3.8	22017
				OFF	207	0.4157	0.03508	2.612	62.69	-3.0	3.5	22018
90	6 1	73	6	6 ON	1907	0.4140	0.03493	2.601	62.42	-4.9	1.9	22019
				OFF	175	0.4104	0.03463	2.579	61.89	-4.9	1.6	22020
93	2 1	57	6	6 ON	1139	0.3420	0.02886	2.149	51.57	-4.9	-2.7	22021
				OFF	159	0.3645	0.03076	2.290	54.97	-4.9	-0.6	22022
93	9 1	68	6	6 ON	2595	0.3575	0.03017	2.246	53.91	-4.9	0.3	22023
				OFF	194	0.3310	0.02793	2.079	49.91	-4.9	-0.1	22024
95	9 1	28	6	6 ON	1748	0.4098	0.03458	2.575	61.80	-4.9	2.0	22025
				OFF	69	0.4124	0.03480	2.591	62.19	-4.9	2.0	22026
96	9 1	25	11	11 ON	1226	0.2573	0.02171	1.617	38.81	-4.9	-39.9	22027
				OFF	112	0.2574	0.02172	1.617	38.81	-4.9	-44.0	22028
98	6 1	47	6	6 ON	1229	0.3553	0.02998	2.233	53.58	-4.9	-1.4	22029
				OFF	129	0.3728	0.03146	2.342	56.22	-4.9	0.1	22030
101	6 1	25	6	6 ON	2535	0.3660	0.03088	2.300	55.19	-4.9	0.7	22031
				OFF	69	0.3567	0.03009	2.241	53.78	-4.9	0.6	22032
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RAMP PROFILE
R- 6 A- 6 PERIOD= 3840
R= 0.3527 A= C.0816

TUR	PER	CPS	ANG V	
-0	3.689	0.2711	0.02452	20030 20031 20032 20033 23001
100	3.677	0.2719	C.02460	23002
200	3.644	0.2744	C.02482	23003
300	3.591	0.2785	C.02519	23004
400	3.520	0.2841	C.02570	23005
500	3.435	0.2911	C.02633	23006
600	3.340	0.2994	C.02708	23007
700	3.239	0.3088	C.02793	23008
800	3.135	0.3190	C.02885	23009
900	3.031	0.33C0	C.02984	23010
1000	2.929	0.3414	C.03088	23011
1100	2.832	0.3531	C.03194	23012
1200	2.713	0.3686	C.03334	23013
1300	2.607	0.3835	C.03469	23014
1400	2.517	0.3973	C.03593	23015
1500	2.442	0.4094	C.03703	23016
1600	2.384	0.4195	C.03795	23017
1700	2.341	0.4272	C.03864	23018
1800	2.314	0.4322	C.03909	23019
1900	2.303	0.4342	C.03927	23020
2000	2.308	0.4334	C.03919	23021
2100	2.328	0.4295	C.03885	23022
2200	2.365	0.4229	C.03825	23023
2300	2.417	0.4138	C.03742	23024
2400	2.485	0.4024	C.03639	23025
2500	2.569	0.3892	C.03520	23026
2600	2.669	0.3747	C.03389	23027
2700	2.783	0.3594	C.03250	23028
2800	2.890	0.3460	C.03130	23029
2900	2.990	0.3345	C.03025	23030
3000	3.093	0.3233	C.02924	23031
3100	3.197	0.3128	C.02829	23032
3200	3.300	0.3030	C.02741	23033
3300	3.398	0.2943	C.02662	23034
3400	3.487	0.2868	0.02594	23035
3500	3.564	0.2806	C.02538	23036
3600	3.625	0.2759	C.02495	23037
3700	3.667	0.2727	C.02467	23038
3800	3.687	0.2712	0.02453	23039 23040

RAMP PROFILE
R- 11 A- 11 PERIOD= 3840
R= 0.2709 A= 0.0C01

TUR	PER	CPS	ANG V
-0	3.693	0.2708	C.02449
100	3.693	0.2708	C.02449
200	3.693	0.2708	C.02449
300	3.693	0.2708	0.02449
400	3.693	0.2708	C.02449
500	3.692	0.2708	C.02449
600	3.692	0.2708	C.02450
700	3.692	0.2708	C.02450
800	3.692	0.2709	C.02450
900	3.692	0.2709	C.02450
1000	3.692	0.2709	C.02450
1100	3.691	0.2709	C.02450
1200	3.691	0.2709	C.02450
1300	3.691	0.2709	0.02450
1400	3.691	0.2710	C.02451
1500	3.690	0.2710	C.02451
1600	3.690	0.2710	C.02451
1700	3.690	0.2710	C.02451
1800	3.690	0.2710	C.02451
1900	3.690	0.2710	0.02451
2000	3.690	0.2710	C.02451
2100	3.690	0.2710	C.02451
2200	3.690	0.2710	C.02451
2300	3.690	0.2710	C.02451
2400	3.691	0.2710	C.02451
2500	3.691	0.2709	C.02451
2600	3.691	0.2709	0.02450
2700	3.691	0.2709	C.02450
2800	3.692	0.2709	C.02450
2900	3.692	0.2709	C.02450
3000	3.692	0.2709	C.02450
3100	3.692	0.2709	C.02450
3200	3.692	0.2708	C.02450
3300	3.692	0.2708	0.02450
3400	3.693	0.2708	C.02449
3500	3.693	0.2708	C.02449
3600	3.693	0.2708	0.02449
3700	3.693	0.2708	C.02449
3800	3.693	0.2708	C.02449

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RAMP PROFILE
R- 10 A- 2 PERIOD= 3840
R= 0.2909 A= 0.1427

TUR	PER	CPS	ANG V
-0	6.748	0.1482	C.01340
100	6.682	0.1497	C.01354
200	6.493	0.1540	C.01393
300	6.205	0.1612	C.01458
400	5.849	0.1710	C.01546
500	5.458	0.1832	0.01657
600	5.058	0.1977	C.01788
700	4.672	0.2141	C.01936
800	4.310	0.2320	C.02098
900	3.982	0.2512	C.02272
1000	3.688	0.2711	C.02452
1100	3.428	0.2917	C.02638
1200	3.137	0.3187	C.02883
1300	2.900	0.3448	C.03118
1400	2.711	0.3689	0.03336
1500	2.563	0.3901	C.03529
1600	2.452	0.4078	C.03688
1700	2.374	0.4212	C.03810
1800	2.326	0.4299	C.03888
1900	2.307	0.4335	C.03921
2000	2.315	0.4319	0.03907
2100	2.352	0.4253	0.03846
2200	2.417	0.4137	C.03742
2300	2.515	0.3977	C.03597
2400	2.647	0.3778	C.03417
2500	2.819	0.3547	C.03208
2600	3.036	0.3293	C.02979
2700	3.305	0.3026	C.02737
2800	3.581	0.2792	C.02526
2900	3.860	0.2591	C.02343
3000	4.175	0.2395	C.02167
3100	4.523	0.2211	C.01999
3200	4.901	0.2040	C.01845
3300	5.298	0.1888	C.01707
3400	5.695	0.1756	C.01588
3500	6.069	0.1648	C.01490
3600	6.388	0.1565	C.01416
3700	6.620	0.1511	C.01366
3800	6.737	0.1484	0.01343

CLOCK SUMMARY
PRELIMINARY CLOCK CORRELATION

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
24764.012	231832.93290	24764.01660	-0.00367	89	1
58702.012	265770.93490	58702.01140	0.00151	95	1
24535.957	318004.89090	24535.95640	0.00155	105	1
58430.917	351899.86390	58430.92220	-0.00428	111	1
18908.517	398777.46190	18908.51030	0.00763	120	1
58181.184	438C50.14790	58181.18800	-0.00307	127	1
18653.123	484922.08790	18653.11810	0.00584	136	1
57919.722	524188.70490	57919.72680	-0.00386	143	1
18267.027	34065.10290	18267.02690	0.00102	152	1
57643.215	73441.30290	57643.21860	-0.00265	159	1

A0=-0.20706886730 06 A1= 0.9999997885910 00
SIGMA=0.00383 NO. POINTS= 10
RATIO OF CLOCK TIME TO SYS TIME= 0.100000021141D 01

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
24764.012	231832.93290	24764.01440	-0.00141	89	1
58702.012	265770.93490	58702.01050	0.00249	95	1
24535.957	318004.89090	24535.95690	0.00106	105	1
58430.917	351899.86390	58430.92340	-0.00540	111	1
18908.517	398777.46190	18908.51190	0.00604	120	1
58181.184	438C50.14790	58181.18960	-0.00467	127	1
18653.123	484922.08790	18653.11930	0.00466	136	1
57919.722	524188.70490	57919.72730	-0.00431	143	1
18267.027	34C65.10290	18267.02610	0.00187	152	1
57643.215	73441.30290	57643.21630	-0.00033	159	1

A0=-0.20706888SC0 06 A1= 0.9999998807020 00
A2=-0.1095649033557D-12
SIGMA=0.00358 NO. POINTS= 10

CLOCK OPERATIONS

OPN	NO	FR		H	M	S	DEC	BINARY	
85	6	1	27 ON	01	14	12	211521	01100100110111000110111101000	25001
			OFF	C1	15	23	211592	01100100111001010001101000000	25002
85	6	2	34 ON	01	19	28	211837	01100101000000110000001001000	25003
			OFF	01	2C	51	211920	01100101000011010010010000000	25004
85	6	3	17 ON	01	3C	29	212498	01100101010100111011001010000	25005
			OFF	C1	31	15	212544	01100101010110010101000000000	25006
85	6	4	31 ON	01	32	08	212597	01100101010111111100100001000	25007
			OFF	01	33	33	212682	01100101011010100010100010000	25008
86	3	1	19 ON	02	47	26	217115	01100111100001110100101111000	25009
			OFF	C2	48	14	217163	01100111100011010010011111000	25010
86	3	2	36 ON	02	49	14	217223	01100111100101000111101011000	25011
			OFF	02	5C	41	217310	01100111100111110001100110000	25012
86	3	3	54 ON	02	52	02	217391	01100111101010001111110011000	25013
			OFF	C2	54	14	217523	01100111101110010001100111000	25014
87	5	1	106 ON	04	18	29	222578	01101010001000100010101010000	25015
			OFF	04	22	44	222833	01101010010000010100101101000	25016
88	6	1	60 ON	05	5C	35	228104	01101100110001001011101000000	25017
			OFF	C5	52	59	228248	01101100110101100100111000000	25018
89	4	0	13 ON	06	52	59	231847	01101110100011011010001011000	25019
			OFF	06	53	47	231895	01101110100100110111111011000	25020
89	4	1	86 ON	07	21	5C	233579	01101111011000010000111111000	25021
			OFF	07	25	17	233786	01101111011110100101010010000	25022
90	6	1	72 ON	08	51	07	238936	01110001111011101111111000000	25023
			OFF	08	54	02	239111	01110010000001000101101011000	25024
93	2	1	56 ON	13	07	32	254321	01111001010001010000101101000	25025
			OFF	13	1C	11	254480	01111001010110000111010000000	25026
93	9	1	67 ON	13	31	48	255777	01111001111110110110001101000	25027
			OFF	13	35	02	255971	01111010000011100111010111000	25028
95	9	1	28 ON	16	17	09	265698	01111110101100011101011010000	25029
			OFF	16	18	18	265767	01111110101110100100001011000	25030
96	9	1	25 ON	17	38	11	270560	10000001000000110101100000000	25031
			OFF	17	4C	03	270672	10000001000100010000010000000	25032
98	6	1	47 ON	20	37	41	281330	10000110001001100000101010000	25033
			OFF	20	39	50	281459	10000110001101011100100111000	25034
101	6	1	25 ON	01	28	38	298787	10001110011110010000010111000	25035
			OFF	01	29	47	298856	10001110100000001011001000000	25036
102	5	1	67 ON	02	44	57	303365	10010000101001111101110001000	25037
			OFF	02	47	40	303528	10010000101110111100001000000	25038
102	5	2	28 ON	02	52	33	303822	10010000110111111010010110000	25039
			OFF	C2	53	44	303893	10010000111010000101000001000	25040
103	4	1	29 ON	04	1C	15	308484	10010011000110001011110100000	25041
			OFF	04	11	28	308557	10010011001000011010011001000	25042
103	4	2	22 ON	04	12	07	308596	10010011001001100110100100000	25043
			OFF	04	13	02	308651	10010011001011010001111111000	25044
103	4	3	81 ON	04	15	59	308828	10010011010000101011101100000	25045
			OFF	04	19	12	309021	10010011010110100100101001000	25046
104	7	1	80 ON	05	47	16	314305	10010101110111111010011101000	25047
			OFF	05	5C	28	314497	10010101111110110101111101000	25048
105	3	0	8 ON	06	49	11	318020	10010111101001001100110100000	25049
			OFF	06	49	59	318068	10010111101010101010100100000	25050

[redacted]

105	3	1	108	ON	07	18	18	319767	10011000011110100000111011000		25051
				OFF	07	22	44	320033	10011000100110101000011101000		25052
106	6	1	79	ON	08	46	33	325062	10011011000000000010101110000		25053
				OFF	08	49	42	325251	10011011000101110111111010111000		25054
109	5	1	99	ON	13	26	41	341870	10100011000000100001011011000		25055
				OFF	13	31	28	342157	10100011001001110011011001000		25056
111	5	2	22	ON	16	12	31	351820	10100111110000101110001110000		25057
				OFF	16	13	26	351875	10100111110010010111110111000		25058
114	5	1	28	ON	20	33	47	367496	10101111001111000101101000000		25059
				OFF	20	35	05	367574	10101111010001011101111110000		25060
117	5	1	48	ON	01	11	43	384172	10110111001011111111111100000		25061
				OFF	01	13	40	384289	10110111001111100100011101000		25062
117	5	2	3	ON	01	21	02	384731	10110111011101000011101111000		25063
				OFF	01	21	09	384738	10110111011101010001011010000		25064
117	5	3	17	ON	01	22	47	384836	10110111100000010000110100000		25065
				OFF	01	23	32	384881	10110111100001101000101101000		25066
117	5	4	20	ON	01	25	09	384978	10110111100100100110001010000		25067
				OFF	01	26	05	385034	10110111100110010011100010000		25068
119	9	1	61	ON	04	11	27	394956	10111100010101000110011100000		25069
				OFF	04	13	54	395103	10111100011001100101100011000		25070
120	8	0	13	ON	05	15	24	398793	10111110001010001100100101000		25071
				OFF	05	16	10	398839	10111110001011100110011011000		25072
120	8	1	86	ON	05	40	10	400279	10111110110111100010111011000		25073
				OFF	05	43	37	400486	10111110111101110111001110000		25074
120	8	2	40	ON	05	47	02	400691	10111111000100000111100111000		25075
				OFF	05	48	41	400790	10111111000111001000111110000		25076
121	4	1	73	ON	07	14	29	405938	11000001100100001111101010000		25077
				OFF	07	17	26	406115	11000001101001101001010111000		25078
127	9	1	19	ON	16	08	43	437992	11010000110110011101001000000		25079
				OFF	16	09	29	438038	11010000110111110110111110000		25080
128	2	1	28	ON	17	30	08	442877	11010011001011100010001001000		25081
				OFF	17	31	25	442954	11010011001101111000100010000		25082
129	7	1	21	ON	18	56	13	448042	11010101101001001010000010000		25083
				OFF	18	57	16	448105	11010101101011000101000101000		25084
129	7	2	21	ON	18	57	59	448148	11010101101100001100100010000		25085
				OFF	18	58	58	448207	11010101101110001100010011000		25086
132	3	1	29	ON	23	35	10	464779	11011101100111111101101111000		25087
				OFF	23	36	21	464850	11011101101010000110001010000		25088
132	3	2	42	ON	23	49	55	465664	11011110000010111100000000000		25089
				OFF	23	51	52	465781	11011110000110100000100001000		25090
133	3	1	42	ON	01	09	30	470439	11100000010100101010001011000		25091
				OFF	01	11	12	470541	11100000010111110001011001000		25092
133	3	2	24	ON	01	21	10	471139	11100000101010000001010111000		25093
				OFF	01	22	21	471210	11100000101100001100000010000		25094
134	7	1	67	ON	02	38	29	475778	11100010110111100101111010000		25095
				OFF	02	41	10	475939	11100010111100100000010111000		25096
135	7	1	18	ON	03	57	01	480490	11100101000111011001000010000		25097
				OFF	03	57	51	480540	11100101001000111010101100000		25098
135	7	2	73	ON	04	06	46	481075	11100101011001001111100111000		25099
				OFF	04	09	44	481253	11100101011110101011010001000		25100
136	6	0	12	ON	05	11	08	484937	11100111001111000110100101000		25101
				OFF	05	11	54	484983	11100111010000100000011011000		25102
136	6	1	60	ON	05	37	25	486514	11100111111111001110101010000		25103
				OFF	05	39	50	486659	11101000000001110100111011100 0		25104

136	6	2	45	ON	C5	42	53	486842	1110100000100100111101001000	25105
				OFF	05	44	46	486955	1110100000110010101111111000	25106
137	8	1	25	ON	07	01	48	491577	1110101001100110111101010100	25107
				OFF	07	02	51	491640	1110101001101110101001100000	25108
137	8	2	97	ON	C7	1E	30	492459	1110101011010010100111111000	25109
				OFF	07	2C	58	492727	1110101011110011010101101000	25110
143	8	2	18	ON	16	03	05	524C54	1111100111100011011011110000	25111
				OFF	16	03	49	524098	1111100111101000110011101000	25112
143	8	3	17	ON	16	04	26	524135	1111100111101101010100101100	25113
				OFF	16	05	10	524179	1111100111110010101100011100	25114
145	7	1	22	ON	18	51	51	534179	1111111010110111011001011100	25115
				OFF	18	52	54	534242	1111111010111111000101101000	25116
145	7	2	21	ON	18	53	36	534285	1111111011000100010101100100	25117
				OFF	18	54	35	534344	1111111011001011100010100000	25118
146	4	1	19	ON	20	22	58	2776	0000000101010010110111000000	25119
				OFF	20	23	51	2829	0000000101011001010101100100	25120
148	4	1	19	ON	23	32	01	14119	0000011010111011100000101100	25121
				OFF	23	32	49	14167	0000011011000001010111101100	25122
148	4	2	41	ON	23	45	29	14927	0000011100011110001001001100	25123
				OFF	23	47	26	15C44	0000011100101100011011010000	25124
149	4	1	49	ON	C1	02	46	19564	0000100101010100001011110000	25125
				OFF	01	04	44	19682	0000100101100010100101101000	25126
149	4	2	19	ON	C1	16	44	20402	0000100110111010011110101000	25127
				OFF	C1	17	40	20458	0000100111000001010100001000	25128
150	7	1	60	ON	C2	34	18	25056	0000101111110010100110000000	25129
				OFF	C2	36	43	25201	0000110000000100010010110100	25130
151	3	1	19	ON	C3	52	35	29753	0000111000101111111101010100	25131
				OFF	C3	53	27	29805	0000111000110110010011100100	25132
151	3	2	56	ON	C3	54	05	29843	0000111000111010111100011100	25133
				OFF	C3	56	31	29989	0000111001001100110001000100	25134
152	4	1	21	ON	C5	25	17	35315	0001000011010110111010011100	25135
				OFF	05	26	10	35368	0001000011011101011000100000	25136
152	4	2	67	ON	C5	26	45	35403	0001000011100001101001111100	25137
				OFF	C5	29	31	35569	0001000011110101111010110100	25138
152	4	3	61	ON	C5	32	58	35776	0001000100001111001100000000	25139
				OFF	C5	35	25	35923	0001000100100001001000011000	25140
152	4	4	43	ON	C5	38	33	36111	0001000100111000000101001100	25141
				OFF	C5	4C	22	36220	0001000101000101011000110000	25142
153	4	1	54	ON	C7	05	28	41326	0001001110110100101011011000	25143
				OFF	C7	07	40	41458	0001001111000100110010101000	25144
154	4	1	23	ON	C8	32	14	46532	0001011000110000001011010000	25145
				OFF	C8	33	11	46589	0001011000110111001000100100	25146
154	4	2	58	ON	C8	33	46	46624	0001011000111011011010000000	25147
				OFF	C8	36	06	46764	0001011001001100001111111100000	25148
158	5	1	26	ON	14	34	29	68267	0010000010001101010111111000	25149
				OFF	14	35	33	68331	0010000010010101001011111000	25150
159	5	1	49	ON	15	53	12	7259C	0010001011001101111010011000	25151
				OFF	15	55	17	73115	0010001011011101001010111000	25152
159	5	2	20	ON	15	59	45	73383	0010001011111110111100010110	25153
				OFF	16	0C	33	73431	0010001100000011101111011000	25154
										2006C
										20061

NOTE - THE CYCLE COUNTER FOR INSTRUMENT 166 APPEARED TO BE DROPPING CYCLES RANDOMLY IN THE EARLY PORTION OF MISSION 1021-1, BUT NOW APPEARS TO BE OPERATING CORRECTLY. ALL CONSUMPTION FIGURES ARE BASED ON CYCLE COUNTER READINGS IN-FLIGHT.

NOTE - THE CAMERAS WERE TURNED OFF PREMATURELY ON OPERATION 117-05-2 BY AN EXTRANEOUS BRUSH 28 (REDUNDANT OFF).

NOTE - THE FIRST FIVE FRAMES IN THE B MISSION RECOVERY BUCKET ARE THE LAST FIVE FRAMES OF OPERATION 079-09-1 WHICH WAS TAKEN DURING THE A MISSION.

NOTE - CUT/WRAP OCCURRED ON REV 081.

NOTE - THE FILM APPARENTLY PULLED OUT OF THE RAILS ON THE MASTER PAN CAMERA, INSTRUMENT 166, BETWEEN OPERATION 079-09-1 AND OPERATION 089-04-0. THIS CONDITION RESULTED IN THE FILM MOVING AWAY FROM THE PLATEN AND OUT OF THE FOCAL PLANE. QUALITY OF FILM IMAGERY IS QUESTIONABLE.
ALSO, SOMEWHERE BETWEEN OPERATION 096-09-1 AND OPERATION 101-06-1 THE FILM ON THE MASTER PAN CAMERA STOPPED MOVING. FOR THIS REASON NO DATA IS PRESENTED FOR INSTRUMENT 166 AFTER OPERATION 101-06-1.

NOTE - T/M DATA INDICATE THAT THE SLAVE PAN CAMERA, INSTRUMENT 167, AND THE STELLAR INDEX CAMERA WERE OUT OF FILM PRIOR TO THE START OF OPERATION 159-05-2.

NOTE - MISSION 1021 IS BEING FLOWN WITH THE AGENA MOVING NOSE-FIRST THROUGH ORBIT INSTEAD OF THE USUAL TAIL-FIRST FLIGHT.
AS A RESULT OF THIS CHANGE IN AGENA ORIENTATION THE FOLLOWING VARIATIONS IN NORMAL SYSTEM PARAMETERS SHOULD BE NOTED -

(1) AT THE DESCENDING NODE THE STELLAR CAMERA NOW LOOKS WESTWARD INSTEAD OF EASTWARD.

(2) THE MASTER PAN CAMERA, INSTRUMENT 166, IS THE AFT LOOKING CAMERA AND THE SLAVE PAN CAMERA, INSTRUMENT 167, IS THE FORWARD LOOKING CAMERA.