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1034-1



Corona Flight Data

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12 PAGES
(NOT INCLUDING PEST)

CORONA J FLIGHT DATA BOOK

SYSTEM NO. J-31

VEHICLE NO. 1626

MISSION NO. 1834-1

CAMERA NOS. 186/187

DATE 6-26-66

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SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187

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SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187

GENERAL FLIGHT DATA

MASTER CAMERA SERIAL NO. 186

SLAVE CAMERA SERIAL NO. 187

S/I -1 SERIAL NO. D85/189/76

S/I -2 SERIAL NO. D87/187/185

LAUNCH DATE 6-21-66

LAUNCH TIME 22-31-28 GMT

REACTIVATION DATE N/A

REACTIVATION ORBIT NO. N/A

ORBITAL PARAMETERS (REV. 48)

PERIOD 98.148 MIN. ECCENTRICITY 0.81318

PERIGEE 185.378 NM PERIGEE LAT. 18.245 DEG. N

APOGEE 199.598 NM INCL. ANGLE 88.186 DEG.

RECOVERY ORBIT NO. 81

RECOVERY DATE 6-26-66

SYSTEM NO. J-31
 VEHICLE NO. 1626
 MISSION NO. 1034-1
 CAMERA NOS. 186/187

FLIGHT LENS SETTINGS AND FILM TYPES

LENS SETTINGS

PANORAMIC CAMERA SETTINGS		CAMERA NO. 186	CAMERA NO. 187
PANORAMIC OPTICS SLIT WIDTH	.200	IN	.150 IN
PANORAMIC OPTICS FILTER TYPE	WRATTEN 23A		WRATTEN 21
HORIZON OPTICS EXP. TIME	1/100	SEC.	1/100 SEC.
HORIZON OPTICS APERTURE	F6.3	SUPPLY	F8.0 SUPPLY
HORIZON OPTICS APERTURE	F8.0	TAKE-UP	F6.3 TAKE-UP
HORIZON OPTICS FILTER TYPE	WRATTEN 25		WRATTEN 25

STELLAR INDEX CAMERA SETTINGS

	D85/109/76		D87/107/105	
	STELLAR	INDEX	STELLAR	INDEX
EXPOSURE TIME	2.0	SEC	1.0	SEC
APERTURE SETTING	F1.8		F1.8	
FILTER TYPE	NONE		NONE	

RATIO ONE STELLAR/INDEX FRAME PER 7 MASTER CAMERA FRAMES.

FILM

PANORAMIC CAMERAS	CAMERA NO. 186	CAMERA NO. 187
TYPE	7J-40	7J-40
LENGTH	16000 FT.	16000 FT.
SPLICES	4	4
EMUL. DATA	244-6-8-4-6	244-6-4-6
LG. BETWEEN	2826-3917-3935-	3149-3914-3926-
SPLICES	3932-1390C	3926-1085C

STELLAR/INDEX CAMERAS

	D85/109/76		D87/107/105	
	STELLAR	INDEX	STELLAR	INDEX
TYPE	3J-34	7J-33	3J-34	7J-33
EMUL. DATA	151-48-3-6	113-2-3-6	151-48-3-6	113-2-3



SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1034-1
CAMERA NOS. 186/187

LENS DATA SUMMARY MASTER CAMERA NO. 186

LENS SERIAL NO. 1942435
EQUIVALENT OPERATIONAL FOCAL LENGTH 689.638 MM

RESOLUTION

STATIC		LINES/MM	FILM TYPE	TARGET CONTRAST
	BENCH TEST	264	3484	HIGH
		155	3484	LOW

DYNAMIC

BOSTON	198	3484	HIGH
	116	3484	LOW
AP	162	3484	HIGH
	184	3484	LOW

NOTE BOSTON RESOLUTION OF 198 LINES/MM REPORTED IN [REDACTED]

DISTORTION - POSITIVE (PINCUSHION)

ANGLE OFF AXIS-DEG.	3	2	1	0	359	358	357
MILLIMETERS	0.003	0.002	0.001	0.000	0.002	0.003	0.005

SYSTEM NO. J-31
 VEHICLE NO. 1626
 MISSION NO. 1834-1
 CAMERA NOS. 186/187

LENS DATA SUMMARY (HORIZON CAMERAS FOR MASTER CAMERA NO. 186)

	TAKE-UP	SUPPLY
LENS SERIAL NO.	12875	12846
OPERATIONAL FOCAL LENGTH	54.98 MM	54.98 MM
RADIAL DISTORTION		
10 DEG. OFF AXIS	0.028 MM	0.018 MM
20 DEG. OFF AXIS	0.060 MM	0.050 MM
TANGENTIAL DISTORTION (MAXIMUM VECTOR)	0.015 MM	0.010 MM

RESOLUTION

ANGLE OFF AXIS-DEG.	0	5	10	15	20	25	27.5	30
TAKE-UP (RADIAL)	187	186	206	181	175	119	-0	36
(TANGENTIAL)	187	185	161	138	103	96	-0	62
SUPPLY (RADIAL)	209	206	163	143	139	134	-0	64
(TANGENTIAL)	209	185	144	130	93	86	-0	70

DYNAMIC (ZERO DEG)
 TAKE-UP -0 LINES/MM
 SUPPLY -0 LINES/MM

NOTE

1. DISTORTION AND RESOLUTION ARE READ AT EQUIVALENT OPERATIONAL FOCAL LENGTH.
2. RESOLUTION IN LINES PER MM ON 3404 FILM AND HIGH CONTRAST TARGET.



SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187

LENS DATA SUMMARY SLAVE CAMERA NO. 187

LENS SERIAL NO. 1932435
EQUIVALENT OPERATIONAL FOCAL LENGTH 689.638 MM

RESOLUTION

STATIC		LINES/MM	FILM TYPE	TARGET CONTRA:
	BENCH TEST	258	3484	HIGH
		149	3484	LOW
DYNAMIC				
	BOSTON	193	3484	HIGH
		117	3484	LOW
	AP	168	3484	HIGH
		109	3484	LOW

NOTE BOSTON RESOLUTION OF 193 LINES/MM REPORTED IN [REDACTED]

DISTORTION - POSITIVE (PINCUSHION)

ANGLE OFF AXIS-DEG.	3	2	1	0	359	358	357
MILLIMETERS	0.008	0.004	0.001	0.000	0.000	0.002	0.007

SYSTEM NO. J-31
 VEHICLE NO. 1626
 MISSION NO. 1034-1
 CAMERA NOS. 186/187

LENS DATA SUMMARY (HORIZON CAMERAS FOR SLAVE CAMERA NO. 187)

	TAKE-UP	SUPPLY
LENS SERIAL NO.	12833	12843
OPERATIONAL FOCAL LENGTH	55.80 MM	54.92 MM
RADIAL DISTORTION		
10 DEG. OFF AXIS	0.018 MM	0.018 MM
20 DEG. OFF AXIS	0.050 MM	0.060 MM
TANGENTIAL DISTORTION (MAXIMUM VECTOR)	0.020 MM	0.028 MM

RESOLUTION

ANGLE OFF AXIS-DEG.	0	5	10	15	20	25	27.5	30
TAKE-UP (RADIAL)	289	288	183	143	156	150	-0	57
(TANGENTIAL)	209	185	181	155	130	96	-0	70
SUPPLY (RADIAL)	187	165	164	181	156	106	-0	45
(TANGENTIAL)	187	185	144	123	116	96	-0	62

DYNAMIC (ZERO DEG)

TAKE-UP -0 LINES/MM
 SUPPLY -0 LINES/MM

NOTE

1. DISTORTION AND RESOLUTION ARE READ AT EQUIVALENT OPERATIONAL FOCAL LENGTH.
2. RESOLUTION IN LINES PER MM ON 3484 FILM AND HIGH CONTRAST TARGET.

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SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187

FORMAT DIMENSIONS AND CALIBRATIONS

CAMERA NO. 186

CAMERA NO. 187

A	76.128	76.128
B	355.248	355.128
C	718.358	718.268
D	56.598	56.661
E	56.655	56.265
XT	-8.886	8.859
YT	8.885	-8.837
XS	8.625	-8.669
YS	-8.192	-8.818
XVO	1.944	8.183
YVO	8.261	1.866
DTX	-8.885	8.857
DTY	2.885	1.963
DSX	8.638	-8.671
DSY	-2.192	-2.818
DMX	8.221	8.219
DMY	21.944	21.866
HEIGHT	-8.888	-8.888
WIDTH	-8.888	-8.888
DIRECTION		
FLIGHT	-Y	+Y
SCAN	+X	+X

- NOTE 1. ALL DIMENSIONS ARE IN MILLIMETERS AND ARE AVERAGE DIMENSIONS OF THREE FORMATS.
 2. HEIGHT OF MAIN FORMAT IS TAKEN AT CENTER OF FORMAT.
 3. DT, DM, DS, X, AND Y DIMENSIONS ARE TAKEN 18MM ABOVE POINT DEFINING TARGET CENTER.
 4. NEGATIVE VIEWED WITH EMULSION SIDE DOWN.
 5. FORMAT SIGN CONVENTION

1
 -X+Y 1 +X+Y
 -----1-----
 -X-Y 1 +X-Y
 1

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SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187

LENS DATA SUMMARY STELLAR INDEX D85/189/76 -1 MISSION

	STELLAR	INDEX
LENS SERIAL NO.	18683	819968
RESEAU SERIAL NO.	76	189
FILTER TYPE	NONE	WRITTEN 21
APERTURE	F1.8	F4.5
EXPOSURE TIME	2.8 SEC.	1/500 SEC.
EQUIVALENT FOCAL LENGTH	84 NOM	MM 38.46 MM

RESOLUTION (INDEX)

ANGLE OFF AXIS	0	10	20	30	35
HIGH CONTRAST-R/T (3400 FILM)	067/71	072/76	104/84	094/40	087/33

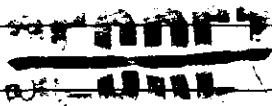
AWAR 72 LINES/MM
READ FROM 4400 FILM.

DISTORTION

FULL DATA TO BE REPORTED AS PART OF PHOTOGONIOMETER
DATA REDUCTION.

ALIGNMENT	STELLAR	INDEX
	±.0025 INCHES/.937 INCHES	-0.0005 INCHES/2.25 INCH

SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187



LENS DATA SUMMARY STELLAR INDEX D87/187/185 -2 MISSION

	STELLAR	INDEX
LENS SERIAL NO.	18592	819956
RESEAU SERIAL NO.	185	187
FILTER TYPE	NONE	WRATTEN 21
APERTURE	F1.8	F4.5
EXPOSURE TIME	1.8 SEC.	1/500 SEC.
EQUIVALENT FOCAL LENGTH	84 NOM	MM 38.44 MM

RESOLUTION (INDEX)

ANGLE OFF AXIS	0	10	20	30	35
HIGH CONTRAST-R/T (348P FILM)	871/71	874/77	182/84	895/46	888/39

AWAR 73 LINES/MM
READ FROM 4400 FILM.

DISTORTION

FULL DATA TO BE REPORTED AS PART OF PHOTOGONIOMETER
DATA REDUCTION.

ALIGNMENT	STELLAR	INDEX
	-0.0002 INCHES/.937 INCHES	-0.0008 INCHES/2.25 INCH

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SYSTEM NO. J-31
VEHICLE NO. 1626
MISSION NO. 1834-1
CAMERA NOS. 186/187

CYCLE PERIOD DATA

V/H LEVEL	RAMP AMPLITUDE	SETTING RAMP-SEC	TIME UP RAMP-SEC	---CALIBRATED---		---IN-FLIGHT---		ORBIT NO.
				MASTER	SLAVE	MASTER	SLAVE	
7	6		2740	2.889	2.889	2.893	2.989	9
5	11		2740	2.639	2.640	2.650	2.680	16
3	11		2740	2.434	2.434	2.440	2.451	32
3	11		2740	2.434	2.434	2.450	2.450	47
3	11		2740	2.434	2.434	2.426	2.443	63
3	11		2740	2.434	2.434	2.455	2.445	79
5	11		2740	2.639	2.640	2.672	2.665	88

NOTE

A -0 OR * INDICATE NO DATA AVAILABLE.

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A. 1834-1

B. DRY

C. PERFORMANCE ESTIMATE PART ONE

OPERATIONS SUMMARY

FWD PAN CAMERA NUMBER 186

OPN NO	FRA	Q	LAT	LONG	HEIGHT	RANGE	DA	H	M	S	LTIM	S-TIM
PRE-FLT 182												
1	3	0	12	ON	2 51 22	148 5W	760920	788796	21	23	1	8 13 8 82860
				OFF	2 40 55	147 11W	749790	777243	21	23	1	30 1312 82890
2	3	1	36	ON	1 54 53	191 4E	793098	822199	22	0	26	34 1310 1594
				OFF	1 47 44	193 54E	757743	785498	22	0	28	24 1324 1704
4	4	1	36	ON	2 71 40	126 1E	862428	894180	22	3	26	9 1150 12369
				OFF	2 64 58	135 21E	824415	854712	22	3	28	2 1229 12482
5	8	1	00	ON	3 10 10	131 37E	661916	686046	22	5	17	9 14 3 19029
				OFF	3 25 48	133 41E	707958	733825	22	5	21	2 1415 19262
6	4	1	131	ON	2 42 21	101 16E	715774	741938	22	6	34	16 1319 23656
				OFF	2 16 53	105 46E	649871	673548	22	6	40	38 1343 24038
8	6	1	14	ON	2 70 21	37 36E	846519	877661	22	9	27	17 1157 34037
				OFF	2 67 52	41 17E	832438	863041	22	9	27	59 1213 34079
8	6	2	66	ON	2 57 44	49 57E	779846	808442	22	9	30	42 1250 34242
				OFF	2 46 18	54 45E	728516	755162	22	9	33	38 1312 34410
9	3	0	15	ON	1 39 1	123 25W	1135795	1178165	22	10	40	29 226 38429
				OFF	1 41 55	122 43W	1126632	1168642	22	10	41	15 230 38475
9	3	1	31	ON	2 00 3	39 36W	925357	959531	22	10	53	26 814 39206
				OFF	2 77 51	9 24W	894593	927581	22	10	54	59 1017 39299
9	3	2	12	ON	2 45 46	32 13E	724852	751359	22	11	3	57 1312 39837
				OFF	2 43 19	32 55E	715288	741433	22	11	4	34 1316 39874
10	3	1	39	ON	2 28 46	13 17E	668672	693057	22	12	30	24 1331 45504
				OFF	2 21 3	14 26E	653158	676959	22	12	40	19 1338 45619
11	4	1	32	ON	2 21 22	8 17W	653266	677071	22	14	10	25 1337 51025
				OFF	2 15 3	7 28W	645482	668994	22	14	11	59 1342 51119
13	8	1	42	ON	3 9 20	50 3W	661685	685006	22	17	18	23 1350 62303
				OFF	3 17 45	49 1W	683820	700704	22	17	20	28 14 4 62420
14	9	1	48	ON	3 25 20	70 39W	710923	736902	22	18	52	32 14 9 67952
				OFF	3 34 46	69 1W	751522	779039	22	18	54	54 1410 68094
16	9	0	13	ON	2 33 36	123 45W	678861	703630	22	21	38	15 1323 77895
				OFF	2 31 9	123 10W	672233	696753	22	21	38	52 1325 77932
19	8	1	33	ON	2 67 47	151 43E	819478	849506	23	1	59	56 12 6 7196
				OFF	2 61 49	157 36E	788638	817568	23	2	1	33 1232 7293
20	3	2	12	ON	3 3 55	150 26E	653536	677351	23	3	48	15 1350 13695
				OFF	3 6 22	150 43E	657871	681849	23	3	48	51 1351 13731
20	3	3	13	ON	3 24 18	153 0E	710435	736395	23	3	53	19 14 5 13999
				OFF	3 26 51	153 23E	720508	746932	23	3	53	57 14 7 14037
22	5	1	60	ON	2 42 53	97 50E	704960	730714	23	6	36	57 13 8 23817
				OFF	2 32 31	100 15E	672982	697530	23	6	39	33 1320 23973
24	5	1	15	ON	2 70 34	34 6E	829292	859775	23	9	30	0 1146 34200
				OFF	2 68 8	37 40E	815956	845929	23	9	30	42 12 1 34242
24	5	2	106	ON	2 57 33	46 55E	763525	791500	23	9	33	31 1241 34411
				OFF	2 39 2	53 31E	690775	715993	23	9	38	14 1312 34694

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					OFF 264	41.2	173.2	11.98	12.39	11.79	11.19
125	2	1	16	42.3	ON 288	76.1	159.2	12.82	12.42	11.82	11.22
					OFF 288	73.3	162.7	12.82	12.42	11.82	11.22
125	2	2	32	84.6	ON 288	58.1	172.3	12.82	12.42	11.82	11.22
					OFF 288	44.4	173.1	12.82	12.41	11.81	11.21
127	4	2	15	39.7	ON 311	78.8	24.7	12.13	12.42	11.82	11.22
					OFF 311	81.1	31.4	12.13	12.42	11.82	11.22
134	2	1	35	92.6	ON 276	43.7	6.5	11.96	12.41	11.81	11.21
					OFF 276	58.1	7.8	11.96	12.42	11.82	11.22
133	2	1	14	37.8	ON 311	78.9	11.8	12.13	12.42	11.82	11.22
					OFF 311	73.3	13.4	12.13	12.42	11.82	11.22
133	2	2	57	158.8	ON 311	85.3	53.5	12.13	12.42	11.82	11.22
					OFF 311	82.4	158.1	12.13	12.42	11.82	11.22
134	4	1	15	39.7	ON 275	35.7	5.9	11.96	12.36	11.76	11.16
					OFF 275	36.5	5.7	11.96	12.38	11.78	11.18
134	4	2	43	113.7	ON 275	46.3	5.8	11.96	12.42	11.82	11.22
					OFF 275	54.2	6.6	11.96	12.42	11.82	11.22
134	4	3	13	34.4	ON 275	68.6	7.7	11.96	12.42	11.82	11.22
					OFF 275	63.1	8.3	11.96	12.42	11.82	11.22
135	7	1	47	124.3	ON 299	78.5	18.7	12.87	12.42	11.82	11.22
					OFF 298	78.3	17.7	12.87	12.42	11.82	11.22
136	9	1	48	127.8	ON 298	61.1	7.2	12.87	12.42	11.82	11.22
					OFF 298	69.1	9.7	12.87	12.42	11.82	11.22
136	9	2	35	92.6	ON 298	76.8	14.2	12.87	12.42	11.82	11.22
					OFF 298	81.6	23.9	12.87	12.42	11.82	11.22
136	9	3	58	132.3	ON 298	72.4	168.8	12.87	12.42	11.82	11.22
					OFF 299	64.1	172.3	12.87	12.42	11.82	11.22
137	8	1	23	68.8	ON 263	66.6	171.9	11.89	12.42	11.82	11.22
					OFF 263	62.1	173.1	11.89	12.42	11.82	11.22
137	8	2	52	137.5	ON 263	49.7	175.8	11.89	12.42	11.82	11.22
					OFF 263	39.8	175.7	11.89	12.39	11.79	11.19
137	8	3	26	52.9	ON 263	34.5	176.8	11.89	12.34	11.74	11.14
					OFF 263	38.7	176.2	11.89	12.38	11.78	11.18
142	4	1	59	156.1	ON 287	66.7	172.9	12.82	12.42	11.82	11.22
					OFF 287	56.3	174.9	12.82	12.42	11.82	11.22
141	6	1	53	142.2	ON 275	56.8	175.1	11.96	12.42	11.82	11.22
					OFF 275	47.1	176.8	11.96	12.42	11.82	11.22
143	7	2	14	37.8	ON 389	79.1	12.9	12.13	12.42	11.82	11.22
					OFF 389	81.5	16.5	12.13	12.42	11.82	11.22
144	1	2	11	29.1	ON 263	44.4	176.8	11.89	12.41	11.81	11.21
					OFF 263	42.1	176.9	11.89	12.46	11.88	11.28
146	2	1	58	132.3	ON 287	48.2	3.4	12.82	12.42	11.82	11.22
					OFF 287	57.2	3.9	12.82	12.42	11.82	11.22
149	6	1	16	47.5	ON 286	35.4	3.2	12.81	12.35	11.75	11.15
					OFF 286	38.8	3.8	12.81	12.38	11.78	11.18
149	6	2	38	79.3	ON 286	62.8	3.5	12.81	12.42	11.82	11.22
					OFF 286	67.5	4.2	12.81	12.42	11.82	11.22
149	6	3	12	31.7	ON 286	78.9	4.9	12.81	12.42	11.82	11.22
					OFF 286	73.2	5.5	12.81	12.42	11.82	11.22
152	4	1	16	42.3	ON 286	35.2	3.1	12.81	12.35	11.75	11.15
					OFF 286	38.8	2.8	12.81	12.37	11.77	11.17

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150 4 2	14	37.8	ON	286	68.7	3.1	12.81	12.42	11.82	11.22
			OFF	286	63.2	3.3	12.81	12.42	11.82	11.22
150 4 3	77	283.7	ON	286	65.9	3.6	12.81	12.42	11.82	11.22
			OFF	286	79.6	8.8	12.81	12.42	11.82	11.22
151 8 1	14	37.8	ON	286	48.2	2.5	12.81	12.39	11.79	11.19
			OFF	286	42.8	2.4	12.81	12.48	11.88	11.28
151 8 2	34	89.9	ON	286	59.8	2.8	12.81	12.42	11.82	11.22
			OFF	286	65.9	3.3	12.81	12.42	11.82	11.22
152 8 1	184	275.1	ON	297	51.3	2.2	12.87	12.42	11.82	11.22
			OFF	297	68.9	3.3	12.87	12.42	11.82	11.22
153 8 1	52	137.5	ON	238	41.8	178.6	11.75	12.39	11.79	11.19
			OFF	238	38.1	178.8	11.75	12.38	11.78	11.18
156 7 1	68	158.7	ON	274	66.9	178.6	11.95	12.42	11.82	11.22
			OFF	274	55.8	179.8	11.95	12.42	11.82	11.22
159 7 1	26	68.8	ON	274	48.8	1.8	11.95	12.39	11.79	11.19
			OFF	274	44.9	8.8	11.95	12.41	11.81	11.21
159 7 F	14	37.8	ON	328	78.9	8.9	12.12	12.42	11.82	11.22
			OFF	328	81.4	1.1	12.12	12.42	11.82	11.22
162 2 1	11	29.1	ON	262	49.5	188.8	11.89	12.42	11.82	11.22
			OFF	262	47.2	188.8	11.89	12.42	11.82	11.22

PHOTOGRAPHIC SUMMARY

AFT PAN	CAMERA	NO	187	2.15	SLIT	W/21	FILTER	3484	FILM			
OPV	NO	FRA	FEET	ET	S-EL	S-DIR	EV	FULL	INT	PRI		
82	2	1	12	31.7	ON	355	39.6	165.6	12.32	12.71	12.11	11.51
					OFF	355	37.5	166.8	12.32	12.78	12.18	11.58
81	2	2	3	7.9	ON	324	51.8	17.6	12.19	12.75	12.15	11.55
					OFF	324	53.3	18.3	12.19	12.75	12.15	11.55
82	5	1	14	37.8	ON	324	34.3	11.4	12.19	12.67	12.87	11.47
					OFF	324	37.3	12.4	12.19	12.78	12.18	11.58
82	5	2	48	125.8	ON	324	42.4	14.8	12.19	12.73	12.13	11.53
					OFF	324	58.8	17.8	12.19	12.75	12.15	11.55
84	5	1	54	142.8	ON	399	61.3	22.3	12.49	12.75	12.15	11.55
					OFF	399	78.1	32.5	12.49	12.75	12.15	11.55
85	5	1	32	84.6	ON	399	79.5	64.8	12.49	12.75	12.15	11.55
					OFF	399	78.7	112.6	12.49	12.75	12.15	11.55
85	5	2	14	37.8	ON	399	69.1	149.5	12.49	12.75	12.15	11.55
					OFF	399	67.8	152.5	12.49	12.75	12.15	11.55
87	4	1	83	219.5	ON	355	53.3	16.9	12.32	12.75	12.15	11.55
					OFF	355	67.4	27.1	12.32	12.75	12.15	11.55
88	2	2	17	45.8	ON	355	-25.1	11.8	12.32	8.88	8.88	8.88
					OFF	355	-22.1	18.7	12.32	8.88	8.88	8.88
88	2	1	21	55.8	ON	355	41.6	12.7	12.32	12.73	12.13	11.53
					OFF	355	45.4	13.8	12.32	12.74	12.14	11.54
88	2	2	19	52.3	ON	355	55.8	17.4	12.32	12.75	12.15	11.55
					OFF	355	58.3	19.1	12.32	12.75	12.15	11.55
88	2	3	13	34.4	ON	355	63.4	22.7	12.32	12.75	12.15	11.55
					OFF	355	65.7	24.8	12.32	12.75	12.15	11.55
88	2	4	74	195.7	ON	355	76.6	131.5	12.32	12.75	12.15	11.55
					OFF	355	68.5	155.3	12.32	12.75	12.15	11.55

90	3	1	54	142.8	ON	399	79.4	66.8	12.49	12.75	12.15	11.55
					OFF	399	79.2	115.5	12.49	12.75	12.15	11.55
91	8	1	38	100.5	ON	324	31.0	8.8	12.19	12.64	12.04	11.40
					OFF	324	38.4	11.2	12.19	12.71	12.11	11.55
91	8	2	13	34.4	ON	324	45.8	13.1	12.19	12.74	12.14	11.54
					OFF	324	47.5	13.8	12.19	12.75	12.15	11.55
92	9	1	43	113.7	ON	391	58.8	161.6	12.46	12.75	12.15	11.55
					OFF	391	51.6	164.7	12.46	12.75	12.15	11.55
95	2	1	28	52.9	ON	407	74.6	36.2	12.52	12.75	12.15	11.55
					OFF	407	77.2	45.1	12.52	12.75	12.15	11.55
97	4	1	22	58.2	ON	359	44.8	11.9	12.34	12.74	12.14	11.54
					OFF	359	49.0	13.1	12.34	12.75	12.15	11.55
98	5	1	36	95.2	ON	359	47.0	12.2	12.34	12.75	12.15	11.55
					OFF	359	53.7	14.4	12.34	12.75	12.15	11.55
100	5	1	62	164.0	ON	359	59.8	16.6	12.34	12.75	12.15	11.55
					OFF	359	70.9	26.3	12.34	12.75	12.15	11.55
101	7	1	52	137.5	ON	359	44.9	166.4	12.34	12.74	12.14	11.54
					OFF	359	35.3	170.0	12.34	12.68	12.08	11.40
102	5	1	16	42.3	ON	391	36.3	8.7	12.46	12.69	12.09	11.40
					OFF	391	39.2	9.5	12.46	12.71	12.11	11.51
102	5	2	65	171.0	ON	391	73.9	30.2	12.46	12.75	12.15	11.55
					OFF	391	81.6	72.9	12.46	12.75	12.15	11.55
103	4	1	72	190.4	ON	407	65.9	19.6	12.52	12.75	12.15	11.55
					OFF	407	76.8	37.1	12.52	12.75	12.15	11.55
104	8	1	27	71.4	ON	422	74.9	31.3	12.57	12.75	12.15	11.55
					OFF	422	78.5	42.5	12.57	12.75	12.15	11.55
104	8	2	46	121.7	ON	422	73.7	151.2	12.57	12.75	12.15	11.55
					OFF	422	66.9	159.8	12.57	12.75	12.15	11.55
105	5	1	11	29.1	ON	422	78.6	42.2	12.57	12.75	12.15	11.55
					OFF	422	79.9	49.6	12.57	12.75	12.15	11.55
105	5	2	56	153.4	ON	422	62.3	98.2	12.57	12.75	12.15	11.55
					OFF	422	77.3	143.8	12.57	12.75	12.15	11.55
107	5	1	21	55.5	ON	341	34.9	7.5	12.26	12.68	12.08	11.48
					OFF	341	39.7	8.6	12.26	12.71	12.11	11.51
108	5	1	51	134.0	ON	405	62.1	164.4	12.51	12.75	12.15	11.55
					OFF	405	53.7	167.7	12.51	12.75	12.15	11.55
109	4	1	20	52.9	ON	405	75.3	151.0	12.51	12.75	12.15	11.55
					OFF	405	72.1	156.3	12.51	12.75	12.15	11.55
109	4	2	25	66.1	ON	405	49.1	169.2	12.51	12.75	12.15	11.55
					OFF	405	44.9	170.0	12.51	12.74	12.14	11.54
111	4	1	14	37.0	ON	405	74.6	26.4	12.51	12.75	12.15	11.55
					OFF	405	76.7	31.1	12.51	12.75	12.15	11.55
114	7	1	37	97.9	ON	357	43.4	8.2	12.33	12.74	12.14	11.54
					OFF	357	52.3	9.7	12.33	12.75	12.15	11.55
115	7	2	19	50.3	ON	373	58.6	168.2	12.39	12.75	12.15	11.55
					OFF	373	54.6	169.2	12.39	12.75	12.15	11.55
115	7	1	13	34.4	ON	373	59.0	12.1	12.39	12.75	12.15	11.55
					OFF	373	62.2	13.1	12.39	12.75	12.15	11.55
115	7	2	24	63.5	ON	373	63.4	166.2	12.39	12.75	12.15	11.55
					OFF	373	59.1	168.1	12.39	12.75	12.15	11.55
115	7	3	32	56.0	ON	373	54.2	169.5	12.39	12.75	12.15	11.55

					OFF 373	58.2	178.5	12.39	12.75	12.15	11.55
117	5	1	58	153.4	ON 419	69.3	17.1	12.56	12.75	12.15	11.55
					OFF 419	78.1	38.4	12.56	12.75	12.15	11.55
117	5	2	58	153.4	ON 419	83.5	67.6	12.56	12.75	12.15	11.55
					OFF 419	88.8	139.3	12.56	12.75	12.15	11.55
118	6	1	16	42.3	ON 389	36.8	6.8	12.45	12.69	12.89	11.49
					OFF 389	38.8	6.6	12.45	12.71	12.11	11.51
118	6	2	51	134.9	ON 389	71.8	18.1	12.45	12.75	12.15	11.55
					OFF 389	79.2	32.8	12.45	12.75	12.15	11.55
119	4	1	154	487.3	ON 373	42.8	7.8	12.48	12.73	12.13	11.53
					OFF 373	69.7	16.5	12.48	12.75	12.15	11.55
120	9	1	14	37.8	ON 485	67.4	14.5	12.51	12.75	12.15	11.55
					OFF 485	69.7	16.2	12.51	12.75	12.15	11.55
120	9	2	28	52.9	ON 485	76.2	156.1	12.51	12.75	12.15	11.55
					OFF 485	73.8	168.7	12.51	12.75	12.15	11.55
120	9	3	21	55.5	ON 485	78.5	163.1	12.51	12.75	12.15	11.55
					OFF 485	67.1	165.6	12.51	12.75	12.15	11.55
121	7	1	65	171.9	ON 389	79.8	158.5	12.46	12.75	12.15	11.55
					OFF 389	68.2	165.3	12.46	12.75	12.15	11.55
121	7	2	29	76.7	ON 389	51.6	171.3	12.46	12.75	12.15	11.55
					OFF 389	46.4	172.2	12.46	12.75	12.15	11.55
122	3	1	88	211.6	ON 422	84.5	73.1	12.57	12.75	12.15	11.55
					OFF 422	77.4	155.1	12.57	12.75	12.15	11.55
124	7	1	46	121.7	ON 357	58.2	172.2	12.33	12.75	12.15	11.55
					OFF 357	41.5	173.4	12.33	12.73	12.13	11.53
125	2	1	16	42.3	ON 389	76.2	159.2	12.46	12.75	12.15	11.55
					OFF 389	73.4	162.7	12.46	12.75	12.15	11.55
125	2	2	33	87.3	ON 389	58.4	172.4	12.46	12.75	12.15	11.55
					OFF 389	44.7	173.2	12.46	12.74	12.14	11.54
127	4	1	15	39.7	ON 422	78.7	24.1	12.57	12.75	12.15	11.55
					OFF 422	81.8	32.6	12.57	12.75	12.15	11.55
130	2	1	35	92.6	ON 373	43.5	5.2	12.48	12.74	12.14	11.54
					OFF 373	49.9	6.2	12.48	12.75	12.15	11.55
133	2	1	15	39.7	ON 422	78.8	11.4	12.57	12.75	12.15	11.55
					OFF 422	73.2	13.8	12.57	12.75	12.15	11.55
133	2	2	56	153.4	ON 422	85.2	51.9	12.57	12.75	12.15	11.55
					OFF 422	82.5	149.9	12.57	12.75	12.15	11.55
134	4	1	15	39.7	ON 374	35.5	3.2	12.48	12.68	12.88	11.48
					OFF 374	38.3	3.7	12.48	12.71	12.11	11.51
134	4	2	43	113.7	ON 374	46.1	4.8	12.48	12.75	12.15	11.55
					OFF 374	54.8	5.9	12.48	12.75	12.15	11.55
134	4	3	13	34.4	ON 374	62.4	7.2	12.48	12.75	12.15	11.55
					OFF 374	63.8	7.8	12.48	12.75	12.15	11.55
135	7	1	47	124.3	ON 436	73.3	18.3	12.52	12.75	12.15	11.55
					OFF 436	78.2	17.1	12.52	12.75	12.15	11.55
136	9	1	48	127.8	ON 436	61.8	6.7	12.52	12.75	12.15	11.55
					OFF 436	69.8	9.3	12.52	12.75	12.15	11.55
136	9	2	35	92.6	ON 436	75.9	13.7	12.52	12.75	12.15	11.55
					OFF 436	81.5	23.2	12.52	12.75	12.15	11.55
136	9	3	53	132.3	ON 436	72.6	168.8	12.52	12.75	12.15	11.55
					OFF 436	64.3	172.3	12.52	12.75	12.15	11.55

137	8	1	23	68.8	ON	358	66.8	171.9	12.34	12.75	12.15	11.55
					OFF	358	62.3	173.2	12.34	12.75	12.15	11.55
137	8	2	52	137.5	ON	358	58.8	175.1	12.34	12.75	12.15	11.55
					OFF	358	48.2	175.9	12.34	12.72	12.12	11.52
137	8	3	28	52.9	ON	358	34.9	176.2	12.34	12.68	12.88	11.48
					OFF	358	31.1	176.4	12.34	12.64	12.84	11.44
148	4	1	68	158.7	ON	398	66.9	173.8	12.46	12.75	12.15	11.55
					OFF	398	56.5	175.8	12.46	12.75	12.15	11.55
141	6	1	53	148.2	ON	374	57.8	175.2	12.48	12.75	12.15	11.55
					OFF	374	47.4	176.2	12.48	12.75	12.15	11.55
143	7	8	14	37.8	ON	421	79.8	12.4	12.57	12.75	12.15	11.55
					OFF	421	81.4	15.9	12.57	12.75	12.15	11.55
144	1	2	12	31.7	ON	358	44.8	177.8	12.34	12.74	12.14	11.54
					OFF	358	42.5	177.1	12.34	12.73	12.13	11.53
146	2	1	51	134.9	ON	398	48.8	2.5	12.46	12.75	12.15	11.55
					OFF	398	57.8	3.4	12.46	12.75	12.15	11.55
149	6	1	19	58.3	ON	398	35.2	8.7	12.46	12.68	12.88	11.48
					OFF	398	38.6	1.1	12.46	12.71	12.11	11.51
149	6	2	31	82.8	ON	398	61.9	3.1	12.46	12.75	12.15	11.55
					OFF	398	67.4	3.8	12.46	12.75	12.15	11.55
149	6	3	13	34.4	ON	398	78.7	4.5	12.46	12.75	12.15	11.55
					OFF	398	73.1	5.1	12.46	12.75	12.15	11.55
158	4	1	16	42.3	ON	398	34.9	8.5	12.46	12.68	12.88	11.48
					OFF	398	37.8	8.8	12.46	12.76	12.18	11.58
158	4	2	14	37.8	ON	398	68.6	2.7	12.46	12.75	12.15	11.55
					OFF	398	63.8	2.9	12.46	12.75	12.15	11.55
158	4	3	78	286.3	ON	398	65.8	3.2	12.46	12.75	12.15	11.55
					OFF	398	79.5	7.5	12.46	12.75	12.15	11.55
151	8	1	15	39.7	ON	398	48.8	8.9	12.46	12.72	12.12	11.52
					OFF	398	42.6	1.1	12.46	12.73	12.13	11.53
151	8	2	34	89.9	ON	398	59.6	2.3	12.46	12.75	12.15	11.55
					OFF	398	65.7	2.9	12.46	12.75	12.15	11.55
152	8	1	104	275.1	ON	426	51.1	1.5	12.52	12.75	12.15	11.55
					OFF	426	68.8	2.9	12.52	12.75	12.15	11.55
153	8	1	53	148.2	ON	325	41.4	178.8	12.28	12.73	12.13	11.53
					OFF	325	38.6	179.8	12.28	12.63	12.83	11.43
155	7	1	61	161.3	ON	374	67.1	178.7	12.48	12.75	12.15	11.55
					OFF	374	56.2	179.1	12.48	12.75	12.15	11.55
159	7	8	15	39.7	ON	421	78.7	8.5	12.57	12.75	12.15	11.55
					OFF	421	81.3	8.8	12.57	12.75	12.15	11.55

STELLAR-INDEX SUMMARY

CAMERA DATA ET FILE FILTER GRID ASSEMBLY NO D87

STELLAR 2.2 3481 NONE 187

INDEX 1758 3412 1721 195

PERFORMANCE SUMMARY

OPN NO	FR	STEL FEET	INDEX FEET	H	M	S	G	LAT	LONG	Ø	LAT	LONG	SEC DUR		
82	2	1	2	7.28	7.48	22	P	57	3	23	128W	3	25	128W	32
82	5	1	3	8.38	8.59	0	35	36	2	76	142E	2	74	158E	45

SECRET

82	5	2	6	0.59	1.19	0	37	38	2	69	159E	2	61	168E	138
84	5	1	7	0.69	1.39	3	42	42	2	51	128E	2	41	131E	144
85	6	1	5	2.50	2.99	5	19	6	2	26	112E	2	21	112E	78
85	6	2	3	0.30	0.59	5	23	47	2	7	114E	2	5	114E	36
87	4	1	12	1.19	2.38	8	10	53	2	59	56E	2	45	62E	221
88	2	0	2	0.20	0.40	9	21	10	1	38	115W	1	41	115W	46
88	2	1	3	0.30	0.59	9	38	1	2	70	22E	2	67	27E	57
88	2	2	3	0.30	0.59	9	41	24	2	57	34E	2	54	36E	52
88	2	3	3	0.30	0.59	9	43	35	2	49	38E	2	46	39E	37
88	2	4	10	0.99	1.98	9	51	49	2	16	45E	2	3	47E	199
90	3	1	8	0.79	1.58	12	48	47	2	29	1W	2	20	0W	130
91	8	1	6	0.59	1.19	14	5	36	2	78	73W	2	73	51W	111
91	8	2	2	0.20	0.40	14	9	7	2	67	41W	2	65	38W	38
92	9	1	6	0.59	1.19	15	57	18	3	4	42W	3	11	41W	110
95	2	1	3	0.30	0.59	20	17	12	2	37	116W	2	33	115W	58
97	4	1	4	0.40	0.79	23	9	34	2	67	177W	2	63	173W	63
98	5	1	5	0.50	0.99	7	40	10	2	65	162E	2	59	167E	101
100	5	1	9	0.69	1.38	3	43	33	2	53	125E	2	41	129E	174
101	7	1	8	0.79	1.58	5	31	38	3	19	114E	3	28	116E	145
102	5	1	2	0.20	0.40	6	37	49	2	74	55E	2	72	61E	43
102	5	2	10	0.99	1.98	6	47	23	2	38	84E	2	27	86E	169
103	4	1	10	0.99	1.98	8	15	19	2	46	59E	2	34	62E	180
104	8	1	4	0.40	0.79	9	47	48	2	37	39E	2	32	40E	65
104	8	2	7	0.69	1.38	9	54	29	2	10	43E	2	3	44E	169
105	5	1	2	0.20	0.40	11	18	58	2	32	17E	2	30	17E	28
105	5	2	6	0.79	1.58	11	21	18	2	23	19E	2	14	20E	139
107	5	1	4	0.40	0.79	14	7	48	2	75	61W	2	72	51W	62
108	5	1	7	0.69	1.38	15	57	50	3	2	45W	3	10	44W	127
109	4	1	3	0.30	0.59	17	24	28	2	11	70W	2	8	69W	52
109	4	2	4	0.40	0.79	17	31	12	3	15	66W	3	19	65W	63
111	4	1	2	0.20	0.40	20	18	2	2	37	119W	2	35	118W	36
114	7	1	5	0.50	0.99	6	40	19	2	68	156E	2	62	162E	103
115	7	2	3	0.30	0.59	2	29	21	3	6	156E	3	10	156E	52
115	7	1	2	0.20	0.40	3	44	29	2	52	122E	2	50	123E	36
116	7	2	4	0.40	0.79	3	50	3	3	1	132E	3	5	133E	66
116	7	3	3	0.30	0.59	4	0	22	3	10	133E	3	14	134E	60
117	5	1	9	0.69	1.38	5	16	56	2	43	103E	2	34	105E	140
117	5	2	6	0.79	1.58	5	21	10	2	26	106E	2	17	107E	138
118	6	1	3	0.30	0.59	5	38	42	2	74	53E	2	72	58E	42
118	6	2	7	0.69	1.38	5	47	24	2	41	80E	2	30	82E	132
119	4	1	20	2.20	4.55	8	10	14	2	69	41E	2	43	57E	413
120	9	1	2	0.20	0.40	9	46	34	2	45	34E	2	43	35E	35
120	9	2	3	0.30	0.59	9	55	1	2	11	40E	2	8	41E	51
120	9	3	3	0.30	0.59	9	56	30	2	5	41E	2	2	41E	52
121	7	1	10	0.99	1.98	11	24	19	2	14	17E	2	3	18E	169
121	7	2	4	0.40	0.79	11	31	19	3	13	20E	3	18	21E	77
122	3	1	12	1.19	2.38	12	51	37	2	25	6W	2	12	4W	192
124	7	1	7	0.69	1.38	16	1	47	3	15	46W	3	23	45W	130
125	2	1	2	0.20	0.40	17	25	18	2	11	72W	2	8	72W	43
125	2	2	5	0.59	1.19	17	31	45	3	15	69W	3	20	68W	85
127	4	1	3	0.30	0.59	20	10	42	2	33	121W	2	31	120W	37

138	2	1	5	0.58	0.99	8	41	2	2	67	154E	2	62	160E	95
133	2	1	2	0.28	0.48	5	17	58	2	41	100E	2	39	101E	36
133	2	2	9	0.89	1.78	5	21	43	2	26	104E	2	17	105E	138
134	4	1	2	0.28	0.48	6	39	11	2	74	50E	2	72	56E	42
134	4	2	6	0.59	1.19	6	41	47	2	65	66E	2	58	72E	117
134	4	3	3	0.32	0.59	6	45	18	2	52	75E	2	49	76E	37
135	7	1	7	0.69	1.39	8	17	46	2	42	55E	2	34	57E	118
136	9	1	7	0.69	1.39	9	45	29	2	51	29E	2	43	32E	119
136	9	2	5	0.58	0.99	9	49	18	2	36	34E	2	31	35E	87
136	9	3	7	0.69	1.39	9	56	42	2	6	38E	3	1	39E	124
137	8	1	4	0.42	0.79	11	28	18	2	8	16E	3	3	17E	66
137	8	2	8	0.79	1.58	11	32	28	3	16	18E	3	25	19E	146
137	8	3	3	0.32	0.59	11	36	5	3	31	28E	3	34	21E	57
142	4	1	9	2.89	1.78	15	58	13	2	8	51W	3	9	50W	155
141	6	1	7	0.69	1.39	17	38	41	3	9	72W	3	18	71W	144
143	7	1	3	0.32	0.59	20	28	3	2	33	123W	2	31	123W	36
144	1	2	2	0.22	0.42	22	3	47	3	21	139W	3	23	138W	34
146	2	1	7	0.69	1.39	8	42	29	2	63	156E	2	55	161E	131
149	6	1	3	0.32	0.59	5	9	22	2	74	70E	2	71	77E	58
149	6	2	4	0.42	0.79	5	15	53	2	50	95E	2	44	97E	80
149	6	3	2	0.22	0.42	5	18	2	2	41	98E	2	39	99E	34
152	4	1	3	0.32	0.59	6	39	19	2	74	47E	2	72	53E	41
152	4	2	2	0.22	0.42	6	45	34	2	51	72E	2	49	73E	36
152	4	3	12	1.19	2.38	5	46	58	2	46	74E	2	33	77E	202
151	5	1	2	0.22	0.42	3	18	33	2	78	34E	2	68	38E	38
151	5	2	5	0.58	0.99	9	15	28	2	52	49E	2	46	51E	89
152	8	1	15	1.48	2.97	9	43	16	2	60	22E	2	43	30E	258
153	8	1	3	0.79	1.58	11	34	41	3	25	17E	3	35	19E	162
156	7	1	9	0.89	1.78	15	58	28	2	8	53W	3	18	52W	164
159	7	1	4	0.42	0.79	23	18	29	2	78	146W	2	66	148W	72
159	7	2	2	0.22	0.42	28	19	56	2	33	126W	2	31	125W	37
162	2	1	2	0.22	0.42	22	2	36	3	17	142W	3	19	141W	33

NOTE - ONLY THE LAST FIVE FRAMES OF THE FWD PAN CAMERA AND THE LAST SEVEN FRAMES OF THE AFT PAN CAMERA FOR OPERATION 80-2-1 ARE CONTAINED IN THE B MISSION RECOVERY CAPSULE.

NOTE - OPERATION 82-2-2 IS THE CUT AND WRAP OPERATION WHICH OCCURRED AT THE TIME OF A MISSION RECOVERY.

NOTE - TELE DATA INDICATED THAT THE AFT PAN CAMERA RAN OUT OF FILM PRIOR TO OPERATION 159-7-8.

NOTE - WITH THE EXCEPTION OF THE ANOMALIES REPORTED ON THE A MISSION, TELE DATA INDICATE NORMAL SYSTEM PERFORMANCE.

A. 1834-2

B. DRY

C. PERFORMANCE ESTIMATE PART TWO

RATE ESTIMATE

FWD PAN CAMERA NUMBER 186

OPN NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN RATE R/SEC	I/SEC	PCT RATE CALIB	REQD	
80	2	1	11	5 11 ON	2678	0.3461	0.02920	2.174	52.18	-8.7	-4.8
				OFF	32	0.3461	0.02920	2.174	52.18	-8.7	-3.3
81	0	0	3	7 11 ON	0	0.3161	0.02667	1.986	47.67	-8.7	-16.9
				OFF	24	0.3161	0.02667	1.986	47.67	-8.7	-17.9
✓82	5	1	14	7 11 ON	1150	0.3161	0.02667	1.986	47.67	-8.7	-5.9
				OFF	45	0.3161	0.02667	1.986	47.67	-8.7	-7.7
✓82	5	2	30	7 11 ON	1273	0.3161	0.02667	1.986	47.67	-8.7	-11.0
				OFF	130	0.3161	0.02667	1.986	47.67	-8.7	-16.5
✓84	5	1	53	2 11 ON	1573	0.3892	0.03284	2.445	58.69	-8.7	-0.2
				OFF	144	0.3892	0.03284	2.445	58.69	-8.7	-4.4
✓85	6	1	32	2 11 ON	1956	0.3892	0.03284	2.445	58.69	-8.7	-8.5
				OFF	78	0.3892	0.03284	2.445	58.69	-8.7	-8.9
✓85	6	2	14	2 11 ON	2236	0.3892	0.03284	2.445	58.69	-8.7	-7.4
				OFF	36	0.3892	0.03284	2.445	58.69	-8.7	-6.7
✓87	4	1	32	5 11 ON	1459	0.3461	0.02920	2.174	52.18	-8.7	-8.5
				OFF	221	0.3461	0.02920	2.174	52.18	-8.7	-16.3
✓88	2	0	16	5 11 ON	272	0.3461	0.02920	2.174	52.18	-8.7	27.4
				OFF	46	0.3461	0.02920	2.174	52.18	-8.7	26.5
✓88	2	1	21	5 11 ON	1263	0.3461	0.02920	2.174	52.18	-8.7	-1.9
				OFF	57	0.3461	0.02920	2.174	52.18	-8.7	-4.1
✓88	2	2	19	5 11 ON	1486	0.3461	0.02920	2.174	52.18	-8.7	-9.7
				OFF	52	0.3461	0.02920	2.174	52.18	-8.7	-11.5
✓88	2	3	13	5 11 ON	1517	0.3461	0.02920	2.174	52.18	-8.7	-14.3
				OFF	37	0.3461	0.02920	2.174	52.18	-8.7	-15.5
✓88	2	4	73	5 11 ON	2110	0.3461	0.02920	2.174	52.18	-8.7	-22.4
				OFF	199	0.3461	0.02920	2.174	52.18	-8.7	-19.1
✓90	3	1	54	2 11 ON	1923	0.3892	0.03284	2.445	58.69	-8.7	-8.3
				OFF	130	0.3892	0.03284	2.445	58.69	-8.7	-9.0
✓91	0	1	37	7 11 ON	1131	0.3161	0.02667	1.986	47.67	-8.7	-5.5
				OFF	111	0.3161	0.02667	1.986	47.67	-8.7	-10.0
✓91	0	2	12	7 11 ON	1342	0.3161	0.02667	1.986	47.67	-8.7	-14.2
				OFF	30	0.3161	0.02667	1.986	47.67	-8.7	-15.8
✓92	0	1	42	4 11 ON	2432	0.3833	0.03234	2.408	57.80	-2.9	-4.2
				OFF	110	0.3833	0.03234	2.408	57.80	-2.9	-0.4
✓95	2	1	19	3 11 ON	1819	0.3989	0.03366	2.506	60.15	-2.9	-4.0
				OFF	50	0.3989	0.03366	2.506	60.15	-2.9	-4.8
✓97	4	1	22	5 11 ON	1300	0.3519	0.02969	2.211	53.07	-2.9	-3.2
				OFF	63	0.3519	0.02969	2.211	53.07	-2.9	-5.5
✓95	5	1	35	6 11 ON	1394	0.3519	0.02969	2.211	53.07	-2.9	-4.5
				OFF	101	0.3519	0.02969	2.211	53.07	-2.9	-8.2
✓100	5	1	62	6 11 ON	1594	0.3519	0.02969	2.211	53.07	-2.9	-11.6
				OFF	174	0.3519	0.02969	2.211	53.07	-2.9	-16.6



✓ 181	7	1	51	6	11	ON	2678	0.3519	0.02969	2.211	53.87	-2.9	-3.6
						OFF	145	0.3519	0.02969	2.211	53.87	-2.9	3.8
✓ 182	5	1	16	4	11	ON	1248	0.3833	0.03234	2.408	57.80	-2.9	9.8
						OFF	43	0.3833	0.03234	2.408	57.80	-2.9	7.5
✓ 182	5	2	65	4	11	ON	1823	0.3833	0.03234	2.408	57.80	-2.9	-8.2
						OFF	169	0.3833	0.03234	2.408	57.80	-2.9	-18.3
✓ 183	4	1	72	3	11	ON	1696	0.3989	0.03366	2.506	68.15	-2.9	-1.2
						OFF	180	0.3989	0.03366	2.506	68.15	-2.9	-4.8
✓ 184	8	1	26	2	11	ON	1845	0.4137	0.03498	2.599	62.38	-2.9	-8.6
						OFF	65	0.4137	0.03498	2.599	62.38	-2.9	-1.5
✓ 184	8	2	45	2	11	ON	2246	0.4137	0.03498	2.599	62.38	-2.9	-8.9
						OFF	189	0.4137	0.03498	2.599	62.38	-2.9	1.3
✓ 185	5	1	11	2	11	ON	1912	0.4137	0.03498	2.599	62.38	-2.9	-1.6
						OFF	28	0.4137	0.03498	2.599	62.38	-2.9	-1.8
✓ 185	5	2	58	2	11	ON	2753	0.4137	0.03498	2.599	62.38	-2.9	-2.4
						OFF	139	0.4137	0.03498	2.599	62.38	-2.9	-1.6
✓ 187	5	1	22	7	11	ON	1246	0.3310	0.02793	2.888	49.91	-4.4	-5.4
						OFF	62	0.3310	0.02793	2.888	49.91	-4.4	-7.7
✓ 188	5	1	57	3	11	ON	2447	0.3930	0.03316	2.469	59.26	-4.4	-1.4
						OFF	127	0.3930	0.03316	2.469	59.26	-4.4	3.8
✓ 189	4	1	22	3	11	ON	2244	0.3930	0.03316	2.469	59.26	-4.4	-6.2
						OFF	52	0.3930	0.03316	2.469	59.26	-4.4	-5.3
✓ 189	4	2	24	3	11	ON	2649	0.3930	0.03316	2.469	59.26	-4.4	5.8
						OFF	63	0.3930	0.03316	2.469	59.26	-4.4	8.3
✓ 111	4	1	13	3	11	ON	1857	0.3930	0.03316	2.469	59.26	-4.4	-6.8
						OFF	36	0.3930	0.03316	2.469	59.26	-4.4	-6.5
✓ 114	7	1	36	6	11	ON	1393	0.3467	0.02925	2.178	52.28	-4.4	-6.2
						OFF	123	0.3467	0.02925	2.178	52.28	-4.4	-9.9
✓ 115	7	2	18	5	11	ON	2534	0.3624	0.03057	2.277	54.64	-4.4	-6.8
						OFF	52	0.3624	0.03057	2.277	54.64	-4.4	-4.8
✓ 116	7	1	13	5	11	ON	1643	0.3624	0.03057	2.277	54.64	-4.4	-9.8
						OFF	36	0.3624	0.03057	2.277	54.64	-4.4	-18.8
✓ 116	7	2	23	5	11	ON	2457	0.3624	0.03057	2.277	54.64	-4.4	-9.6
						OFF	66	0.3624	0.03057	2.277	54.64	-4.4	-7.3
✓ 116	7	3	21	5	11	ON	2596	0.3624	0.03057	2.277	54.64	-4.4	-4.4
						OFF	62	0.3624	0.03057	2.277	54.64	-4.4	-1.9
✓ 117	5	1	58	2	11	ON	1789	0.4075	0.03438	2.560	61.45	-4.4	-1.8
						OFF	142	0.4075	0.03438	2.560	61.45	-4.4	-3.1
✓ 117	5	2	58	2	11	ON	2043	0.4075	0.03438	2.560	61.45	-4.4	-3.8
						OFF	138	0.4075	0.03438	2.560	61.45	-4.4	-3.2
✓ 118	6	1	16	4	11	ON	1295	0.3776	0.03186	2.372	56.93	-4.4	5.6
						OFF	42	0.3776	0.03186	2.372	56.93	-4.4	4.2
✓ 118	6	2	50	4	11	ON	1217	0.3776	0.03186	2.372	56.93	-4.4	-9.6
						OFF	132	0.3776	0.03186	2.372	56.93	-4.4	-11.5
✓ 119	4	1	154	5	11	ON	1387	0.3671	0.03097	2.326	55.36	-3.1	-8.3
						OFF	413	0.3671	0.03097	2.326	55.36	-3.1	-12.4
✓ 120	9	1	14	3	11	ON	1770	0.3981	0.03359	2.501	68.03	-3.1	-3.8
						OFF	35	0.3981	0.03359	2.501	68.03	-3.1	-3.7
✓ 120	9	2	19	3	11	ON	2277	0.3981	0.03359	2.501	68.03	-3.1	-4.3
						OFF	51	0.3981	0.03359	2.501	68.03	-3.1	-3.3
✓ 120	9	3	27	3	11	ON	2365	0.3981	0.03359	2.501	68.03	-3.1	-2.4

						OFF	52	0.3981	0.83359	2.501	60.83	-3.1	-1.1	
✓	121	7	1	65	4	11	ON	2234	0.3825	0.83227	2.483	57.68	-3.1	-9.3
							OFF	169	0.3825	0.83227	2.483	57.68	-3.1	-5.6
✓	121	7	2	29	4	11	ON	2653	0.3825	0.83227	2.483	57.68	-3.1	3.2
							OFF	77	0.3825	0.83227	2.483	57.68	-3.1	6.3
✓	122	3	1	87	2	11	ON	2074	0.4128	0.83483	2.594	62.25	-3.1	-2.5
							OFF	192	0.4128	0.83483	2.594	62.25	-3.1	-2.8
✓	124	7	1	46	6	11	ON	2685	0.3512	0.82963	2.287	52.96	-3.1	-4.1
							OFF	130	0.3512	0.82963	2.287	52.96	-3.1	1.7
✓	125	2	1	16	4	11	ON	2297	0.3825	0.83227	2.483	57.68	-3.1	-8.2
							OFF	43	0.3825	0.83227	2.483	57.68	-3.1	-7.2
✓	125	2	2	32	4	11	ON	2667	0.3825	0.83227	2.483	57.68	-3.1	4.4
							OFF	85	0.3825	0.83227	2.483	57.68	-3.1	7.9
✓	127	4	6	15	2	11	ON	1962	0.4128	0.83483	2.594	62.25	-3.1	-2.8
							OFF	37	0.4128	0.83483	2.594	62.25	-3.1	-2.2
✓	132	2	1	35	5	11	ON	1684	0.3671	0.83097	2.386	55.36	-3.1	-2.3
							OFF	95	0.3671	0.83097	2.386	55.36	-3.1	-5.3
✓	133	2	1	14	2	11	ON	1857	0.4128	0.83483	2.594	62.25	-3.1	-7.8
							OFF	36	0.4128	0.83483	2.594	62.25	-3.1	-1.2
✓	133	2	2	57	2	11	ON	2589	0.4128	0.83483	2.594	62.25	-3.1	-2.3
							OFF	138	0.4128	0.83483	2.594	62.25	-3.1	-1.3
✓	134	4	1	15	5	11	ON	1548	0.3654	0.83083	2.296	55.10	-3.6	0.6
							OFF	42	0.3654	0.83083	2.296	55.10	-3.6	-2.8
✓	134	4	2	43	5	11	ON	1495	0.3654	0.83083	2.296	55.10	-3.6	-4.5
							OFF	117	0.3654	0.83083	2.296	55.10	-3.6	-8.1
✓	134	4	3	13	5	11	ON	1787	0.3654	0.83083	2.296	55.10	-3.6	-10.7
							OFF	37	0.3654	0.83083	2.296	55.10	-3.6	-11.6
✓	135	7	1	47	3	11	ON	1856	0.3963	0.83344	2.490	59.76	-3.6	-5.0
							OFF	118	0.3963	0.83344	2.490	59.76	-3.6	-6.3
✓	136	9	1	42	3	11	ON	1722	0.3963	0.83344	2.490	59.76	-3.6	-2.4
							OFF	119	0.3963	0.83344	2.490	59.76	-3.6	-4.7
✓	136	9	2	35	3	11	ON	1942	0.3963	0.83344	2.490	59.76	-3.6	-6.8
							OFF	87	0.3963	0.83344	2.490	59.76	-3.6	-6.6
✓	136	9	3	57	3	11	ON	2395	0.3963	0.83344	2.490	59.76	-3.6	-2.2
							OFF	124	0.3963	0.83344	2.490	59.76	-3.6	1.5
✓	137	8	1	23	6	11	ON	2455	0.3496	0.82950	2.197	52.72	-3.6	-12.9
							OFF	66	0.3496	0.82950	2.197	52.72	-3.6	-10.4
✓	137	8	2	52	6	11	ON	2735	0.3496	0.82950	2.197	52.72	-3.6	-2.6
							OFF	146	0.3496	0.82950	2.197	52.72	-3.6	4.0
✓	137	8	3	24	6	11	ON	2982	0.3496	0.82950	2.197	52.72	-3.6	7.5
							OFF	57	0.3496	0.82950	2.197	52.72	-3.6	10.0
✓	142	4	1	59	4	11	ON	2493	0.3887	0.83213	2.392	57.41	-3.6	-3.4
							OFF	155	0.3887	0.83213	2.392	57.41	-3.6	2.2
✓	141	6	1	53	5	11	ON	2642	0.3654	0.83083	2.296	55.10	-3.6	-2.1
							OFF	144	0.3654	0.83083	2.296	55.10	-3.6	4.0
✓	143	7	1	14	2	11	ON	2117	0.4128	0.83467	2.582	61.97	-3.6	-2.7
							OFF	36	0.4128	0.83467	2.582	61.97	-3.6	-2.8
✓	144	1	2	11	6	11	ON	2834	0.3496	0.82950	2.197	52.72	-3.6	1.8
							OFF	34	0.3496	0.82950	2.197	52.72	-3.6	3.3
✓	146	2	1	57	4	11	ON	1561	0.3837	0.83213	2.392	57.41	-3.6	-2.5
							OFF	131	0.3837	0.83213	2.392	57.41	-3.6	-6.0

✓149	6	1	18	4	11	ON	1382	0.3795	0.03202	2.385	57.23	-3.9	2.5
						OFF	58	0.3795	0.03202	2.385	57.23	-3.9	0.9
✓149	6	2	30	4	11	ON	1772	0.3795	0.03202	2.385	57.23	-3.9	-8.1
						OFF	80	0.3795	0.03202	2.385	57.23	-3.9	-9.5
✓149	6	3	12	4	11	ON	1902	0.3795	0.03202	2.385	57.23	-3.9	-10.2
						OFF	34	0.3795	0.03202	2.385	57.23	-3.9	-10.6
✓150	4	1	16	4	11	ON	1381	0.3795	0.03202	2.385	57.23	-3.9	2.5
						OFF	41	0.3795	0.03202	2.385	57.23	-3.9	1.2
✓150	4	2	14	4	11	ON	1757	0.3795	0.03202	2.385	57.23	-3.9	-7.8
						OFF	36	0.3795	0.03202	2.385	57.23	-3.9	-8.5
✓150	4	3	77	4	11	ON	1833	0.3795	0.03202	2.385	57.23	-3.9	-9.2
						OFF	202	0.3795	0.03202	2.385	57.23	-3.9	-11.2
✓151	8	1	14	4	11	ON	1468	0.3795	0.03202	2.385	57.23	-3.9	0.1
						OFF	38	0.3795	0.03202	2.385	57.23	-3.9	-1.1
✓151	8	2	34	4	11	ON	1747	0.3795	0.03202	2.385	57.23	-3.9	-7.5
						OFF	59	0.3795	0.03202	2.385	57.23	-3.9	-9.2
✓152	8	1	124	3	11	ON	1625	0.3950	0.03333	2.462	59.56	-3.9	-8.5
						OFF	258	0.3950	0.03333	2.462	59.56	-3.9	-5.6
✓153	3	1	52	8	11	ON	2912	0.3163	0.02669	1.987	47.69	-3.9	-4.8
						OFF	152	0.3163	0.02669	1.987	47.69	-3.9	3.8
✓155	7	1	67	5	11	ON	2542	0.3642	0.03073	2.289	54.92	-3.9	-6.4
						OFF	164	0.3642	0.03073	2.289	54.92	-3.9	0.8
✓150	7	1	26	5	11	ON	1481	0.3642	0.03073	2.289	54.92	-3.9	-5.8
						OFF	72	0.3642	0.03073	2.289	54.92	-3.9	-7.1
✓159	7	2	14	2	11	ON	2751	0.4096	0.03456	2.574	61.77	-3.9	-3.8
						OFF	37	0.4096	0.03456	2.574	61.77	-3.9	-3.8
✓160	2	1	11	6	11	ON	2811	0.3485	0.02940	2.189	52.55	-3.9	0.2
						OFF	33	0.3485	0.02940	2.189	52.55	-3.9	1.7

RATE ESTIMATE

AFT PAW CAMERA NUMBER 187

OP	NO	FF	R	A	DUR	INST	INST	SCAN	RATE	PCT	RATE		
						CPS	ANG VEL	R/SEC	I/SEC	CALIB	REQD		
80	2	1	12	5	11	ON	2698	0.3535	0.02983	2.221	53.30	-6.7	-2.0
						OFF	24	0.3231	0.02726	2.030	48.71	-6.7	-15.9
81	2	2	3	7	11	ON	12	0.3231	0.02726	2.030	48.71	-6.7	-14.9
						OFF	32	0.3535	0.02983	2.221	53.30	-6.7	-8.6
82	5	1	14	7	11	ON	1162	0.3231	0.02726	2.030	48.71	-6.7	-4.1
						OFF	45	0.3231	0.02726	2.030	48.71	-6.7	-5.9
82	5	2	40	7	11	ON	1285	0.3231	0.02726	2.030	48.71	-6.7	-9.1
						OFF	133	0.3231	0.02726	2.030	48.71	-6.7	-14.5
84	5	1	50	2	11	ON	1525	0.3975	0.03354	2.498	59.94	-6.7	1.5
						OFF	144	0.3975	0.03354	2.498	59.94	-6.7	-2.5
85	6	1	32	2	11	ON	1968	0.3975	0.03354	2.498	59.94	-6.7	-6.4
						OFF	78	0.3975	0.03354	2.498	59.94	-6.7	-6.7
85	6	2	14	2	11	ON	2248	0.3975	0.03354	2.498	59.94	-6.7	-4.9
						OFF	36	0.3975	0.03354	2.498	59.94	-6.7	-4.2
87	4	1	63	5	11	ON	1471	0.3535	0.02983	2.221	53.30	-6.7	-6.7
						OFF	221	0.3535	0.02983	2.221	53.30	-6.7	-14.2
80	2	2	17	5	11	ON	284	0.3535	0.02983	2.221	53.30	-6.7	28.7

SECRET

					OFF	46	0.3535	0.02983	2.221	53.30	-6.7	27.8	
88	2	1	21	5	11	ON	1295	0.3535	0.02983	2.221	53.30	-6.7	-8.2
					OFF	57	0.3535	0.02983	2.221	53.30	-6.7	-2.3	
88	2	2	19	5	11	ON	1498	0.3535	0.02983	2.221	53.30	-6.7	-7.8
					OFF	52	0.3535	0.02983	2.221	53.30	-6.7	-9.6	
88	2	3	13	5	11	ON	1629	0.3535	0.02983	2.221	53.30	-6.7	-12.3
					OFF	37	0.3535	0.02983	2.221	53.30	-6.7	-13.5	
88	2	4	74	5	11	ON	2122	0.3535	0.02983	2.221	53.30	-6.7	-19.7
					OFF	199	0.3535	0.02983	2.221	53.30	-6.7	-16.3	
90	3	1	54	2	11	ON	1935	0.3975	0.03354	2.498	59.94	-6.7	-6.2
					OFF	130	0.3975	0.03354	2.498	59.94	-6.7	-6.7	
91	8	1	38	7	11	ON	1143	0.3231	0.02726	2.030	48.71	-6.7	-3.7
					OFF	111	0.3231	0.02726	2.030	48.71	-6.7	-8.1	
91	8	2	13	7	11	ON	1354	0.3231	0.02726	2.030	48.71	-6.7	-12.2
					OFF	38	0.3231	0.02726	2.030	48.71	-6.7	-13.8	
92	9	1	43	4	11	ON	2444	0.3893	0.03285	2.446	58.71	-1.4	-2.2
					OFF	110	0.3893	0.03285	2.446	58.71	-1.4	1.6	
95	2	1	20	3	11	ON	1831	0.4051	0.03418	2.545	61.09	-1.4	-2.6
					OFF	50	0.4051	0.03418	2.545	61.09	-1.4	-3.4	
97	4	1	22	6	11	ON	1370	0.3575	0.03016	2.246	53.91	-1.4	-2.0
					OFF	63	0.3575	0.03016	2.246	53.91	-1.4	-4.3	
98	5	1	36	6	11	ON	1426	0.3575	0.03016	2.246	53.91	-1.4	-3.3
					OFF	101	0.3575	0.03016	2.246	53.91	-1.4	-6.9	
107	5	1	62	6	11	ON	1626	0.3575	0.03016	2.246	53.91	-1.4	-10.2
					OFF	174	0.3575	0.03016	2.246	53.91	-1.4	-15.1	
101	7	1	52	5	11	ON	2690	0.3575	0.03016	2.246	53.91	-1.4	-1.4
					OFF	145	0.3575	0.03016	2.246	53.91	-1.4	5.1	
102	5	1	16	4	11	ON	1260	0.3893	0.03285	2.446	58.71	-1.4	10.0
					OFF	43	0.3893	0.03285	2.446	58.71	-1.4	8.6	
102	5	2	65	4	11	ON	1835	0.3893	0.03285	2.446	58.71	-1.4	-6.7
					OFF	169	0.3893	0.03285	2.446	58.71	-1.4	-8.7	
103	4	1	72	3	11	ON	1708	0.4051	0.03418	2.545	61.09	-1.4	0.0
					OFF	100	0.4051	0.03418	2.545	61.09	-1.4	-3.4	
104	5	1	27	2	11	ON	1057	0.4201	0.03545	2.640	63.35	-1.4	0.7
					OFF	65	0.4201	0.03545	2.640	63.35	-1.4	-0.1	
104	5	2	46	2	11	ON	2250	0.4201	0.03545	2.640	63.35	-1.4	0.9
					OFF	109	0.4201	0.03545	2.640	63.35	-1.4	3.1	
105	5	1	11	2	11	ON	1924	0.4201	0.03545	2.640	63.35	-1.4	-0.1
					OFF	20	0.4201	0.03545	2.640	63.35	-1.4	-0.4	
105	5	2	50	2	11	ON	2065	0.4201	0.03545	2.640	63.35	-1.4	-0.8
					OFF	139	0.4201	0.03545	2.640	63.35	-1.4	0.1	
107	5	1	21	7	11	ON	1258	0.3395	0.02865	2.133	51.20	-1.9	-3.2
					OFF	62	0.3395	0.02865	2.133	51.20	-1.9	-5.5	
108	5	1	51	3	11	ON	2459	0.4029	0.03399	2.531	60.75	-1.9	1.5
					OFF	127	0.4029	0.03399	2.531	60.75	-1.9	5.8	
109	4	1	20	3	11	ON	2255	0.4029	0.03399	2.531	60.75	-1.9	-3.4
					OFF	52	0.4029	0.03399	2.531	60.75	-1.9	-2.4	
109	4	2	25	3	11	ON	2661	0.4029	0.03399	2.531	60.75	-1.9	8.6
					OFF	63	0.4029	0.03399	2.531	60.75	-1.9	11.0	
111	4	1	14	3	11	ON	1869	0.4029	0.03399	2.531	60.75	-1.9	-3.5
					OFF	35	0.4029	0.03399	2.531	60.75	-1.9	-4.0	

114	7	1	37	6	11	ON	1485	0.3555	0.03000	2.234	53.61	-1.9	-4.0
						OFF	183	0.3555	0.03000	2.234	53.61	-1.9	-7.5
115	7	2	19	5	11	ON	2546	0.3715	0.03135	2.334	56.02	-1.9	-3.7
						OFF	52	0.3715	0.03135	2.334	56.02	-1.9	-1.7
116	7	1	13	5	11	ON	1655	0.3715	0.03135	2.334	56.02	-1.9	-7.5
						OFF	36	0.3715	0.03135	2.334	56.02	-1.9	-8.4
116	7	2	24	5	11	ON	2469	0.3715	0.03135	2.334	56.02	-1.9	-6.5
						OFF	66	0.3715	0.03135	2.334	56.02	-1.9	-4.2
116	7	3	22	5	11	ON	2628	0.3715	0.03135	2.334	56.02	-1.9	-1.4
						OFF	68	0.3715	0.03135	2.334	56.02	-1.9	1.1
117	5	1	58	2	11	ON	1821	0.4178	0.03525	2.625	63.00	-1.9	1.2
						OFF	146	0.4178	0.03525	2.625	63.00	-1.9	-0.7
117	5	2	58	2	11	ON	2055	0.4178	0.03525	2.625	63.00	-1.9	-1.3
						OFF	138	0.4178	0.03525	2.625	63.00	-1.9	-0.5
118	6	1	15	4	11	ON	1327	0.3872	0.03267	2.433	58.38	-1.9	7.6
						OFF	42	0.3872	0.03267	2.433	58.38	-1.9	6.2
118	6	2	51	4	11	ON	1829	0.3872	0.03267	2.433	58.38	-1.9	-7.1
						OFF	132	0.3872	0.03267	2.433	58.38	-1.9	-8.9
119	4	1	154	5	11	ON	1399	0.3718	0.03138	2.336	56.07	-1.8	0.6
						OFF	413	0.3718	0.03138	2.336	56.07	-1.8	-11.2
120	9	1	14	3	11	ON	1782	0.4033	0.03403	2.534	60.81	-1.8	-1.9
						OFF	35	0.4033	0.03403	2.534	60.81	-1.8	-2.6
120	9	2	27	3	11	ON	2289	0.4033	0.03403	2.534	60.81	-1.8	-2.0
						OFF	51	0.4033	0.03403	2.534	60.81	-1.8	-1.7
120	9	3	21	3	11	ON	2377	0.4033	0.03403	2.534	60.81	-1.8	-0.8
						OFF	52	0.4033	0.03403	2.534	60.81	-1.8	0.6
121	7	1	65	4	11	ON	2246	0.3876	0.03270	2.435	58.44	-1.8	-7.7
						OFF	169	0.3876	0.03270	2.435	58.44	-1.8	-3.9
121	7	2	29	4	11	ON	2665	0.3876	0.03270	2.435	58.44	-1.8	5.0
						OFF	77	0.3876	0.03270	2.435	58.44	-1.8	8.1
122	3	1	82	2	11	ON	2086	0.4182	0.03529	2.628	63.26	-1.8	-1.2
						OFF	192	0.4182	0.03529	2.628	63.26	-1.8	0.7
124	7	1	46	6	11	ON	2697	0.3555	0.03003	2.236	53.66	-1.8	-2.2
						OFF	130	0.3555	0.03003	2.236	53.66	-1.8	3.6
125	2	1	16	4	11	ON	2329	0.3876	0.03270	2.435	58.44	-1.8	-6.5
						OFF	43	0.3876	0.03270	2.435	58.44	-1.8	-5.5
125	2	2	33	4	11	ON	2599	0.3876	0.03270	2.435	58.44	-1.8	6.2
						OFF	65	0.3876	0.03270	2.435	58.44	-1.8	9.6
127	4	1	15	2	11	ON	1974	0.4182	0.03529	2.628	63.26	-1.9	-8.8
						OFF	37	0.4182	0.03529	2.628	63.26	-1.8	-1.0
130	2	1	35	5	11	ON	1696	0.3718	0.03138	2.336	56.07	-1.8	-1.4
						OFF	95	0.3718	0.03138	2.336	56.07	-1.8	-4.4
133	2	1	15	2	11	ON	1869	0.4182	0.03529	2.628	63.26	-1.8	0.4
						OFF	36	0.4182	0.03529	2.628	63.26	-1.8	-0.1
133	2	2	58	2	11	ON	2121	0.4182	0.03529	2.628	63.26	-1.8	-1.0
						OFF	138	0.4182	0.03529	2.628	63.26	-1.8	0.2
134	4	1	15	5	11	ON	1352	0.3725	0.03143	2.340	56.17	-1.7	2.1
						OFF	42	0.3725	0.03143	2.340	56.17	-1.7	0.7
134	4	2	43	5	11	ON	1527	0.3725	0.03143	2.340	56.17	-1.7	-2.9
						OFF	117	0.3725	0.03143	2.340	56.17	-1.7	-6.4
134	4	3	13	5	11	ON	1719	0.3725	0.03143	2.340	56.17	-1.7	-8.9

PLUM

						OFF	37	0.3725	0.03143	2.340	56.17	-1.7	-9.7
135	7	1	47	3	11	ON	1868	0.4039	0.03408	2.538	60.91	-1.7	-3.2
						OFF	118	0.4039	0.03408	2.538	60.91	-1.7	-4.4
136	9	1	48	3	11	ON	1734	0.4039	0.03408	2.538	60.91	-1.7	-8.7
						OFF	119	0.4039	0.03408	2.538	60.91	-1.7	-2.9
136	9	2	35	3	11	ON	1954	0.4039	0.03408	2.538	60.91	-1.7	-4.1
						OFF	87	0.4039	0.03408	2.538	60.91	-1.7	-4.6
136	9	3	50	3	11	ON	2407	0.4039	0.03408	2.538	60.91	-1.7	0.1
						OFF	124	0.4039	0.03408	2.538	60.91	-1.7	3.8
137	8	1	23	6	11	ON	2497	0.3564	0.03008	2.240	53.75	-1.7	-10.3
						OFF	66	0.3564	0.03008	2.240	53.75	-1.7	-7.8
137	8	2	52	6	11	ON	2747	0.3564	0.03008	2.240	53.75	-1.7	-0.1
						OFF	146	0.3564	0.03008	2.240	53.75	-1.7	6.4
137	8	3	20	6	11	ON	2972	0.3564	0.03008	2.240	53.75	-1.7	9.8
						OFF	57	0.3564	0.03008	2.240	53.75	-1.7	12.3
140	4	1	60	4	11	ON	2505	0.3882	0.03276	2.439	58.54	-1.7	-1.0
						OFF	155	0.3882	0.03276	2.439	58.54	-1.7	4.6
141	6	1	53	5	11	ON	2654	0.3725	0.03143	2.340	56.17	-1.7	0.4
						OFF	144	0.3725	0.03143	2.340	56.17	-1.7	6.3
143	7	1	14	2	11	ON	2019	0.4189	0.03534	2.632	63.17	-1.7	-0.8
						OFF	36	0.4189	0.03534	2.632	63.17	-1.7	-0.8
144	1	2	12	6	11	ON	2046	0.3564	0.03008	2.240	53.75	-1.7	4.2
						OFF	34	0.3564	0.03008	2.240	53.75	-1.7	5.7
146	2	1	51	4	11	ON	1573	0.3882	0.03276	2.439	58.54	-1.7	-0.9
						OFF	131	0.3882	0.03276	2.439	58.54	-1.7	-4.2
149	6	1	10	4	11	ON	1394	0.3882	0.03276	2.439	58.54	-1.7	4.3
						OFF	50	0.3882	0.03276	2.439	58.54	-1.7	2.0
149	6	2	31	4	11	ON	1704	0.3882	0.03276	2.439	58.54	-1.7	-5.9
						OFF	09	0.3882	0.03276	2.439	58.54	-1.7	-7.3
149	6	3	13	4	11	ON	1914	0.3882	0.03276	2.439	58.54	-1.7	-7.9
						OFF	34	0.3882	0.03276	2.439	58.54	-1.7	-8.2
150	4	1	16	4	11	ON	1393	0.3882	0.03276	2.439	58.54	-1.7	4.3
						OFF	41	0.3882	0.03276	2.439	58.54	-1.7	3.0
150	4	2	10	4	11	ON	1709	0.3882	0.03276	2.439	58.54	-1.7	-5.6
						OFF	36	0.3882	0.03276	2.439	58.54	-1.7	-6.3
152	4	3	70	4	11	ON	1045	0.3882	0.03276	2.439	58.54	-1.7	-7.0
						OFF	202	0.3882	0.03276	2.439	58.54	-1.7	-8.7
151	0	1	15	4	11	ON	1472	0.3882	0.03276	2.439	58.54	-1.7	2.0
						OFF	30	0.3882	0.03276	2.439	58.54	-1.7	0.9
151	3	2	09	4	11	ON	1709	0.3882	0.03276	2.439	58.54	-1.7	-5.4
						OFF	09	0.3882	0.03276	2.439	58.54	-1.7	-7.0
152	0	1	104	3	11	ON	1607	0.4040	0.03409	2.538	60.92	-1.7	1.4
						OFF	258	0.4040	0.03409	2.538	60.92	-1.7	-3.5
153	0	1	53	0	11	ON	2924	0.3236	0.02731	2.033	48.00	-1.7	-1.0
						OFF	162	0.3236	0.02731	2.033	48.00	-1.7	5.7
150	7	1	01	5	11	ON	2004	0.3725	0.03143	2.340	56.17	-1.7	-3.6
						OFF	164	0.3725	0.03143	2.340	56.17	-1.7	2.0
150	7	0	15	2	11	ON	2063	0.4189	0.03535	2.632	63.17	-1.7	-0.7
						OFF	37	0.4189	0.03535	2.632	63.17	-1.7	-0.6

~~SECRET~~

RAMP PROFILE

R= 2 A= 11 PERIOD= 3817

R= 0.4261 A= 0.8888

TUR	PER	CPS	ANG V
-0	2.347	0.4261	0.83854
100	2.347	0.4261	0.83854
200	2.347	0.4261	0.83854
300	2.347	0.4261	0.83854
400	2.347	0.4261	0.83854
500	2.347	0.4261	0.83854
600	2.347	0.4261	0.83854
700	2.347	0.4261	0.83854
800	2.347	0.4261	0.83854
900	2.347	0.4261	0.83854
1000	2.347	0.4261	0.83854
1100	2.347	0.4261	0.83854
1200	2.347	0.4261	0.83854
1300	2.347	0.4261	0.83854
1400	2.347	0.4261	0.83854
1500	2.347	0.4261	0.83854
1600	2.347	0.4261	0.83854
1700	2.347	0.4261	0.83854
1800	2.347	0.4261	0.83854
1900	2.347	0.4261	0.83854
2000	2.347	0.4261	0.83854
2100	2.347	0.4261	0.83854
2200	2.347	0.4261	0.83854
2300	2.347	0.4261	0.83854
2400	2.347	0.4261	0.83854
2500	2.347	0.4261	0.83854
2600	2.347	0.4261	0.83854
2700	2.347	0.4261	0.83854
2800	2.347	0.4261	0.83854
2900	2.347	0.4261	0.83854
3000	2.347	0.4261	0.83854
3100	2.347	0.4261	0.83854
3200	2.347	0.4261	0.83854
3300	2.347	0.4261	0.83854
3400	2.347	0.4261	0.83854
3500	2.347	0.4261	0.83854
3600	2.347	0.4261	0.83854
3700	2.347	0.4261	0.83854
3800	2.347	0.4261	0.83854

RAMP PROFILE

R= 3 A= 11 PERIOD= 3817

R= 0.4109 A= 0.8782

TUR	PER	CPS	ANG V
-2	2.434	0.4109	0.83716
100	2.434	0.4109	0.83716
200	2.434	0.4109	0.83716

~~SECRET~~

~~SECRET~~

300	2.434	0.4189	0.03716
400	2.434	0.4189	0.03716
500	2.434	0.4189	0.03716
600	2.434	0.4189	0.03716
700	2.434	0.4189	0.03716
800	2.434	0.4189	0.03716
900	2.434	0.4189	0.03716
1000	2.434	0.4189	0.03716
1100	2.434	0.4189	0.03716
1200	2.434	0.4189	0.03716
1300	2.434	0.4189	0.03716
1400	2.434	0.4189	0.03716
1500	2.434	0.4189	0.03716
1600	2.434	0.4189	0.03716
1700	2.434	0.4189	0.03716
1800	2.434	0.4189	0.03716
1900	2.434	0.4189	0.03716
2000	2.434	0.4189	0.03716
2100	2.434	0.4189	0.03716
2200	2.434	0.4189	0.03716
2300	2.434	0.4189	0.03716
2400	2.434	0.4189	0.03716
2500	2.434	0.4189	0.03716
2600	2.434	0.4189	0.03716
2700	2.434	0.4189	0.03716
2800	2.434	0.4189	0.03716
2900	2.434	0.4189	0.03716
3000	2.434	0.4189	0.03716
3100	2.434	0.4189	0.03716
3200	2.434	0.4189	0.03716
3300	2.434	0.4189	0.03716
3400	2.434	0.4189	0.03716
3500	2.434	0.4189	0.03716
3600	2.434	0.4189	0.03716
3700	2.434	0.4189	0.03716
3800	2.434	0.4189	0.03716

RAMP PROFILE

R= 4 A= 11 PERIOD= 3817

R= 0.3948 A= 0.2588

TUR	PER	CPS	ANG V
000	2.533	0.3948	0.03571
100	2.533	0.3948	0.03571
200	2.533	0.3948	0.03571
300	2.533	0.3948	0.03571
400	2.533	0.3948	0.03571
500	2.533	0.3948	0.03571
600	2.533	0.3948	0.03571
700	2.533	0.3948	0.03571
800	2.533	0.3948	0.03571
900	2.533	0.3948	0.03571

~~SECRET~~

1000	2.533	0.3948	0.03571
1100	2.533	0.3948	0.03571
1200	2.533	0.3948	0.03571
1300	2.533	0.3948	0.03571
1400	2.533	0.3948	0.03571
1500	2.533	0.3948	0.03571
1600	2.533	0.3948	0.03571
1700	2.533	0.3948	0.03571
1800	2.533	0.3948	0.03571
1900	2.533	0.3948	0.03571
2000	2.533	0.3948	0.03571
2100	2.533	0.3948	0.03571
2200	2.533	0.3948	0.03571
2300	2.533	0.3948	0.03571
2400	2.533	0.3948	0.03571
2500	2.533	0.3948	0.03571
2600	2.533	0.3948	0.03571
2700	2.533	0.3948	0.03571
2800	2.533	0.3948	0.03571
2900	2.533	0.3948	0.03571
3000	2.533	0.3948	0.03571
3100	2.533	0.3948	0.03571
3200	2.533	0.3948	0.03571
3300	2.533	0.3948	0.03571
3400	2.533	0.3948	0.03571
3500	2.533	0.3948	0.03571
3600	2.533	0.3948	0.03571
3700	2.533	0.3948	0.03571
3800	2.533	0.3948	0.03571

RAMP PROFILE

R= 5 A= 11 PERIOD= 3817
R= 0.3789 A= 0.0000

TIME	PER	CFS	ANG V
-2	2.639	0.3789	0.03427
100	2.639	0.3789	0.03427
200	2.639	0.3789	0.03427
300	2.639	0.3789	0.03427
400	2.639	0.3789	0.03427
500	2.639	0.3789	0.03427
600	2.639	0.3789	0.03427
700	2.639	0.3789	0.03427
800	2.639	0.3789	0.03427
900	2.639	0.3789	0.03427
1000	2.639	0.3789	0.03427
1100	2.639	0.3789	0.03427
1200	2.639	0.3789	0.03427
1300	2.639	0.3789	0.03427
1400	2.639	0.3789	0.03427
1500	2.639	0.3789	0.03427
1600	2.639	0.3789	0.03427

1700	2.639	0.3789	0.03427
1800	2.639	0.3789	0.03427
1900	2.639	0.3789	0.03427
2000	2.639	0.3789	0.03427
2100	2.639	0.3789	0.03427
2200	2.639	0.3789	0.03427
2300	2.639	0.3789	0.03427
2400	2.639	0.3789	0.03427
2500	2.639	0.3789	0.03427
2600	2.639	0.3789	0.03427
2700	2.639	0.3789	0.03427
2800	2.639	0.3789	0.03427
2900	2.639	0.3789	0.03427
3000	2.639	0.3789	0.03427
3100	2.639	0.3789	0.03427
3200	2.639	0.3789	0.03427
3300	2.639	0.3789	0.03427
3400	2.639	0.3789	0.03427
3500	2.639	0.3789	0.03427
3600	2.639	0.3789	0.03427
3700	2.639	0.3789	0.03427
3800	2.639	0.3789	0.03427

RAMP PROFILE

R= 6 A= 11 PERIOD= 3817

RE= 0.3625 A= 0.0000

TUR	PER	CPS	ANG V
000	2.759	0.3625	0.03279
100	2.759	0.3625	0.03279
200	2.759	0.3625	0.03279
300	2.759	0.3625	0.03279
400	2.759	0.3625	0.03279
500	2.759	0.3625	0.03279
600	2.759	0.3625	0.03279
700	2.759	0.3625	0.03279
800	2.759	0.3625	0.03279
900	2.759	0.3625	0.03279
1000	2.759	0.3625	0.03279
1100	2.759	0.3625	0.03279
1200	2.759	0.3625	0.03279
1300	2.759	0.3625	0.03279
1400	2.759	0.3625	0.03279
1500	2.759	0.3625	0.03279
1600	2.759	0.3625	0.03279
1700	2.759	0.3625	0.03279
1800	2.759	0.3625	0.03279
1900	2.759	0.3625	0.03279
2000	2.759	0.3625	0.03279
2100	2.759	0.3625	0.03279
2200	2.759	0.3625	0.03279
2300	2.759	0.3625	0.03279

2400	2.759	0.3625	0.83279
2500	2.759	0.3625	0.83279
2600	2.759	0.3625	0.83279
2700	2.759	0.3625	0.83279
2800	2.759	0.3625	0.83279
2900	2.759	0.3625	0.83279
3000	2.759	0.3625	0.83279
3100	2.759	0.3625	0.83279
3200	2.759	0.3625	0.83279
3300	2.759	0.3625	0.83279
3400	2.759	0.3625	0.83279
3500	2.759	0.3625	0.83279
3600	2.759	0.3625	0.83279
3700	2.759	0.3625	0.83279
3800	2.759	0.3625	0.83279

RAMP PROFILE

R= 7 A= 11 PERIOD= 3817
R= 0.3461 A= 0.8000

TOR	PER	CPS	ANG V
000	2.809	0.3461	0.83130
100	2.809	0.3461	0.83130
200	2.809	0.3461	0.83130
300	2.809	0.3461	0.83130
400	2.809	0.3461	0.83130
500	2.809	0.3461	0.83130
600	2.809	0.3461	0.83130
700	2.809	0.3461	0.83130
800	2.809	0.3461	0.83130
900	2.809	0.3461	0.83130
1000	2.809	0.3461	0.83130
1100	2.809	0.3461	0.83130
1200	2.809	0.3461	0.83130
1300	2.809	0.3461	0.83130
1400	2.809	0.3461	0.83130
1500	2.809	0.3461	0.83130
1600	2.809	0.3461	0.83130
1700	2.809	0.3461	0.83130
1800	2.809	0.3461	0.83130
1900	2.809	0.3461	0.83130
2000	2.809	0.3461	0.83130
2100	2.809	0.3461	0.83130
2200	2.809	0.3461	0.83130
2300	2.809	0.3461	0.83130
2400	2.809	0.3461	0.83130
2500	2.809	0.3461	0.83130
2600	2.809	0.3461	0.83130
2700	2.809	0.3461	0.83130
2800	2.809	0.3461	0.83130
2900	2.809	0.3461	0.83130
3000	2.809	0.3461	0.83130

3100 2.889 0.3461 0.03130
 3200 2.889 0.3461 0.03130
 3300 2.889 0.3461 0.03130
 3400 2.889 0.3461 0.03130
 3500 2.889 0.3461 0.03130
 3600 2.889 0.3461 0.03130
 3700 2.889 0.3461 0.03130
 3800 2.889 0.3461 0.03130

RAMP PROFILE

R= 8 A= 11 PERIOD= 3817
 R= 0.3292 A= 0.0000

TUR	PER	CPS	ANG V
000	3.042	0.3292	0.02976
100	3.042	0.3292	0.02976
200	3.042	0.3292	0.02976
300	3.042	0.3292	0.02976
400	3.042	0.3292	0.02976
500	3.042	0.3292	0.02976
600	3.042	0.3292	0.02976
700	3.042	0.3292	0.02976
800	3.042	0.3292	0.02976
900	3.042	0.3292	0.02976
1000	3.042	0.3292	0.02976
1100	3.042	0.3292	0.02976
1200	3.042	0.3292	0.02976
1300	3.042	0.3292	0.02976
1400	3.042	0.3292	0.02976
1500	3.042	0.3292	0.02976
1600	3.042	0.3292	0.02976
1700	3.042	0.3292	0.02976
1800	3.042	0.3292	0.02976
1900	3.042	0.3292	0.02976
2000	3.042	0.3292	0.02976
2100	3.042	0.3292	0.02976
2200	3.042	0.3292	0.02976
2300	3.042	0.3292	0.02976
2400	3.042	0.3292	0.02976
2500	3.042	0.3292	0.02976
2600	3.042	0.3292	0.02976
2700	3.042	0.3292	0.02976
2800	3.042	0.3292	0.02976
2900	3.042	0.3292	0.02976
3000	3.042	0.3292	0.02976
3100	3.042	0.3292	0.02976
3200	3.042	0.3292	0.02976
3300	3.042	0.3292	0.02976
3400	3.042	0.3292	0.02976
3500	3.042	0.3292	0.02976
3600	3.042	0.3292	0.02976
3700	3.042	0.3292	0.02976

CLOCK SUMMARY

ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.385114380 05	0.1571769910 06	0.3851144660 05	-0.0006	9	
0.779639780 05	0.1966295390 06	0.7796398780 05	-0.0008	16	
0.332198180 05	0.2382853730 06	0.3321981480 05	0.0032	24	
0.781216510 05	0.2831872340 06	0.7812166810 05	-0.0171	32	
0.333876830 05	0.3248532550 06	0.3338768210 05	0.0009	40	
0.728721680 05	0.3643377390 06	0.7287215940 05	0.0006	47	
0.335190760 05	0.4113846600 06	0.3351907240 05	0.0036	56	
0.729926410 05	0.4508582290 06	0.7299263470 05	0.0063	63	
0.336449480 05	0.4979105530 06	0.3364495870 05	-0.0027	72	
0.730442930 05	0.4389760000 03	0.7304427900 05	0.0140	79	
0.337371550 05	0.4753185100 05	0.3373714600 05	0.0090	88	
0.731267430 05	0.8692144000 05	0.7312672830 05	0.0147	95	
0.338080930 05	0.1340028060 06	0.3380808630 05	0.0067	104	
0.731993480 05	0.1733940740 06	0.7319934760 05	0.0004	111	
0.338746110 05	0.2204693490 06	0.3387461460 05	-0.0036	120	
0.730629530 05	0.2596576980 06	0.7306295690 05	-0.0039	127	
0.339014050 05	0.3060961560 06	0.3390140690 05	-0.0019	136	
0.733064580 05	0.3463012350 06	0.7330647920 05	-0.0112	143	
0.339090330 05	0.3933045970 06	0.3390903320 05	-0.0002	152	
0.732530570 05	0.4326478290 06	0.7325305860 05	-0.0006	159	

AR=-0.11866551770 06 A1= 0.9999998301220 00

SIG KEY WPR11 NO. POINTS= 20

RATIO OF CLOCK TIME TO SYS TIME= 0.1000000169880 01

ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
0.385114380 05	0.1571769910 06	0.3851143590 05	0.0021	9	
0.779639780 05	0.1966295390 06	0.7796398040 05	-0.0024	16	
0.332198180 05	0.2382853730 06	0.3321981030 05	0.0077	24	
0.781216510 05	0.2831872340 06	0.7812166640 05	-0.0154	32	
0.333876830 05	0.3248532550 06	0.3338768260 05	0.0004	40	
0.728721680 05	0.3643377390 06	0.7287216160 05	0.0064	47	
0.335190760 05	0.4113846600 06	0.3351907630 05	-0.0003	56	
0.729926410 05	0.4508582290 06	0.7299263970 05	0.0013	63	
0.336449480 05	0.4979105530 06	0.3364495660 05	-0.0006	72	
0.730442930 05	0.4389760000 03	0.7304428530 05	0.0077	79	
0.337371550 05	0.4753185100 05	0.3373715230 05	0.0027	88	
0.731267430 05	0.8692144000 05	0.7312673420 05	0.0008	95	
0.338080930 05	0.1340028060 06	0.3380809140 05	0.0016	104	
0.731993480 05	0.1733940740 06	0.7319935170 05	-0.0037	111	
0.338746110 05	0.2204693490 06	0.3387461700 05	-0.0060	120	
0.730629530 05	0.2596576980 06	0.7306295760 05	-0.0046	127	
0.339014050 05	0.3060961560 06	0.3390140510 05	-0.0001	136	
0.733064580 05	0.3463012350 06	0.7330647500 05	-0.0070	143	
0.339090330 05	0.3933045970 06	0.3390902570 05	0.0073	152	

A0=-0.1186655441D 06 A1=0.9999999946259D 00

A2=-P.1031824229657D-12

SIGMA=6.00597 NO. POINTS= 20

CLOCK OPERATIONS

FWD PAN CAMERA NUMBER 186

OPN NO	FR		H	M	S	DEC	BINARY		
80	2	1	11	ON	22	0	57	6652	000000110010110000000011000000
				OFF	22	1	29	6684	0000001100101111110101100000
81	0	0	3	ON	23	9	57	10791	000001010010010101000010110000
				OFF	23	10	21	10815	000001010010100000011000011000
82	5	1	14	ON	2	35	36	15930	000001111001100010010100100000
				OFF	2	36	21	15975	000001111001111000010010111000
82	5	2	30	ON	0	37	38	16053	000001111011011110011000010000
				OFF	0	39	40	16183	000001111011011101110110110000
84	5	1	53	ON	3	42	42	27157	000011001111001100010000001000
				OFF	3	45	6	27301	000011010000010010100100010000
85	6	1	32	ON	5	19	6	32941	000011111011010100011110010000
				OFF	5	20	24	33019	000011111011111010100011110000
85	6	2	14	ON	5	23	47	33221	000011111010111010011000010000
				OFF	5	24	23	33257	0000111110101110110001010000
87	4	1	00	ON	6	10	53	43248	000101001001111101001100000000
				OFF	6	14	34	43469	000101001011101001000110001000
88	2	0	16	ON	9	21	10	47464	000101101010000111110010000000
				OFF	9	21	56	47510	000101101010011110001111100000
88	2	1	21	ON	9	30	1	48475	000101110000111010101101111000
				OFF	9	30	56	48532	000101110010010001010001000000
88	2	2	10	ON	9	41	24	48679	000101110011011001000010110000
				OFF	9	42	16	48731	000101110011110010011011110000
88	2	3	13	ON	9	43	35	48809	000101110100011000100001010000
				OFF	9	44	12	48846	000101110100101010100101100000
88	2	4	70	ON	9	51	40	49303	000101111000001000101110110000
				OFF	9	55	6	49502	00010111100110101010111001100000
90	3	1	50	ON	12	48	47	59922	000111001001001010110010100000
				OFF	12	50	57	60052	000111001010001010010001000000
91	3	1	37	ON	14	5	36	64531	000111101100010101010001110000
				OFF	14	7	27	64642	000111101101001011011110100000
91	9	2	12	ON	14	0	7	64742	000111101101111100010001110000
				OFF	14	0	45	64780	000111101110001110110111000000
92	9	1	40	ON	15	57	10	71233	001000011111011101101111010000
				OFF	15	59	8	71343	001000100000010011011100110000
95	2	1	19	ON	20	17	12	86827	001010010110010111111111110000
				OFF	20	18	2	86877	001010010110110100011010010000
97	4	1	22	ON	23	0	34	97160	001011001010101010111001101000
				OFF	23	10	37	97232	001011100101110100100100000000
98	5	1	35	ON	0	40	10	102625	001100001110110100000110010000
				OFF	0	41	51	102706	001100001111100101011010100000
100	5	1	50	ON	3	43	33	113600	001101100010110000101010000000
				OFF	3	46	27	113702	001101100100000101100111100000



SECRET

181	7	1	51	ON	5	31	38	120093	00111001010000111100101001000
				OFF	5	34	3	120238	00111001010101010111110110000
182	5	1	16	ON	6	37	49	124063	00111011001010000110100011000
				OFF	6	38	32	124106	00111011001011011010100010000
182	5	2	65	ON	6	47	23	124638	001110110110111011001100110000
				OFF	6	50	12	124807	001110111000000110011101011000
183	4	1	72	ON	8	15	19	129913	00111101111100101000010101000
				OFF	8	18	19	130093	00111110000010000111111001000
184	8	1	26	ON	9	47	48	135463	010000001001100000000001011000
				OFF	9	48	53	135528	01000000100111111111001000000
184	8	2	45	ON	9	54	29	135863	01000000100100011010101011000
				OFF	9	56	18	135972	01000000101011000100101000000
185	5	1	11	ON	11	18	58	140932	01000011001100111001110100000
				OFF	11	19	26	140968	01000011001101110000100000000
185	5	2	58	ON	11	21	16	141073	01000011010001001101001101000
				OFF	11	23	37	141212	0100001101010101011100101100000
187	5	1	20	ON	14	7	48	151062	0100100000000100000010111110000
				OFF	14	8	50	151124	0100100000000111111000001000000
188	5	1	50	ON	15	57	58	157665	01001011001011100011011101000
				OFF	15	59	57	157792	01001011001111011011100000000
189	4	1	20	ON	17	24	28	162062	01001101101010001001110110000
				OFF	17	25	20	162914	01001101101011101111011010000
189	4	2	24	ON	17	31	12	163267	01001101110110100000110111000
				OFF	17	32	15	163330	01001101111000011011111010000
111	4	1	10	ON	20	10	2	173277	010100101001111111111101001000
				OFF	20	10	38	173313	01010010101001000101111101000
114	7	1	36	ON	2	40	19	189014	01011010001000001111111110000
				OFF	2	42	2	189117	01011010001011011001001001000
115	7	2	10	ON	2	29	21	195555	01011101001111110111010111000
				OFF	2	37	13	195507	01011101010001011100111011000
116	7	1	13	ON	3	44	20	200064	01011111011001011110000000000
				OFF	3	45	5	200100	01011111011010100100010100000
116	7	2	23	ON	3	50	3	200077	01011111110010010001111001000
				OFF	3	59	9	200043	01011111110100010010110011000
116	7	3	21	ON	4	0	22	201017	01011111110110100011010101000
				OFF	4	1	22	201077	01011111111000011000100001000
117	5	1	50	ON	5	16	56	205610	01100010000010101100000100000
				OFF	5	19	16	205750	01100010000110111111011110000
117	5	2	50	ON	5	21	10	205865	01100010001010100000000101000
				OFF	5	23	20	206003	01100010001101011011001110000
118	6	1	16	ON	6	30	42	210517	01100100011000011110000001000
				OFF	6	30	24	210559	01100100011001110000000011000
118	6	2	50	ON	6	47	24	211038	01100100101000010111100110000
				OFF	6	49	06	211170	01100100101100011001011010000
119	4	1	154	ON	8	10	14	216008	01100111000000000001010100000
				OFF	8	17	7	216421	01100111001100101001010001000
120	9	1	14	ON	9	46	34	221789	01101001110000011101101001000
				OFF	9	47	9	221824	01101001110001100010000000000
120	9	2	19	ON	9	55	1	222296	01101001111111111101111100000
				OFF	9	55	52	222347	01101010000001011111011111000
120	9	3	20	ON	9	56	30	222384	01101010000010100111110000000

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JULY

			OFF	9	57	22	222436	01101010000100001101010100000
121	7	1	65	ON	11	24	19 227654	01101100100011011100101110000
			OFF	11	27	8	227823	01101100101000100110110011000
121	7	2	29	ON	11	31	19 228075	01101100110000001111000101000
			OFF	11	32	36	228150	01101100110010100101011110000
122	3	1	80	ON	12	51	37 232892	01101111000011010011001100000
			OFF	12	54	49	233084	01101111001001001010001100000
124	7	1	46	ON	16	1	47 244302	01110100011111100000010110000
			OFF	16	3	57	244432	01110100100011011110010000000
125	2	1	16	ON	17	25	18 249313	011101101110000110111011101000
			OFF	17	26	1	249356	01110110111001101111011100000
125	2	2	32	ON	17	31	48 249702	01110111000100010011001110000
			OFF	17	33	13	249787	01110111000110111001001111000
127	4	0	15	ON	20	19	42 259777	01111011110111110000111101000
			OFF	20	20	19	259814	01111011111000111001001110000
130	2	1	35	ON	2	41	2 275456	10000011010110010000000000000
			OFF	2	42	37	275551	10000011011001001001100011000
133	2	1	14	ON	5	17	50 292065	10001011010001000111011101000
			OFF	5	18	26	292101	10001011010010001101110001000
133	2	2	57	ON	5	21	43 292297	10001011011000001100100101000
			OFF	5	24	1	292435	10001011011100011010000111000
134	4	1	15	ON	6	39	11 296946	10001101100110000100101010000
			OFF	6	39	53	296988	10001101100111010101010100000
134	4	2	43	ON	6	41	47 297101	10001101101010110011011001000
			OFF	6	43	44	297218	10001101101110010111111010000
134	4	3	13	ON	6	45	18 297313	10001101110001010001011101000
			OFF	6	45	55	297350	10001101110010011001101110000
135	7	1	47	ON	8	17	46 302861	10010000011010100101011001000
			OFF	8	19	44	302979	10010000011110001011110111000
136	9	1	48	ON	9	45	29 308124	10010010111011001100101100000
			OFF	9	47	28	308243	10010010111110110101000111000
136	9	2	35	ON	9	49	10 308344	10010011000001111010011000000
			OFF	9	50	37	308431	10010011000100100100010011000
136	9	3	50	ON	9	56	42 308796	10010011001111101101001100000
			OFF	9	58	46	308920	10010011010011011111011000000
137	8	1	23	ON	11	28	10 314285	100101011101110011011111001000
			OFF	11	29	16	314351	10010101111001001110110011000
137	8	2	52	ON	11	32	20 314535	1001010111110110110001011000
			OFF	11	34	46	314681	10010110000011010011010101000
137	8	3	20	ON	11	36	5 314760	10010110000101101101101000000
			OFF	11	37	2	314817	10010110000111011100111101000
140	4	1	59	ON	15	58	13 330487	10011101100101101010011011000
			OFF	16	6	48	330642	10011101101010011001001010000
141	6	1	53	ON	17	30	41 336036	10100000011110000000101000000
			OFF	17	33	5	336100	10100000010011011001100100000
143	7	0	14	ON	20	20	3 346197	10100101000101000110000001000
			OFF	20	20	39	346233	10100101000110001100010101000
144	1	2	11	ON	22	3	47 352421	1010100000011000010010001000
			OFF	22	4	21	352455	10101000000100000100101011000
146	2	1	50	ON	2	42	29 361943	1010110010010110011111011000
			OFF	2	44	40	362074	10101100101001100111110010000



149	6	1	18	ON	5	9	22	377957	10110100001110010101010001000
				OFF	5	10	12	378007	1011010000111111011011011000
149	6	2	30	ON	5	15	53	378347	10110100001101000110111111000
				OFF	5	17	13	378427	10110100011100101011001111000
149	6	3	12	ON	5	18	2	378477	101101000011110001100111001000
				OFF	5	18	36	378511	10110100011111001111010011000
150	4	1	16	ON	6	39	19	383353	10110110110011000000010101000
				OFF	6	40	0	383394	10110110110100010000011010000
150	4	2	14	ON	6	45	34	383728	101101101111110011100110000000
				OFF	6	46	10	383764	101101101111111100011000100000
150	4	3	77	ON	6	46	50	383805	10110111000000110011001001000
				OFF	6	50	12	384007	10110111000110111101101011000
151	8	1	14	ON	8	10	33	388028	10111001011010000101101100000
				OFF	8	11	11	388866	10111001011011001111110100000
151	8	2	34	ON	8	15	20	389115	10111001100010110110001111000
				OFF	8	16	49	389204	10111001100101100100000100000
152	8	1	104	ON	9	43	16	394390	10111100000011110100111110000
				OFF	9	47	34	394648	10111100001011101100111000000
153	8	1	52	ON	11	34	41	401076	10111111001111110111100100000
				OFF	11	37	23	401238	10111111010100110011111110000
156	7	1	60	ON	15	58	20	416894	11000110110010100110000110000
				OFF	16	1	4	417058	11000110110111100110011010000
159	7	1	26	ON	20	10	29	432023	11001110000000010010110110000
				OFF	20	11	41	432095	11001110000010011111100011000
159	7	2	14	ON	20	19	58	432593	11001110010001101100001101000
				OFF	20	20	35	432630	11001110010010110100011110000
160	2	1	11	ON	22	2	36	438750	11010001001101100101100110000
				OFF	22	3	9	438783	11010001001110100110000110000

CLOCK OPERATIONS

AFT	PAN	CAMERA	NUMBER	187	OPN	NO	FR	H	M	S	DEC	BINARY
80	2	1	12	ON	22	1	9	6664	00000011001011010111101000000			
				OFF	22	1	41	6696	00000011001100010110001000000			
81	0	0	3	ON	23	10	9	10804	00000101001001101101100100000			
				OFF	23	10	33	10828	00000101001010011100011100000			
82	5	1	14	ON	0	35	48	15943	00000111100110100010101011000			
				OFF	0	36	33	15988	00000111100111110101001000000			
82	5	2	40	ON	0	37	50	16065	00000111101010010000111101000			
				OFF	0	40	0	16195	00000111101110001110110111000			
84	5	1	54	ON	3	42	54	27169	00001100111101001000011101000			
				OFF	3	45	18	27313	00001101000001100001101101000			
85	6	1	32	ON	5	19	18	32953	00001111101101101001010101000			
				OFF	5	20	36	33031	00001111100000000011010110000			
85	6	2	14	ON	5	23	59	33234	00001111101100011100010100000			
				OFF	5	24	35	33270	00001111101110101000111100000			
87	4	1	83	ON	8	11	5	43260	00010100101000001100001100000			
				OFF	8	14	46	43481	00010100101110111011110101000			
88	2	2	17	ON	9	21	22	47477	00010110101000111000100001000			
				OFF	9	22	8	47523	00010110101010010010010111000			

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88	2	1	21	ON	9	38	13	48488	00010111000111101111001000000
				OFF	9	39	10	48545	00010111001001011110011101000
88	2	2	19	ON	9	41	36	48691	00010111001101111011100111000
				OFF	9	42	28	48743	00010111001111110000100111000
88	2	3	13	ON	9	43	47	48822	00010111010001111011011110000
				OFF	9	44	24	48859	00010111010011000011101111000
88	2	4	74	ON	9	52	1	49316	00010111100001000000010100000
				OFF	9	55	20	49515	000101111001111000100111111000
90	3	1	54	ON	12	48	59	59934	00011001001010000101001100000
				OFF	12	51	9	60064	00011001010010000001000000000
91	8	1	38	ON	14	5	48	64543	00011101100011011001000110000
				OFF	14	7	39	64654	00011101010101000101010110000
91	8	2	13	ON	14	9	19	64754	00011101110000010001010100000
				OFF	14	9	57	64792	00011101110010100101110000000
92	9	1	43	ON	15	57	30	71245	00100001111110001110011001000
				OFF	15	59	20	71355	00100010000001100101001111000
95	2	1	20	ON	20	17	24	86839	001010010101010000111011011000
				OFF	20	18	14	86889	00101001011011101001000101000
97	4	1	22	ON	23	9	46	97181	00101100101011011101010010000
				OFF	23	10	49	97244	00101100101111010010110000000
98	5	1	36	ON	2	40	22	102617	00110000111011100111110101000
				OFF	2	42	3	102710	00110000111101010100011000000
100	5	1	62	ON	3	43	45	113620	001101100010110101010000100000
				OFF	3	46	39	113794	00110110010000010101110100000
101	7	1	52	ON	5	31	50	120105	00110010100010101000000101000
				OFF	5	34	15	120250	00110010101010101111010010000
102	5	1	16	ON	6	30	1	124076	00110110010100011111111000000
				OFF	6	30	44	124119	00110110010111100111110110100
102	5	2	65	ON	6	47	35	124650	00110110111000000010000100000
				OFF	6	50	24	124819	00110110100001001011000111000
103	4	1	72	ON	8	15	31	129926	00111011111010000010111000000
				OFF	8	18	31	130106	00111100000101000010100100000
104	8	1	27	ON	9	48	0	135475	01000000100110010111100111000
				OFF	9	49	5	135540	01000000101000010110100100000
104	8	2	46	ON	9	54	41	135876	01000000110010100110110100000
				OFF	9	56	30	135985	01000000110101111011101101000
105	5	1	11	ON	11	19	10	140945	01000011001010100111001101000
				OFF	11	19	38	140973	01000011001100010011110010000
105	5	2	50	ON	11	21	30	141085	01000011010001100100101001000
				OFF	11	23	49	141224	01000011010101110100001000000
107	5	1	21	ON	14	8	0	151075	01001000000010011100010111000
				OFF	14	9	2	151137	01001000000100010101011101000
108	5	1	51	ON	15	50	2	157677	01001011001011110101110010000
				OFF	16	7	9	157804	01001011001111100101111000000
109	4	1	20	ON	17	24	40	162875	01001101101010100011001111000
				OFF	17	25	32	162927	01001101101100001000110011000
109	4	2	25	ON	17	31	24	163279	01001101110110111000010011000
				OFF	17	32	27	163342	01001101111000110011010110000
111	4	1	14	ON	20	10	14	173289	01010010101000010111000101000
				OFF	20	10	50	173325	01010010101001011101010010000
114	7	1	37	ON	2	40	31	189026	01011010001000100111011010000

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		OFF	0	42	14	189129	01011010001011110000100101000		
115	7	2	19	ON	2	29	33	195568	01011010100000100001100000000
		OFF	2	30	25	195620	0101101010001110110010100000		
116	7	1	13	ON	3	44	41	200076	01011111011001110110111100000
		OFF	3	45	17	200112	01011111011010111011110000000		
116	7	2	24	ON	3	58	15	200890	01011111110010101011010010000
		OFF	3	59	21	200956	01011111110100101100001100000		
116	7	3	22	ON	4	0	34	201029	01011111110101110101100010000
		OFF	4	1	34	201089	01011111111000101111111101000		
117	5	1	58	ON	5	17	8	205623	01100010000011000111011011000
		OFF	5	19	28	205763	01100010000111011000110111000		
117	5	2	58	ON	5	21	22	205877	011000100010101110111100001000
		OFF	5	23	40	206015	01100010001111000101000011000		
118	6	1	16	ON	6	38	54	210529	01100100011000110101011101000
		OFF	6	39	36	210571	01100100011010000111011111000		
118	6	2	51	ON	6	47	36	211051	01100100101000110000111111000
		OFF	6	49	48	211183	01100100101100110010110011000		
119	4	1	154	ON	8	10	26	216021	01100111000000011100000010000
		OFF	8	17	19	216434	01100111001101000001010100000		
120	9	1	14	ON	9	46	46	221801	011010011100001101010100101000
		OFF	9	47	21	221836	01101001110001111001011100000		
120	9	2	20	ON	9	55	13	222308	01101010000000011010101010000
		OFF	9	56	4	222359	01101010000001110110111011000		
120	9	3	21	ON	9	56	42	222397	01101010000011000010010010000
		OFF	9	57	34	222449	01101010000100100110101101000		
121	7	1	65	ON	11	24	31	227666	01101100100011110100001010000
		OFF	11	27	20	227835	01101100101000111110001111000		
121	7	2	29	ON	11	31	31	228086	01101100110000101000011110000
		OFF	11	32	48	228163	01101100110010111110110111000		
122	3	1	80	ON	12	51	49	232904	01101110000111010101010000000
		OFF	12	55	1	233096	01101110010011000011010000000		
124	7	1	46	ON	16	1	59	244314	01110100011111110111110010000
		OFF	16	4	9	244444	01110100100011110101101000000		
125	2	1	16	ON	17	25	30	249325	01110110111000110010111001000
		OFF	17	26	13	249368	01110110111010000110111000000		
125	2	2	33	ON	17	32	0	249714	01110111000100101010101010000
		OFF	17	33	25	249799	01110111000110100001010110000		
127	4	0	15	ON	20	19	54	259789	01111011111000001000011001000
		OFF	20	22	31	259826	01111011111001010000101010000		
130	2	1	35	ON	0	41	14	275469	10000011010110101010110010000
		OFF	0	42	49	275564	10000011011001100010111100000		
133	2	1	15	ON	5	18	2	292077	10001011010001011110111001000
		OFF	5	18	38	292113	10001011010010100101001101000		
133	2	2	50	ON	5	21	55	292310	10001011011000100101111110000
		OFF	5	24	13	292440	10001011011100110011100000000		
134	4	1	10	ON	6	39	23	290930	10001101100110011100000110000
		OFF	6	40	5	297000	10001101100111101110001000000		
134	4	2	43	ON	6	41	59	297114	10001101101011001100110010000
		OFF	6	43	56	297231	10001101101110110001010011000		
134	4	3	13	ON	6	45	30	297325	10001101110001101000111001000
		OFF	6	46	7	297362	10001101112010110001001010000		

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135	7	1	47	ON	8	17	58	382873	10010000011010111100110101000
				OFF	8	19	56	382991	10010000011110100011010011000
136	9	1	48	ON	9	45	41	388136	10010010111011100100001000000
				OFF	9	47	40	388255	10010010111111001100100011000
136	9	2	35	ON	9	49	22	388357	100100110000100100111100001000
				OFF	9	50	49	388444	10010011000100111101101100000
136	9	3	58	ON	9	56	54	388809	100100110100000001101000101000
				OFF	9	58	58	388933	100100110100111110001100011000
137	8	1	23	ON	11	28	22	314297	10010101110111100101010101000
				OFF	11	29	28	314363	1001010111100110011001111000
137	8	2	52	ON	11	32	32	314547	100101011111111001101100111000
				OFF	11	34	58	314693	10010110000011101010110001000
137	8	3	20	ON	11	36	17	314772	10010110000110000101000100000
				OFF	11	37	14	314829	10010110000111110100011001000
142	4	1	60	ON	15	58	25	330500	10011011001100000111101000000
				OFF	16	1	0	330655	1001101101010110010100011000
141	6	1	53	ON	17	30	53	336048	10100000001111010111110000000
				OFF	17	33	17	336192	10100000010011110001000000000
143	7	0	14	ON	20	20	15	346209	10100101000101011101011101000
				OFF	20	20	51	346245	10100101000110100011110001000
144	1	2	12	ON	22	3	59	352433	10101000000011011001101101000
				OFF	22	4	33	352467	10101000000100011100000011000
146	2	1	51	ON	0	42	41	361956	10101100100110000001010100000
				OFF	0	44	52	362087	10101100101010000001001011000
149	6	1	19	ON	5	9	34	377969	10110100001110101100101101000
				OFF	5	10	24	378019	10110100010000001110010111000
149	6	2	31	ON	5	16	5	378360	10110100011010101000011000000
				OFF	5	17	25	378440	10110100011101000100101000000
149	6	3	13	ON	5	18	14	378489	10110100011110100100010101000
				OFF	5	18	48	378523	1011010001111100110101111000
150	4	1	16	ON	6	39	31	383365	10110110110011010111110001000
				OFF	6	42	12	383406	10110110110100100111110110000
150	4	2	14	ON	6	45	46	383741	10110110111110110110001001000
				OFF	6	46	22	383777	10110110111111111110011101000
152	4	3	70	ON	6	47	2	383817	10110111000001001010100101000
				OFF	6	50	24	384019	10110111000111010101000111000
151	8	1	15	ON	8	10	45	388840	10111001011010011101001000000
				OFF	8	11	23	388878	10111001011011100111010110000
151	8	2	34	ON	8	15	32	389127	10111001100011001101101011000
				OFF	8	17	1	389216	1011100110010111101100000000
152	8	1	124	ON	9	43	26	394403	10111100000100001110010111000
				OFF	9	47	46	394661	10111100001100000110010001000
153	8	1	53	ON	11	34	53	401086	10111110100000011110000000000
				OFF	11	37	35	401250	10111110101010010110110100000
156	7	1	61	ON	15	58	32	416907	11000110110010111111011111000
				OFF	16	1	16	417071	11000110110111111111110011000
159	7	0	15	ON	20	20	10	432605	11001110010010000011101001000
				OFF	20	20	47	432642	11001110010011001011111010000

NOTE - ONLY THE LAST FIVE FRAMES OF THE FWD PAN CAMERA AND THE LAST

SECRET

SEVEN FRAMES OF THE AFT PAN CAMERA FOR OPERATION 88-2-1 ARE CONTAINED IN THE B MISSION RECOVERY CAPSULE.

NOTE - OPERATION 82-8-8 IS THE CUT AND WRAP OPERATION WHICH OCCURRED AT THE TIME OF A MISSION RECOVERY.

NOTE - TLM DATA INDICATED THAT THE AFT PAN CAMERA RAN OUT OF FILM PRIOR TO OPERATION 159-7-8.

NOTE - WITH THE EXCEPTION OF THE ANOMALIES REPORTED ON THE A MISSION, TLM DATA INDICATE NORMAL SYSTEM PERFORMANCE.

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