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39 Pages
(Including Cover Sheet)

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-22

VEHICLE NO. 1617

MISSION NO. 1022

CAMERA NOS. 168 & 169

Prepared by: [redacted]

Checked by

Approved by:

Approved by:

, Manager

Declassified and Released by the N R O
In Accordance with E. O. 12958
on NOV 26 1997

27 JUL 1965

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SYSTEM NO. 22
VEHICLE NO. 1617
MISSION NO. 1022
CAMERA NOS. 168/169

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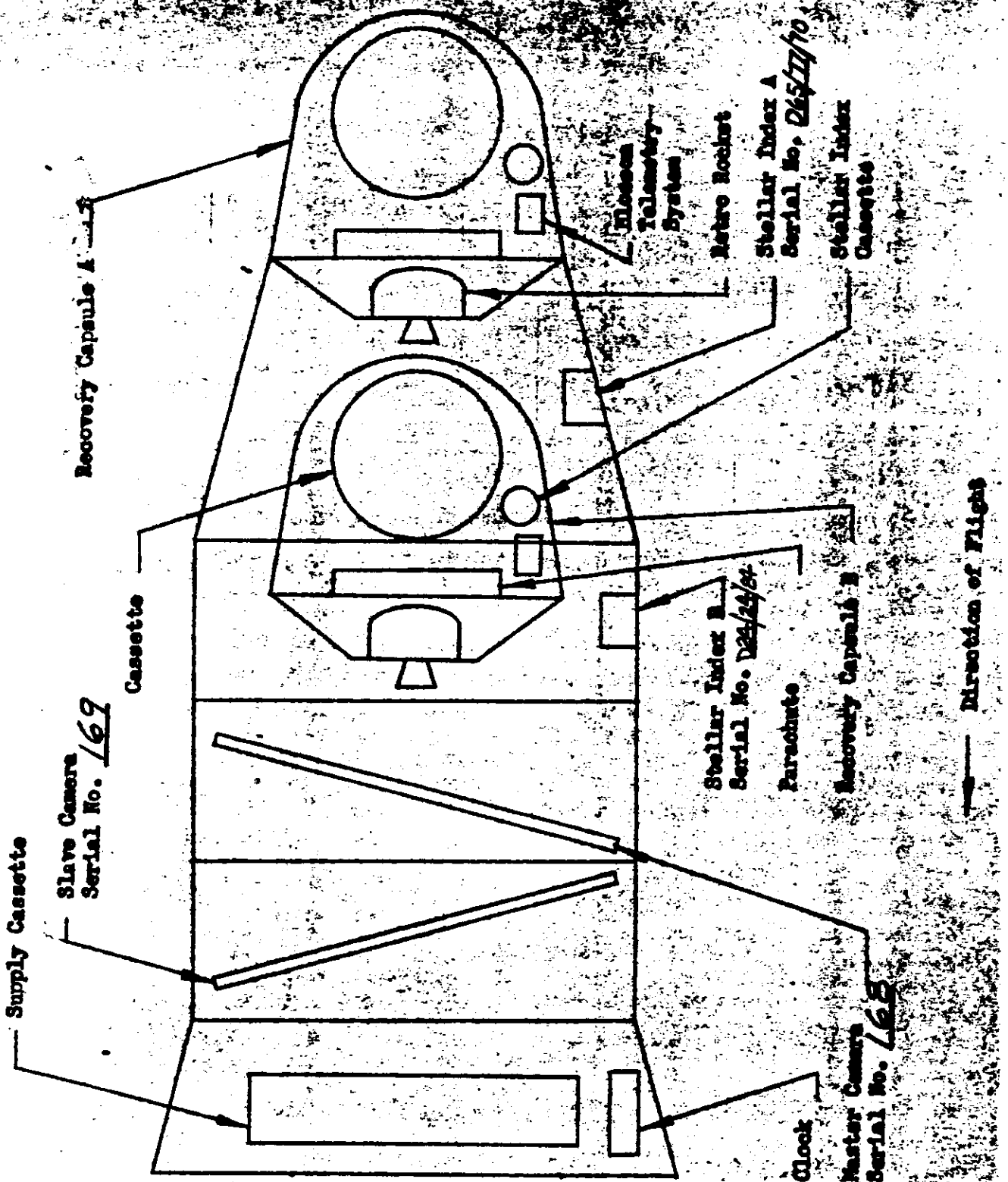
SYSTEM NO. J-22
VEHICLE NO. 1617
MISSION NO. 1022
CAMERA NOS. 168 & 169 ~~TOP SECRET~~ [redacted]

VEHICLE LAYOUT: NO. [redacted]



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NO. [redacted]

GENERAL FLIGHT DATA:

Master Camera Serial No. 168

Slave Camera Serial No. 169

Stellar Index "A" Serial No. D65/77/70

Stellar Index "B" Serial No. D24/24/24

Launch Date 7/19/65

Reactivation Date NA

Reactivation Orbit No. NA

Orbital Parameters: (Rev. 32)

Period 91.009 Min. Eccentricity 0.02136

Perigee 99.672 NM Perigee Latitude 230.26 Deg. [redacted]

Apogee 254.20 NM Inclination Angle 85.052 Deg. [redacted]

Recovery Orbit No. 65

Recovery Date 7/23/65

REMARKS:

SYSTEM NO. J-22
VEHICLE NO. 1617
MISSION NO. 1022
CAMERA NOS. 168 & 169

LENS DATA SUMMARY: Master Camera No. 168

Lens Serial No. 1532435

Slit Width .250 Inch

Filter Type WRATTEN 25

Equivalent Operational Focal Length 609.625 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	238	3404	HIGH
Other	142	3404	LOW

Dynamic:

Itek Post Vibration	184	3404	HIGH
Itek Post Vibration	131	3404	LOW
AP	171	3404	HIGH
AP	117	3404	LOW
Other			

Note: Itek Post Vibration Resolution of 184 lines/MM Reported In Message No. _____ dated _____

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3	2	1	0	359	358	357		
Distortion Millimeters	.004	.002	.000	.000	.000	.002	.005		

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CAMERA NOS. 168, 169

NO. [redacted]

LENS DATA SUMMARY: (Horizon Cameras for Panoramic Camera No. 168)

	Take-Up	Supply
Lens Serial No.	813513	812308
Exposure Time	1/160 Sec.	1/160 Sec.
Filter Type	W RATTEN 25	W RATTEN 25
Aperture	F 8.0	F 6.8
Operational Focal Length	54.59 MM	55.07 MM
Radial Distortion:		
10° off Axis	.001 MM	.000 MM
20° off Axis	.001 MM	.007 MM
Tangential Distortion (Maximum Vector)	.006 MM	.005 MM

Resolution:

Angle off Axis Deg.	0	5°	10	15	20	25	27.5	0	5	10	15	20	25	27.5
Radial Resolution	116	116	108	89	73	63	49	130	123	96	71	62	83	65
Tangential Resolution	116	109	100	86	72	43	36	116	109	95	66	64	53	44

RESOLUTION ON-AXIS 116 Lines/MM Avg. 123 Lines/MM Avg.

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.

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VEHICLE NO. 1617

MISSION NO. 9022

CAMERA NOS. 168 & 169

LENS DATA SUMMARY: Slave Camera No. 169

Lens Serial No. 1582435

Slit Width .175 Inch

Filter Type WRATTEN 21

Equivalent Operational Focal Length 609.60 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	265	3404	HIGH
Other	139	3404	LOW

Dynamic:

Itek ~~Pre~~ Post-Vibration	193	3404	HIGH
Itek Post Vibration	128	3404	LOW
AP	196	3404	HIGH
AP	109	3404	LOW
Other			

NOTE: Itek Post Vibration Resolution of 193 lines/MM Reported In

Message No. _____ dated _____.

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3	2	1	0	359	358	357		
Distortion Millimeters	.002	.002	.000	.000	.002	.003	.004		

SYSTEM NO. J-22

VEHICLE NO. 1617 NO. [redacted]

MISSION NO. 1022

CAMERA NOS. 168 & 169

LENS DATA SUMMARY: (Horizon Cameras for SLAVE Camera No. 169)

	Take-Up	Supply
Lens Serial No.	812297	812311
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F 6.8	F 8.0
Operational Focal Length	55.159 MM	55.187 MM
Radial Distortion:		
10° off Axis	.009 MM	.026 MM
20° off Axis	.013 MM	.045 MM
Tangetial Distortion (Maximum Vector)	.007 MM	.003 MM

Resolution:

Angle off Axis Deg.	0°	5°	10°	15°	20°	25°	27.5°
Radial Resolution	164	145	144	119	110	99	65
Tangetial Resolution	164	145	126	102	91	60	44

0°	5°	10°	15°	20°	25°	27.5°
164	173	162	141	137	132	41
164	172	127	108	91	60	46

RESOLUTION ON AXIS 164 Lines/MM Avg. 164 Lines/MM Avg.

NOTE:

1. Distortion and resolution are read at equivalent operational focal length.
2. Resulution in lines per MM on 3404 film and HIGH contrast target.

SYSTEM NO. J-22

VEHICLE NO. 1617

MISSION NO. 1022 NO. [redacted]

CAMERA NOS. 168 & 169

LENS DATA SUMMARY STELLAR INDEX D65/77/70: "A" MISSION

	Stellar		Index	
Lens Serial No.	11972		B17461	
Reseau Serial No.	70		77	
Filter Type	None		Wratten 21	
Aperture	F/1.8		F/4.5	
Exposure Time	2.0	Sec.	1/500	Sec.
Equivalent Focal Length	84.00	MM	38.35	MM

Resolution:

Angle Off Axis	0°	10°	20°	30°	35°
Resolution L/MM High Contrast	74 / 74	81 / 81	101 / 86	98 / 39	93 / 25

NOTE: Index Resolution of 72.5 Lines/MM AWAR

Read From 3400 Film.

Distortion:

All distortions less than maximum allowable. Full Data to be reported as part of Photogoniometer Data Reduction.

Alignment:

.0003 "/.937 Inches .0004 "/2.25 Inches

VEHICLE NO. 1617 NO. [redacted]

MISSION NO. 1022

CAMERA NOS. 168 & 169

LENS DATA SUMMARY STELLAR INDEX D24/24/24 "B" MISSION

	Stellar		Index	
Lens Serial No.	10079		811900	
Reseau Serial No.	24		24	
Filter Type	NONE		WRATTEN 21	
Aperture	F/1.8		F/4.5	
Exposure Time	2.0	Sec.	1/500	Sec.
Equivalent Focal Length	83.76	MM	38.37	MM

Resolution:

Angle Off Axis	0°	10°	20°	30°	35°
Resolution L/MM High Contrast	96 / 90	100 / 104	112 / 100	81 / 45	67 / 35

NOTE: Index Resolution of 72.2 Lines/MM AWAR

Read From 3400 Film.

Distortion:

All distortions less than maximum allowable. Full Data to be reported as part of Photogoniometer Data Reduction.

Alignment:

.000 "/.937 Inches .022 MM "/2.25 Inches

DEFINITION OF PANORAMIC CAMERA FORMAT CALIBRATIONS:

1.0 Measurements are made with respect to collimator targets fixed with respect to the mechanical interface between the total payload assembly and the orbital vehicle.

2.0 Two sets of three targets each, are aligned to be coplanar within ±5" of arc so positioned to form an angle of -35.00° ±5" to the mechanical interface for master camera calibrations and an angle of +15.00°±5" to the mechanical interface for slave camera calibrations.

2.1 One target, Target 1 of each set is imaged on the Terrain format.

2.2 The second and third targets of each set are at angles of 75.00° ±5" from target one and are imaged on the horizon formats.

3.0 The indicated center of format for the panoramic cameras is given by the intersection of a line through the center of mass of the central shrinkage marker drawn normal to the edge of format containing the shrinkage marker and a line parallel to the same edge located at a position half-way between the format edges.

4.0 The indicated principal points of the horizon cameras are the points of intersection of lines joining opposite fiducials.

5.0 Xvo and Yvo are the offsets of Target 1 from the indicated center of format of the panoramic cameras as defined in Paragraph 3.

6.0 Xs, Ys and Xt, Yt are the offsets of Targets 2 and 3 from the indicated principal points of the supply and take-up horizon cameras respectively.

7.0 The indicated flight direction is the direction of vehicle travel during orbit The forward edge of format is the edge opposite the shrinkage markers for the master camera and is the edge containing the shrinkage markers for the slave camera.

8.0 Dimensions A, B and C are the spacings of the shrinkage markers and dimensions D and E are the spacings of the Y Axis fiducials. Techniques for exact measurement of these dimensions have not been developed. The figures quoted are measurements made on hand processed film without control of shrinkage.

9.0 The format dimensions are measured to the best estimate of format edge.

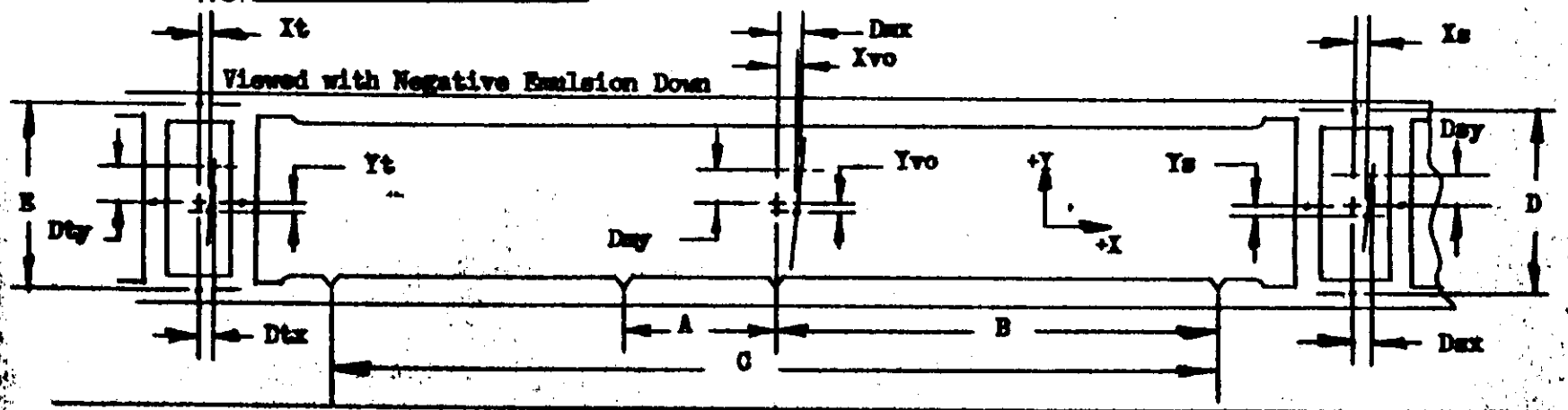
10.0 Measurement of the angle between the indicated axis of the panoramic cameras and the line of intersection of the plane defined in Paragraph 2 on the format is obtained from the offset dimensions Dmx and Dmy of Target 1 for each camera

11.0 Measurement of the angle between the indicated axis of the horizon cameras and the line of intersection of the plane defined in Paragraph 2 on the format is made by measuring the scan direction offset of the targets defined in Paragraph 2.2 at a fixed distance from the target center in the Y direction. Dimensions Dtx, Dty, Dsx and Dsy are the offsets of these measurements.

SYSTEM NO. [redacted]
VEHICLE NO. 1617
MISSION NO. 1044
CAMERA NOS. 168 & 169

FORMAT DIMENSIONS: (PANORAMIC NEGATIVE)

NO. _____



Camera No. 168		Vehicle Motion ↓		Scan Direction ←	
A	76.022	Xt	+ 0.012	Dtx	+ 0.011
B	355.017	Yt	- 0.018	Dty	+ 2.982
C	709.856	Xs	- 0.344	Dsx	- 0.339
D	56.510	Ys	- 0.031	Dsy	- 2.031
E	56.535	Xvo	- 0.004	Dsx	- 0.005
		Yvo	+ 1.768	Dsy	+ 21.768

Camera No. 169		Vehicle Motion ↓		Scan Direction ←	
A	75.946	Xt	+ 0.793	Dtx	+ 0.787
B	354.789	Yt	- 0.104	Dty	+ 1.896
C	709.577	Xs	- 0.076	Dsx	- 0.076
D	56.537	Ys	+ 0.041	Dsy	- 2.960
E	56.492	Xvo	+ 0.042	Dsx	+ 0.077
		Yvo	+ 1.770	Dsy	+ 21.770

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	N/A	N/A	N/A
Width	N/A	N/A	N/A

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	N/A	N/A	N/A
Width	N/A	N/A	N/A

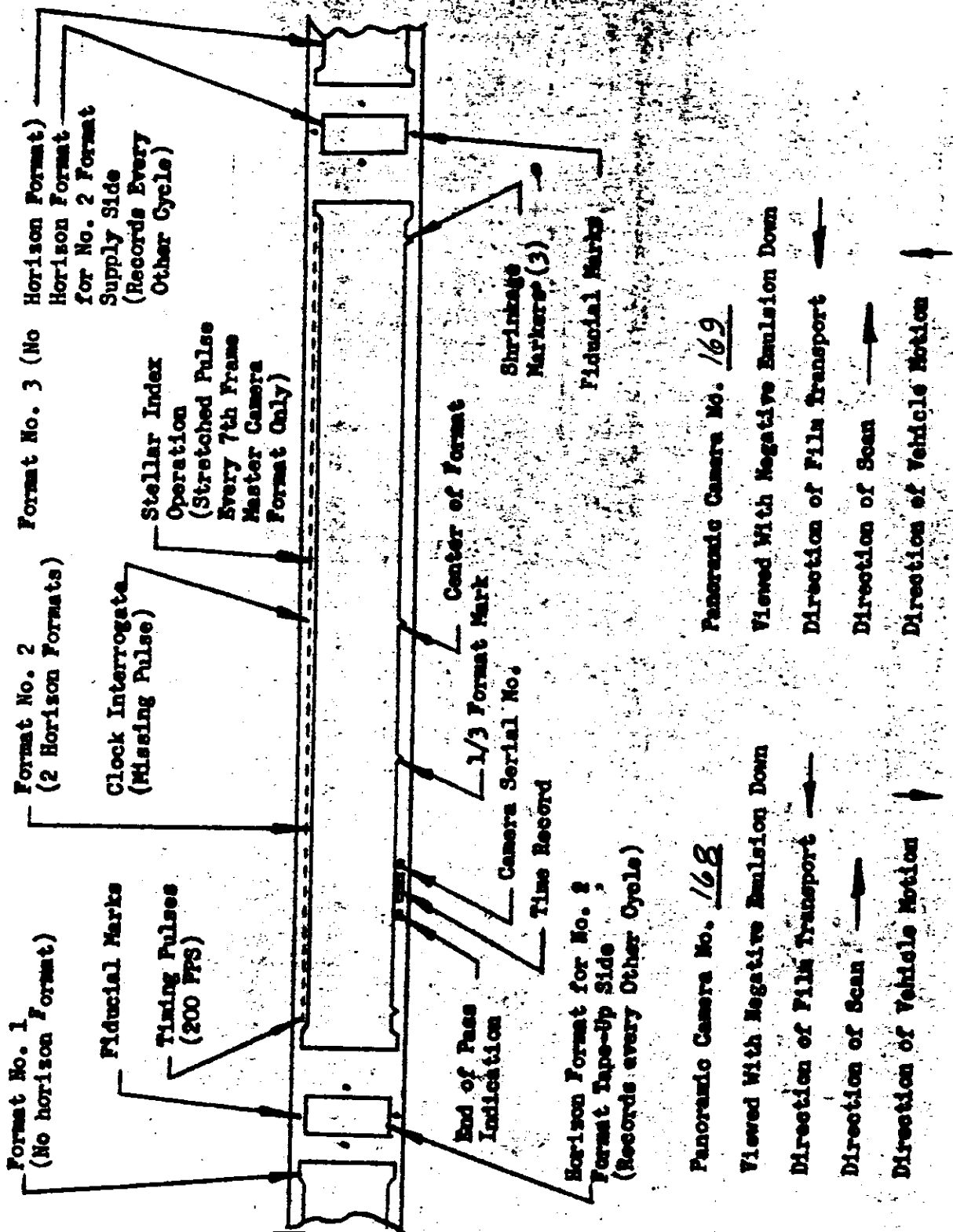
Note: 1. All dimensions are in millimeters and are average dimensions of three formats.
2. Height of main format is taken at center of format.
3. Dt, Ds, Ds, X and Y dimensions are taken 10MM above point defining target center.
4. Format Sign Convention

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

[redacted]

NO. [redacted]

FORMAT LAYOUT: (PANORAMIC CAMERAS)



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MISSION NO. 1022 [redacted]
CAMERA NOS. 168 & 169

LENS SETTINGS AND FILM TYPES:

Panoramic Camera Settings:	Camera No. 168	Camera No. 169
Panoramic Optics Slit Width	.250 in.	.175 in.
Panoramic Optics Filter Type	WRATTEN 25	WRATTEN 21
Horizon Optics Exp. Time	1/100 sec.	1/100 sec.
Horizon Optics Aperture	SUPPLY F6.8 TAKE-UP F8.0	SUPPLY F8.0 TAKE-UP F6.8
Horizon Optics Filter Type	WRATTEN 25	WRATTEN 25

Stellar Index Camera Settings:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Exposure Time	2.0 Sec.	1/500	2.0 Sec.	1/500
Aperture Setting	F/1.8	F/4.5	F/1.8	F/4.5
Filter Type	NONE	WRATTEN 21	NONE	WRATTEN 21

Ratio: One Stellar Index Frame Per 7 Master Camera Frames.

Film:

Panoramic Cameras:	Camera No. 168	Camera No. 169
Type	3404	3404
Length	16000 ft.	16000 ft.
Splices	3	2
Emul. Data	20B-1-5-5	20B-1-5-5

Stellar Index Cameras:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Type	3401	3400	3401	3400
Emul. Data	124-35-6-5	37-1-2-5	124-35-6-5	37-1-2-5

VEHICLE NO. 1617
MISSION NO. 1022
CAMERA NOS. 168 & 169

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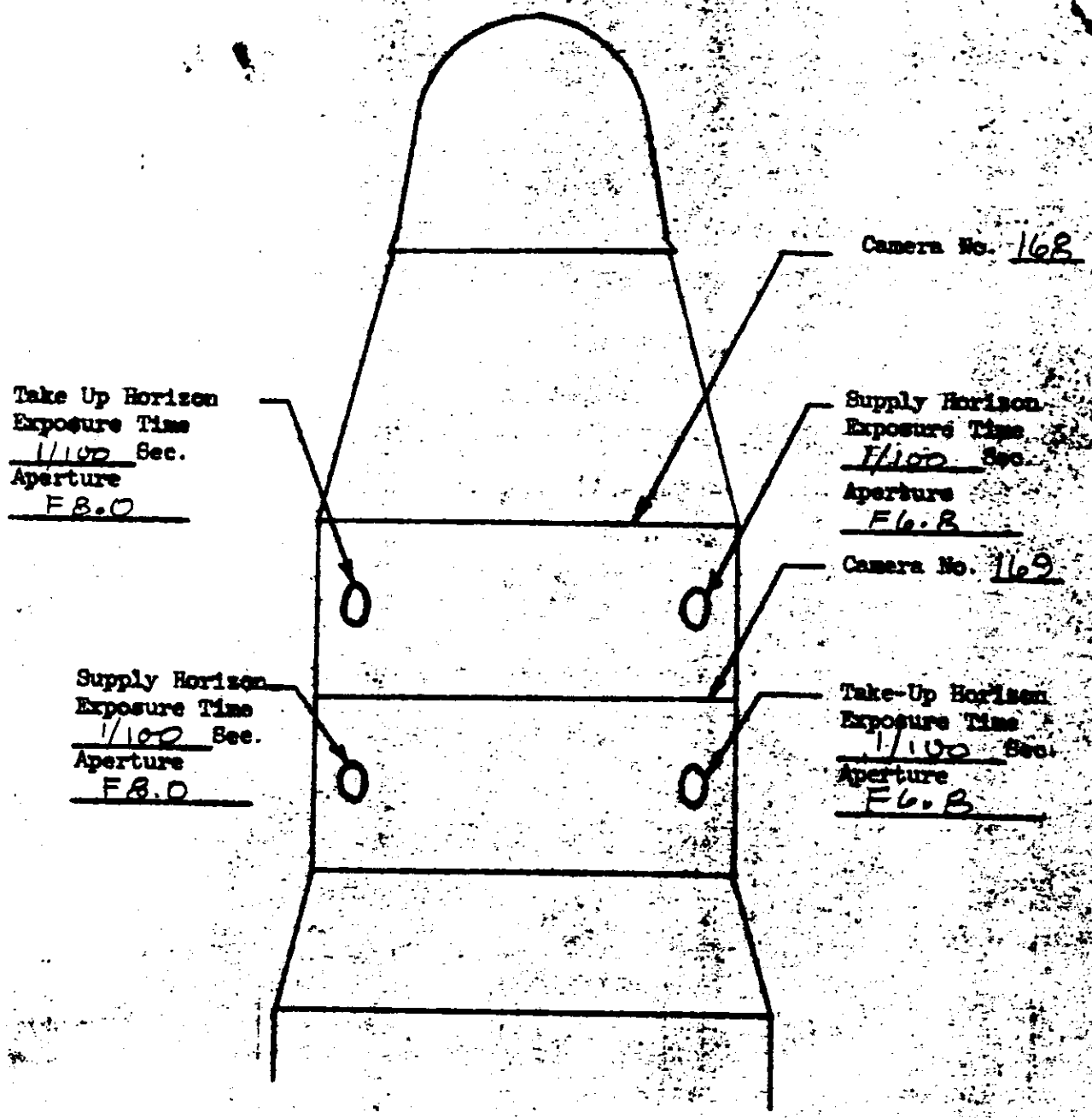
HORIZON LENS SETTINGS (Viewed from top of vehicle inflight)



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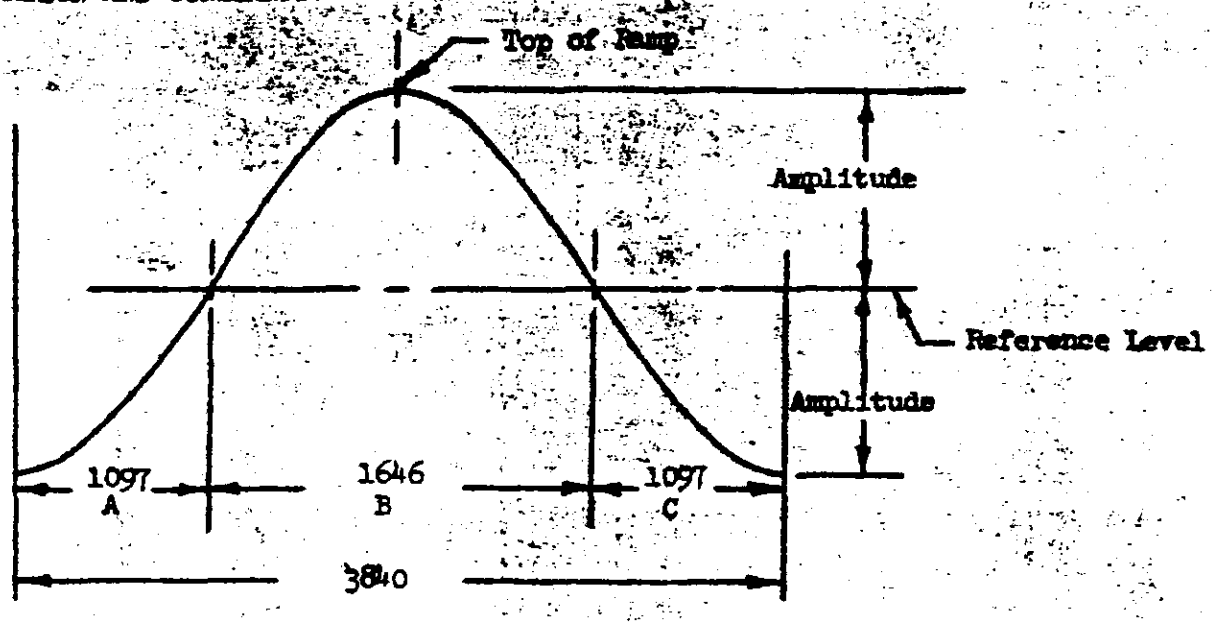
VEHICLE NO. 1617 TOP SECRET [redacted]

MISSION NO. 1022 NO. [redacted]

CAMERA NOS. 168 & 169

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) $\leq$ .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: $X = \frac{\text{Time Up Ramp (Seconds)}}{1047.6942}$ $R = \frac{1}{2}$ (CPS(top) + CPS(bottom))

$A = \frac{1}{2}$ (CPS top - CPS bottom) CP = Camera Cycle Period in Sec/Cycle

CPS = Camera Cycle Rate in Cycles/Sec

SLIT = Slit Width in Inches

[redacted]

TOP SECRET [redacted]

CYCLE PERIOD DATA:

PRE-FLIGHT CYCLE PERIODS:

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds Master	Cycle Period Seconds Slave	Time Up Ramp Sec
8	3	5.091	5.094	150
8	3	2.254	2.266	1705
7	3	2.200	2.200	1845
7	3	2.201	2.201	1815
7	3	2.200	2.200	1866

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds Master	Cycle Period Seconds Slave	Orbit No.	Time Up Ramp Sec
8	3	5.08	5.12	9	150
8	3	2.310	2.321	16	1705
7	3	2.233	2.254	31	1845
7	3	2.250	2.265	47	1815
7	3	2.236	2.236	63	1866

A. 1022-1, LAUNCH 2201Z, 7/19/65
B. DRY
C. FINAL PERFORMANCE ESTIMATE, PART 1

OPERATIONS SUMMARY
FWD PAN CAMERA NUMBER 168

OPN	NO	FRA		Q	LAT	LONG	HEIGHT	RANGE	DA	H	M	S	LTIM	S-TIM
PRE-FLT		128												
1	4	0	20 ON	2	66 13	149 24W	779236	807809	19	23	27	58	1330	84478
			OFF	2	62 14	147 47W	753972	781584	19	23	28	58	1337	84538
2	4	1	16 ON	2	71 59	176 01W	816778	846782	20	00	57	32	1313	03452
			OFF	2	68 47	173 40W	794684	823845	20	00	58	21	1323	03501
5	5	1	73 ON	2	81 32	095 52E	884865	917479	20	05	28	03	1151	19683
			OFF	2	67 06	118 41E	778741	807295	20	05	31	54	1326	19914
5	5	2	22 ON	2	41 51	124 29E	648492	672118	20	05	38	10	1356	20290
			OFF	2	38 08	124 49E	635989	659145	20	05	39	05	1358	20345
6	5	1	47 ON	2	66 44	096 00E	774808	803213	20	07	03	02	1327	25382
			OFF	2	58 04	099 05E	722774	749204	20	07	05	12	1341	25512
6	5	2	21 ON	2	54 14	099 56E	702199	727850	20	07	06	09	1345	25569
			OFF	2	50 34	100 34E	684083	709050	20	07	07	04	1349	25624
6	5	3	23 ON	2	42 21	101 35E	649589	673257	20	07	09	05	1355	25745
			OFF	2	38 38	101 54E	636961	660153	20	07	10	00	1357	25800
7	9	1	15 ON	2	56 12	076 40E	711180	737170	20	08	36	42	1343	31002
			OFF	2	53 37	077 11E	697771	723254	20	08	37	20	1346	31040
7	9	2	15 ON	2	51 14	077 36E	686072	711114	20	08	37	56	1348	31076
			OFF	2	48 37	077 59E	674047	698635	20	08	38	35	1350	31115
7	9	3	69 ON	2	46 14	078 17E	663772	687974	20	08	39	10	1352	31150
			OFF	2	35 06	079 18E	626136	648922	20	08	41	54	1359	31314
8	9	1	21 ON	2	59 45	052 55E	729441	756123	20	10	06	51	1338	36411
			OFF	2	56 00	053 50E	708872	734775	20	10	07	47	1343	36467
8	9	2	78 ON	2	49 45	054 57E	678068	702808	20	10	09	20	1349	36560
			OFF	2	37 05	056 18E	630880	653844	20	10	12	27	1357	36747
9	9	0	9 ON	1	39 09	132 16W	1296730	1345478	20	11	17	33	0228	40653
			OFF	1	42 07	132 00W	1277092	1325057	20	11	18	20	0230	40700
9	9	1	109 ON	2	61 45	029 26E	739528	766592	20	11	37	23	1335	41843
			OFF	2	43 04	032 55E	649565	673232	20	11	42	00	1353	42120
10	5	1	37 ON	2	25 53	011 13E	607919	630022	20	13	17	14	1402	47834
			OFF	2	20 07	011 28E	604578	626557	20	13	18	38	1404	47918
11	6	1	19 ON	2	28 50	011 46W	611314	633545	20	14	47	33	1400	53253
			OFF	2	25 46	011 37W	607504	629591	20	14	48	18	1401	53298
11	6	2	19 ON	2	23 19	011 30W	605552	627567	20	14	48	53	1402	53333
			OFF	2	20 13	011 23W	604492	626467	20	14	49	38	1404	53378
16	6	0	10 ON	2	37 01	126 36W	626284	649076	20	22	20	40	1354	80440
			OFF	2	35 18	126 28W	622101	644736	20	22	21	05	1355	80465
18	1	1	33 ON	2	68 31	179 20W	767941	796085	21	01	14	54	1317	04494
			OFF	2	62 21	176 32W	731106	757851	21	01	16	27	1330	04587
18	1	2	19 ON	2	17 50	171 21W	606152	628189	21	01	27	23	1401	05243
			OFF	2	14 45	171 15W	608632	630762	21	01	28	08	1403	05288
19	1	1	23 ON	2	71 29	155 42E	785492	814303	21	02	45	10	1307	09910
			OFF	2	66 58	158 39E	756914	784638	21	02	46	19	1320	09979
19	1	2	54 ON	2	62 32	160 32E	730882	757619	21	02	47	26	1329	10046
			OFF	2	52 54	162 57E	681408	706274	21	02	49	50	1341	10190
20	1	1	31 ON	2	74 02	130 22E	800930	830330	21	04	15	32	1257	15332
			OFF	2	67 58	135 14E	761647	789551	21	04	17	05	1318	15425
20	1	2	22 ON	2	50 39	140 27E	670569	695026	21	04	21	24	1343	15684

				OFF	2	46	58	140	58E	655673	679570	21	04	22	18	1346	15738
20	1	3	42	ON	3	14	08	143	48E	709693	735625	21	04	37	12	1412	16632
				OFF	3	21	48	144	04E	757243	784977	21	04	39	05	1415	16745
22	1	1	19	ON	2	82	30	061	39E	861869	893601	21	07	15	12	1121	26112
				OFF	2	79	15	075	27E	835024	865727	21	07	16	11	1217	26171
22	1	2	81	ON	2	75	38	082	36E	808728	838426	21	07	17	09	1247	26229
				OFF	2	61	03	092	26E	718983	745268	21	07	20	52	1330	26452
22	1	3	28	ON	2	57	41	093	21E	701385	727005	21	07	21	42	1335	26502
				OFF	2	53	00	094	20E	679040	703817	21	07	22	52	1340	26572
22	1	4	36	ON	2	05	52	097	32E	627085	649906	21	07	34	22	1404	27262
				OFF	2	00	11	097	41E	644852	668341	21	07	35	45	1406	27345
23	5	1	18	ON	2	81	32	044	18E	851488	882821	21	08	46	31	1143	31591
				OFF	2	78	11	055	12E	825334	855666	21	08	47	29	1228	31649
23	5	2	99	ON	2	50	45	071	51E	668296	692668	21	08	54	26	1341	32066
				OFF	2	35	09	073	29E	619198	641724	21	08	58	15	1352	32295
23	5	3	63	ON	2	32	44	073	38E	614690	637047	21	08	58	50	1353	32330
				OFF	2	23	08	074	07E	605813	627838	21	09	01	10	1357	32470
24	3	1	24	ON	2	26	23	051	07E	607141	629215	21	10	31	24	1355	37884
				OFF	2	22	40	051	17E	605848	627874	21	10	32	18	1357	37938
25	3	1	66	ON	2	57	47	024	45E	698584	724098	21	11	54	43	1333	42883
				OFF	2	47	05	026	39E	652336	676107	21	11	57	21	1343	43041
25	3	2	60	ON	2	00	00	029	07E	647959	671564	21	12	08	49	1405	43729
				OFF	3	09	45	029	22E	691463	716707	21	12	11	12	1408	43872
26	4	1	43	ON	2	24	55	005	28E	606291	628334	21	13	33	47	1355	48827
				OFF	2	18	09	005	44E	607687	629782	21	13	35	26	1358	48926
27	1	1	24	ON	2	82	30	052	36W	852715	884095	21	14	50	16	1119	53416
				OFF	2	78	12	036	15W	818604	848679	21	14	51	32	1226	53492
28	7	1	32	ON	2	65	41	046	28W	736904	763869	21	16	25	46	1319	59146
				OFF	2	60	08	044	26W	706779	732604	21	16	27	09	1329	59229
29	5	1	62	ON	3	20	04	061	44W	757574	785321	21	18	17	46	1410	65866
				OFF	3	31	48	061	12W	843705	874737	21	18	20	39	1415	66039
30	2	1	36	ON	2	74	40	098	59W	789072	818020	21	19	25	30	1249	69930
				OFF	2	68	04	093	24W	747847	775227	21	19	27	12	1313	70032
31	2	1	44	ON	2	70	00	117	29W	757929	785692	21	20	57	42	1307	75462
				OFF	2	62	32	113	47W	715514	741669	21	20	59	35	1324	75575
31	2	2	24	ON	2	32	54	109	14W	612377	634648	21	21	06	52	1349	76012
				OFF	2	29	07	109	01W	608083	630193	21	21	07	47	1351	76067
35	4	1	54	ON	2	58	56	155	52E	692519	717804	22	03	04	29	1327	11069
				OFF	2	50	11	157	38E	655159	679036	22	03	06	39	1337	11199
36	4	1	62	ON	2	50	55	134	39E	657060	681009	22	04	37	28	1336	16648
				OFF	2	41	16	135	50E	626613	649417	22	04	39	50	1343	16790
37	4	1	71	ON	2	76	53	097	44E	792387	821461	22	06	01	56	1232	21716
				OFF	2	64	20	108	22E	717274	743496	22	06	05	09	1318	21909
37	4	2	23	ON	2	53	01	111	27E	664369	688593	22	06	07	57	1333	22077
				OFF	2	49	19	112	02E	650313	674008	22	06	08	52	1337	22132
37	4	3	24	ON	2	41	37	112	56E	626928	649744	22	06	10	45	1342	22245
				OFF	2	37	50	113	16E	618484	640984	22	06	11	40	1344	22300
38	7	1	86	ON	2	74	15	078	38E	773599	801957	22	07	33	37	1248	27217
				OFF	2	59	17	087	12E	690722	715940	22	07	37	24	1326	27444
38	7	2	22	ON	2	56	50	087	49E	679465	704258	22	07	38	01	1329	27481
				OFF	2	53	11	088	34E	664051	688263	22	07	38	55	1333	27535
38	7	3	65	ON	2	48	48	089	15E	647720	671318	22	07	39	59	1337	27599
				OFF	2	38	41	090	20E	619735	642282	22	07	42	28	1343	27748
39	9	1	79	ON	2	47	20	066	36E	642037	665421	22	09	11	21	1337	33081
				OFF	2	35	08	067	45E	613024	635319	22	09	14	20	1345	33260

40	4	1	27	ON	2	70	48	036	12E	749335	776772	22	10	36	30	1301	38190
				OFF	2	66	07	039	01E	722908	749343	22	10	37	41	1313	38261
40	4	2	82	ON	2	59	53	041	19E	691265	716504	22	10	39	15	1324	38355
				OFF	2	46	39	043	49E	639128	662402	22	10	42	31	1337	38551
42	3	1	43	ON	2	24	59	000	15W	605971	628001	22	13	49	46	1348	49786
				OFF	2	18	12	000	00E	610981	633199	22	13	51	25	1351	49885
47	7	1	20	ON	2	37	59	115	18W	615022	637391	22	21	21	33	1340	76893
				OFF	2	34	47	115	04W	610526	632728	22	21	22	20	1342	76940
53	7	1	23	ON	2	53	58	105	35E	654151	677990	23	06	23	33	1325	23013
				OFF	2	50	15	106	13E	641598	664966	23	06	24	28	1329	23068
53	7	2	161	ON	2	42	00	107	13E	620229	642795	23	06	26	29	1335	23189
				OFF	2	17	20	108	38E	616444	638866	23	06	32	29	1347	23549
54	7	1	35	ON	2	56	55	082	07E	664409	688635	23	07	53	48	1322	28428
				OFF	2	51	13	083	13E	643966	667423	23	07	55	12	1328	28512
54	7	2	90	ON	2	41	56	084	22E	619728	642274	23	07	57	28	1334	28648
				OFF	2	28	20	085	19E	606529	628580	23	08	00	47	1342	28847
55	8	1	153	ON	2	59	55	058	30E	675765	700419	23	09	24	02	1318	33842
				OFF	2	36	13	062	00E	610606	632811	23	09	29	51	1337	34191
56	9	1	21	ON	2	70	48	030	31E	727420	754026	23	10	52	17	1254	39137
				OFF	2	67	13	032	48E	708633	734527	23	10	53	11	1304	39191
56	9	2	119	ON	2	61	55	035	01E	683490	708435	23	10	54	31	1314	39271
				OFF	2	43	14	038	32E	621545	644160	23	10	59	07	1333	39547
56	9	3	38	ON	2	32	58	039	21E	607737	629834	23	11	01	37	1339	39697
				OFF	2	27	13	039	40E	606947	629014	23	11	03	01	1341	39781
58	3	1	37	ON	2	28	00	006	03W	606981	629049	23	14	04	46	1340	50686
				OFF	2	22	11	005	48W	611136	633360	23	14	06	11	1342	50771
62	5	1	21	ON	2	26	54	097	24W	608423	630545	23	20	08	56	1339	72536
				OFF	2	23	39	097	15W	611093	633315	23	20	09	43	1340	72583
63	5	1	17	ON	2	37	39	120	55W	611163	633388	23	21	37	17	1333	77837
				OFF	2	34	04	120	39W	608384	630505	23	21	38	09	1335	77889

OPERATIONS SUMMARY
AFT PAN CAMERA NUMBER 169

OPN	NO	FRA		Q	LAT		LONG		HEIGHT	RANGE	DA	H	M	S	LTIM	S-TIM
PRE-FLT		129														
1	4	0	10	ON	2	66	22	149	32W	772924	801257	19	23	28	13	1330	84493
				OFF	2	64	20	148	38W	760111	787957	19	23	28	44	1334	84524
2	4	1	15	ON	2	73	09	177	10W	816778	846782	20	00	57	32	1308	03452
				OFF	2	69	55	174	29W	794684	823845	20	00	58	21	1320	03501
5	5	1	73	ON	2	82	33	089	57E	884865	917479	20	05	28	03	1127	19683
				OFF	2	68	13	117	59E	778741	807295	20	05	31	54	1323	19914
5	5	2	22	ON	2	42	48	124	20E	648492	672118	20	05	38	10	1355	20290
				OFF	2	39	03	124	41E	635989	659145	20	05	39	05	1357	20345
6	5	1	46	ON	2	67	50	095	20E	774808	803213	20	07	03	02	1324	25382
				OFF	2	59	07	098	45E	722774	749204	20	07	05	12	1340	25512
6	5	2	21	ON	2	55	16	099	40E	702199	727850	20	07	06	09	1344	25569
				OFF	2	51	34	100	21E	684083	709050	20	07	07	04	1348	25624
6	5	3	22	ON	2	43	18	101	25E	649589	673257	20	07	09	05	1354	25745
				OFF	2	39	34	101	46E	636961	660153	20	07	10	00	1357	25800
7	9	1	14	ON	2	57	14	076	22E	711180	737170	20	08	36	42	1342	31002
				OFF	2	54	38	076	56E	697771	723254	20	08	37	20	1345	31040
7	9	2	15	ON	2	52	14	077	22E	686072	711114	20	08	37	56	1347	31076
				OFF	2	49	36	077	47E	674047	698635	20	08	38	35	1349	31115
7	9	3	68	ON	2	47	12	078	07E	663772	687974	20	08	39	10	1351	31150
				OFF	2	36	01	079	11E	626136	648922	20	08	41	54	1358	31314

8	9	1	21	ON	2	60	49	052	32E	729441	756125	20	10	06	51	1337	36411
				OFF	2	57	02	053	33E	708872	734775	20	10	07	47	1342	36467
8	9	2	77	ON	2	50	45	054	45E	678068	702808	20	10	09	20	1348	36560
				OFF	2	38	01	056	10E	630880	653844	20	10	12	27	1357	36747
9	9	0	9	ON	1	37	15	132	32W	1296730	1345478	20	11	17	33	0227	40653
				OFF	1	40	15	132	18W	1277092	1325057	20	11	18	20	0229	40700
9	9	1	108	ON	2	62	49	029	00E	739528	766592	20	11	37	23	1333	41843
				OFF	2	44	01	032	45E	649565	673232	20	11	42	00	1353	42120
10	5	1	37	ON	2	26	46	011	08E	607919	630022	20	13	17	14	1401	47834
				OFF	2	21	00	011	22E	604578	626557	20	13	18	38	1404	47918
11	6	1	19	ON	2	29	44	011	52W	611314	633545	20	14	47	33	1400	53253
				OFF	2	26	39	011	43W	607504	629591	20	14	48	18	1401	53298
11	6	2	19	ON	2	24	12	011	36W	605552	627567	20	14	48	53	1402	53333
				OFF	2	21	06	011	28W	604492	626467	20	14	49	38	1403	53378
16	6	0	10	ON	2	37	56	126	43W	626284	649076	20	22	20	40	1353	80440
				OFF	2	36	12	126	36W	622101	644736	20	22	21	05	1354	80465
18	1	1	33	ON	2	69	37	180	06W	767941	796085	21	01	14	54	1314	04494
				OFF	2	63	25	176	59W	731106	757851	21	01	16	27	1328	04587
18	1	2	19	ON	2	18	43	171	26W	606152	628189	21	01	27	23	1401	05243
				OFF	2	15	38	171	20W	608632	630762	21	01	28	08	1402	05288
19	1	1	23	ON	2	72	36	154	39E	785492	814303	21	02	45	10	1303	09910
				OFF	2	68	03	157	59E	756914	784638	21	02	46	19	1318	09979
19	1	2	54	ON	2	63	36	160	04E	730882	757619	21	02	47	26	1327	10046
				OFF	2	53	53	162	42E	681408	706274	21	02	49	50	1340	10190
20	1	1	31	ON	2	75	09	128	55E	800930	830330	21	04	15	32	1251	15332
				OFF	2	69	04	134	31E	761647	789551	21	04	17	05	1315	15425
20	1	2	22	ON	2	51	38	140	14E	670569	695026	21	04	21	24	1342	15684
				OFF	2	47	56	140	47E	655673	679570	21	04	22	18	1345	15738
20	1	3	42	ON	3	13	06	143	42E	709693	735625	21	04	37	12	1412	16632
				OFF	3	20	42	143	57E	757243	784977	21	04	39	05	1414	16745
22	1	1	19	ON	2	83	24	054	17E	861869	893601	21	07	15	12	1052	26112
				OFF	2	80	20	072	03E	835024	865727	21	07	16	11	1204	26171
22	1	2	81	ON	2	76	45	080	48E	808728	838426	21	07	17	09	1240	26229
				OFF	2	62	06	092	01E	718983	745268	21	07	20	52	1329	26452
22	1	3	28	ON	2	58	42	093	02E	701385	727005	21	07	21	42	1333	26502
				OFF	2	54	00	094	06E	679040	703817	21	07	22	52	1339	26572
22	1	4	36	ON	2	06	47	097	27E	627085	649906	21	07	34	22	1404	27262
				OFF	2	01	07	097	36E	644852	668341	21	07	35	45	1406	27345
23	5	1	18	ON	2	82	31	038	38E	851488	882821	21	08	46	31	1121	31591
				OFF	2	79	17	052	26E	825334	855666	21	08	47	29	1217	31649
23	5	2	99	ON	2	51	43	071	38E	668296	692668	21	08	54	26	1341	32066
				OFF	2	36	04	073	22E	619198	641724	21	08	58	15	1351	32295
23	5	3	63	ON	2	33	38	073	32E	614690	637047	21	08	58	50	1352	32330
				OFF	2	24	01	074	02E	605813	627838	21	09	01	10	1357	32470
24	3	1	24	ON	2	27	16	051	01E	607141	629215	21	10	31	24	1355	37884
				OFF	2	23	33	051	11E	605848	627874	21	10	32	18	1357	37938
25	3	1	66	ON	2	58	48	024	26E	698584	724098	21	11	54	43	1332	42883
				OFF	2	48	02	026	28E	652336	676107	21	11	57	21	1343	43041
25	3	2	60	ON	2	00	57	029	02E	647959	671564	21	12	08	49	1404	43729
				OFF	3	08	44	029	17E	691463	716707	21	12	11	12	1408	43872
26	4	1	43	ON	2	25	48	005	22E	606291	628334	21	13	33	47	1355	48827
				OFF	2	19	03	005	39E	607687	629782	21	13	35	26	1358	48926
27	1	1	24	ON	2	83	23	059	52W	852715	884095	21	14	50	16	1050	53416
				OFF	2	79	17	039	00W	818604	848679	21	14	51	32	1215	53492
28	7	1	32	ON	2	66	45	047	03W	736904	763869	21	16	25	46	1317	59146

				OFF	2	61	09	044	49W	706779	732604	21	16	27	09	1327	59229
29	5	1	61	ON	3	18	57	061	50W	757574	785321	21	18	17	46	1410	65866
				OFF	3	30	34	061	20W	843705	874737	21	18	20	39	1415	66039
30	2	1	36	ON	2	75	46	100	31W	789072	818020	21	19	25	30	1243	69930
				OFF	2	69	08	094	07W	747847	775227	21	19	27	12	1310	70032
31	2	1	43	ON	2	71	05	118	21W	757929	785692	21	20	57	42	1304	75462
				OFF	2	63	34	114	14W	715514	741669	21	20	59	35	1322	75575
31	2	2	24	ON	2	33	48	109	21W	612377	634648	21	21	06	52	1349	76012
				OFF	2	30	01	109	07W	608083	630193	21	21	07	47	1351	76067
35	4	1	54	ON	2	59	57	155	32E	692519	717804	22	03	04	29	1326	11069
				OFF	2	51	08	157	25E	655159	679036	22	03	06	39	1336	11199
36	4	1	62	ON	2	51	52	134	26E	657060	681009	22	04	37	28	1335	16648
				OFF	2	42	11	135	41E	626613	649417	22	04	39	50	1342	16790
37	4	1	71	ON	2	77	57	095	36E	792387	821461	22	06	01	56	1224	21716
				OFF	2	65	22	107	52E	717274	743496	22	06	05	09	1316	21909
37	4	2	23	ON	2	53	59	111	12E	664369	688593	22	06	07	57	1332	22077
				OFF	2	50	16	111	50E	650313	674008	22	06	08	52	1336	22132
37	4	3	24	ON	2	42	32	112	47E	626928	649744	22	06	10	45	1341	22245
				OFF	2	38	45	113	08E	618484	640984	22	06	11	40	1344	22300
38	7	1	86	ON	2	75	20	077	12E	773599	801957	22	07	33	37	1242	27217
				OFF	2	60	17	086	51E	690722	715940	22	07	37	24	1324	27444
38	7	2	22	ON	2	57	49	087	31E	679465	704258	22	07	38	01	1328	27481
				OFF	2	54	09	088	19E	664051	688263	22	07	38	55	1332	27535
38	7	3	65	ON	2	49	45	089	04E	647720	671318	22	07	39	59	1336	27599
				OFF	2	39	36	090	12E	619735	642282	22	07	42	28	1343	27748
39	9	1	79	ON	2	48	16	066	25E	642037	665421	22	09	11	21	1337	33081
				OFF	2	36	01	067	37E	613024	635319	22	09	14	20	1344	33260
40	4	1	27	ON	2	71	51	035	16E	749335	776772	22	10	36	30	1257	38190
				OFF	2	67	10	038	26E	722908	749343	22	10	37	41	1311	38261
40	4	2	82	ON	2	60	53	040	57E	691265	716504	22	10	39	15	1323	38355
				OFF	2	47	35	043	39E	639128	662402	22	10	42	31	1337	38551
42	3	1	44	ON	2	25	52	000	21W	605971	628001	22	13	49	46	1348	49786
				OFF	2	19	06	000	04W	610981	633199	22	13	51	25	1351	49885
47	7	1	8	ON	2	37	54	115	21W	613477	635789	22	21	21	48	1340	76908
				OFF	2	36	35	115	15W	611645	633888	22	21	22	07	1341	76927
53	7	1	23	ON	2	54	55	105	21E	654151	677990	23	06	23	33	1324	23013
				OFF	2	51	11	106	01E	641598	664966	23	06	24	28	1328	23068
53	7	2	160	ON	2	42	54	107	04E	620229	642795	23	06	26	29	1334	23189
				OFF	2	18	15	108	33E	616444	638866	23	06	32	29	1346	23549
54	7	1	35	ON	2	57	53	081	50E	664409	688635	23	07	53	48	1321	28428
				OFF	2	52	09	083	00E	643966	667423	23	07	55	12	1327	28512
54	7	2	90	ON	2	42	51	084	14E	619728	642274	23	07	57	28	1334	28648
				OFF	2	29	13	085	13E	606529	628580	23	08	00	47	1341	28847
55	8	1	152	ON	2	60	53	058	08E	675765	700419	23	09	24	02	1316	33842
				OFF	2	37	07	061	52E	610606	632811	23	09	29	51	1337	34191
56	9	1	21	ON	2	71	50	029	37E	727420	754026	23	10	52	17	1250	39137
				OFF	2	68	14	032	10E	708633	734527	23	10	53	11	1301	39191
56	9	2	118	ON	2	62	54	034	37E	683490	708435	23	10	54	31	1313	39271
				OFF	2	44	08	038	23E	621545	644160	23	10	59	07	1332	39547
56	9	3	38	ON	2	33	52	039	15E	607737	629834	23	11	01	37	1338	39697
				OFF	2	28	06	039	34E	606947	629014	23	11	03	01	1341	39781
58	3	1	37	ON	2	28	53	006	09W	606981	629049	23	14	04	46	1340	50686
				OFF	2	23	05	005	53W	611136	633360	23	14	06	11	1342	50771
62	5	1	21	ON	2	27	47	097	30W	608423	630545	23	20	08	56	1338	72536
				OFF	2	24	33	097	21W	611093	633315	23	20	09	43	1340	72583

NO [redacted]

63	5	1	16	ON	2	38	33	121	02W	611163	633368	23	21	37	17	1333	77837
				OFF	2	34	57	120	46W	608384	630505	23	21	38	09	1335	77889

NOTES

1) TM DATA INDICATE NORMAL SYSTEM PERFORMANCE.
2) THE S/I HAD EXHAUSTED FILM SUPPLY BY REV 63 OPERATION.
3) THE LAST FEW FRAMES OF OPN 63-5-1 ARE CONTAINED IN THE SECOND MISSION CAPSULE. THESE ARE NOT INCLUDED IN THE ABOVE LISTED NUMBER OF FRAMES OR FEET. ACTUALLY, 21 FRAMES WERE TAKEN BY EACH CAMERA DURING THE OPERATION.
4) A COMMAND ANOMALY WAS EXPERIENCED DURING THE PERIOD FROM REV 30 [redacted] FADE TO REV 31 [redacted] RISE, THE EFFECT OF WHICH WAS TO OFFSET THE ORBIT TIMER BY 18 SEC ON REV 31. WHILE INVESTIGATION IS CONTINUING, THE MORE PROBABLE CAUSES ARE THOUGHT TO BE RFI FROM AN EXTERNAL SOURCE (BOTH S BAND AND VHF) OR AN INTERNAL PROBLEM IN THE S BAND BEACON.
5) STEREO SUPPRESS WAS UTILIZED FOR OPERATIONS ON REVS 1 AND 47 TO PROVIDE A TEST OF VEHICLE STABILITY DURING NONSIMULTANEOUS CAMERA STARTUP AND SHUTDOWN.

PHOTOGRAPHIC SUMMARY

FWD PAN CAMERA NC 168 0.2500 SLIT W/25 FILTER 3404 FILM

OPN	NO		FRA	FEET		ET	S-EL	S-DIR	EV	FULL	INT	PRI
PRE-FLT			128	338.6								
1	4	0	20	52.9	ON	207	42.5	39.8	11.54	12.08	11.48	10.88
					OFF	215	45.6	42.3	11.60	12.09	11.49	10.89
2	4	1	16	42.3	ON	193	37.8	36.9	11.45	12.05	11.45	10.85
					OFF	200	40.5	38.3	11.50	12.07	11.47	10.87
5	5	1	73	193.1	ON	177	29.2	34.8	11.32	11.96	11.36	10.76
					OFF	206	41.9	38.8	11.54	12.08	11.48	10.88
5	5	2	22	58.2	ON	252	58.6	62.9	11.83	12.10	11.50	10.90
					OFF	256	60.2	68.6	11.85	12.10	11.50	10.90
6	5	1	47	124.3	ON	207	42.2	38.9	11.55	12.08	11.48	10.88
					OFF	225	48.8	44.7	11.67	12.10	11.50	10.90
6	5	2	21	55.5	ON	233	51.5	48.0	11.71	12.10	11.50	10.90
					OFF	239	53.9	51.6	11.75	12.10	11.50	10.90
6	5	3	23	60.8	ON	251	58.4	62.0	11.83	12.10	11.50	10.90
					OFF	256	60.0	67.6	11.85	12.10	11.50	10.90
7	9	1	15	39.7	ON	229	50.1	46.1	11.69	12.10	11.50	10.90
					OFF	234	51.9	48.4	11.72	12.10	11.50	10.90
7	9	2	15	39.7	ON	238	53.5	50.8	11.75	12.10	11.50	10.90
					OFF	242	55.1	53.7	11.77	12.10	11.50	10.90
7	9	3	69	182.5	ON	246	56.5	56.6	11.80	12.10	11.50	10.90
					OFF	260	61.3	73.5	11.87	12.10	11.50	10.90
8	9	1	21	55.5	ON	223	47.6	43.1	11.65	12.10	11.50	10.90
					OFF	230	50.3	46.1	11.70	12.10	11.50	10.90
8	9	2	78	206.3	ON	241	54.4	52.2	11.77	12.10	11.50	10.90
					OFF	258	60.7	69.9	11.86	12.10	11.50	10.90
9	9	0	9	23.8	ON	115	-21.5	29.6	10.70	0.	0.	0.
					OFF	116	-18.9	29.1	10.71	0.	0.	0.
9	9	1	109	288.3	ON	217	46.1	41.5	11.62	12.10	11.50	10.90
					OFF	249	58.3	60.4	11.81	12.10	11.50	10.90
10	5	1	37	97.9	ON	264	62.9	90.5	11.90	12.10	11.50	10.90
					OFF	265	62.3	101.6	11.90	12.10	11.50	10.90
11	6	1	19	50.3	ON	263	62.8	84.6	11.89	12.10	11.50	10.90

					OFF	264	63.0	90.6	11.90	12.10	11.50	10.90
11	6	2	19	50.3	ON	265	62.8	95.4	11.90	12.10	11.50	10.90
					OFF	265	62.4	101.4	11.90	12.10	11.50	10.90
16	6	0	10	26.5	ON	257	61.3	68.8	11.86	12.10	11.50	10.90
					OFF	259	61.9	71.8	11.87	12.10	11.50	10.90
18	1	1	33	87.3	ON	207	40.8	36.3	11.54	12.07	11.47	10.87
					OFF	219	45.8	39.8	11.63	12.10	11.50	10.90
18	1	2	19	50.3	ON	265	62.5	105.6	11.90	12.10	11.50	10.90
					OFF	264	61.6	111.2	11.90	12.10	11.50	10.90
19	1	1	23	60.8	ON	201	38.3	34.8	11.50	12.06	11.46	10.86
					OFF	210	42.0	36.9	11.57	12.08	11.48	10.88
19	1	2	54	142.8	ON	220	45.6	39.5	11.63	12.09	11.49	10.89
					OFF	237	52.8	47.2	11.74	12.10	11.50	10.90
20	1	1	31	82.0	ON	195	36.0	33.8	11.46	12.04	11.44	10.84
					OFF	208	41.2	36.3	11.56	12.07	11.47	10.87
20	1	2	22	58.2	ON	241	54.3	49.3	11.77	12.10	11.50	10.90
					OFF	246	56.6	53.5	11.80	12.10	11.50	10.90
20	1	3	42	111.1	ON	230	43.5	142.6	11.70	12.09	11.49	10.89
					OFF	216	37.2	146.4	11.61	12.05	11.45	10.85
22	1	1	19	50.3	ON	188	27.8	33.2	11.41	11.94	11.34	10.74
					OFF	194	31.2	32.5	11.46	11.99	11.39	10.79
22	1	2	81	214.2	ON	202	34.6	33.1	11.51	12.03	11.43	10.83
					OFF	233	46.8	40.0	11.72	12.10	11.50	10.90
22	1	3	28	74.1	ON	239	49.4	42.5	11.76	12.10	11.50	10.90
					OFF	247	52.8	46.6	11.80	12.10	11.50	10.90
22	1	4	36	95.2	ON	267	57.8	124.8	11.91	12.10	11.50	10.90
					OFF	261	54.2	131.4	11.88	12.10	11.50	10.90
23	5	1	18	47.6	ON	192	28.9	32.6	11.44	11.96	11.36	10.76
					OFF	198	32.2	32.4	11.48	12.00	11.40	10.80
23	5	2	99	261.9	ON	253	54.4	48.7	11.83	12.10	11.50	10.90
					OFF	271	62.5	70.9	11.93	12.10	11.50	10.90
23	5	3	63	166.6	ON	272	63.2	75.5	11.94	12.10	11.50	10.90
					OFF	275	64.0	95.0	11.96	12.10	11.50	10.90
24	3	1	24	63.5	ON	275	64.2	88.1	11.96	12.10	11.50	10.90
					OFF	276	64.1	95.8	11.96	12.10	11.50	10.90
25	3	1	66	174.6	ON	242	49.4	42.0	11.77	12.10	11.50	10.90
					OFF	258	56.8	52.5	11.87	12.10	11.50	10.90
25	3	2	60	158.7	ON	261	54.4	131.8	11.88	12.10	11.50	10.90
					OFF	246	47.3	140.2	11.80	12.10	11.50	10.90
26	4	1	43	113.7	ON	275	64.4	91.0	11.96	12.10	11.50	10.90
					OFF	275	63.4	104.8	11.96	12.10	11.50	10.90
27	1	1	24	63.5	ON	191	27.8	32.6	11.43	11.94	11.34	10.74
					OFF	199	32.2	31.9	11.49	12.00	11.40	10.80
28	7	1	32	84.6	ON	228	43.2	36.4	11.68	12.09	11.49	10.89
					OFF	238	47.6	39.8	11.75	12.10	11.50	10.90
29	5	1	62	164.0	ON	225	39.3	146.4	11.67	12.06	11.46	10.86
					OFF	201	29.2	150.6	11.50	11.96	11.36	10.76
30	2	1	36	95.2	ON	209	35.4	32.3	11.56	12.03	11.43	10.83
					OFF	223	41.2	34.9	11.66	12.07	11.47	10.87
31	2	1	44	116.4	ON	218	39.5	33.9	11.62	12.06	11.46	10.86
					OFF	233	45.8	37.7	11.72	12.10	11.50	10.90
31	2	2	24	63.5	ON	273	63.8	74.0	11.94	12.10	11.50	10.90
					OFF	274	64.6	81.6	11.95	12.10	11.50	10.90
35	4	1	54	142.8	ON	244	48.7	39.6	11.78	12.10	11.50	10.90
					OFF	257	55.1	47.3	11.86	12.10	11.50	10.90

36	4	1	62	164.0	ON	257	54.7	46.3	11.86	12.10	11.50	10.90
					OFF	268	60.7	58.5	11.92	12.10	11.50	10.90
37	4	1	71	187.8	ON	207	33.3	30.9	11.55	12.01	11.41	10.81
					OFF	234	44.3	35.8	11.72	12.09	11.49	10.89
37	4	2	23	60.8	ON	254	53.2	44.1	11.84	12.10	11.50	10.90
					OFF	259	55.8	47.8	11.87	12.10	11.50	10.90
37	4	3	24	63.5	ON	268	60.5	57.8	11.92	12.10	11.50	10.90
					OFF	271	62.4	63.9	11.93	12.10	11.50	10.90
38	7	1	86	227.5	ON	214	35.7	31.4	11.60	12.04	11.44	10.84
					OFF	244	48.4	38.8	11.78	12.10	11.50	10.90
38	7	2	22	58.2	ON	248	50.4	40.7	11.81	12.10	11.50	10.90
					OFF	254	53.1	43.8	11.84	12.10	11.50	10.90
38	7	3	65	171.9	ON	260	56.2	48.2	11.88	12.10	11.50	10.90
					OFF	270	62.1	62.2	11.93	12.10	11.50	10.90
39	9	1	79	209.0	ON	262	57.2	49.8	11.89	12.10	11.50	10.90
					OFF	273	63.6	68.4	11.94	12.10	11.50	10.90
40	4	1	27	71.4	ON	222	38.8	32.3	11.65	12.06	11.46	10.86
					OFF	231	42.9	34.4	11.71	12.08	11.48	10.88
40	4	2	82	216.9	ON	243	48.0	38.1	11.78	12.10	11.50	10.90
					OFF	263	57.7	50.4	11.89	12.10	11.50	10.90
42	3	1	43	113.7	ON	274	65.9	89.4	11.95	12.10	11.50	10.90
					OFF	272	65.1	104.2	11.94	12.10	11.50	10.90
47	7	1	20	52.9	ON	271	62.9	61.8	11.93	12.10	11.50	10.90
					OFF	272	64.3	67.7	11.94	12.10	11.50	10.90
53	7	1	23	60.8	ON	256	52.9	40.6	11.85	12.10	11.50	10.90
					OFF	261	55.7	44.1	11.88	12.10	11.50	10.90
53	7	2	161	425.8	ON	269	61.1	54.3	11.92	12.10	11.50	10.90
					OFF	270	66.0	105.8	11.93	12.10	11.50	10.90
54	7	1	35	92.6	ON	252	50.6	38.1	11.83	12.10	11.50	10.90
					OFF	260	55.0	42.9	11.87	12.10	11.50	10.90
54	7	2	90	238.0	ON	269	61.2	54.2	11.93	12.10	11.50	10.90
					OFF	274	66.7	80.3	11.95	12.10	11.50	10.90
55	8	1	153	404.7	ON	248	48.2	35.8	11.81	12.10	11.50	10.90
					OFF	273	64.3	63.6	11.94	12.10	11.50	10.90
56	9	1	21	55.5	ON	228	38.8	30.2	11.69	12.06	11.46	10.86
					OFF	235	42.0	31.7	11.73	12.08	11.48	10.88
56	9	2	119	314.8	ON	245	46.5	34.4	11.79	12.10	11.50	10.90
					OFF	269	60.5	52.0	11.92	12.10	11.50	10.90
56	9	3	38	100.5	ON	274	65.6	69.8	11.95	12.10	11.50	10.90
					OFF	274	67.0	82.6	11.95	12.10	11.50	10.90
58	3	1	37	97.9	ON	274	67.1	80.5	11.95	12.10	11.50	10.90
					OFF	272	67.3	94.4	11.94	12.10	11.50	10.90
62	5	1	21	55.5	ON	274	67.6	82.6	11.95	12.10	11.50	10.90
					OFF	273	67.8	90.5	11.94	12.10	11.50	10.90
63	5	1	17	45.0	ON	273	64.1	59.4	11.94	12.10	11.50	10.90
					OFF	274	65.7	66.3	11.95	12.10	11.50	10.90

PHOTOGRAPHIC SUMMARY

AFT PAN CAMERA NO 169 0.1750 SLIT W/21 FILTER 3404 FILM

OPN	NO	FRA	FEET		ET	S-EL	S-DIR	EV	FULL	INT	PRI
PRE-FLT		129	341.2								
1	4	0	10	26.5	ON	293	42.4	39.1	12.05	12.73	12.13	11.53
					OFF	299	44.0	40.4	12.08	12.74	12.14	11.54
2	4	1	15	39.7	ON	272	36.9	35.1	11.94	12.70	12.10	11.50
					OFF	282	39.6	36.9	11.99	12.71	12.11	11.51

NO. [redacted]

5	5	1	73	193.1	ON	249	28.0	28.5	11.81	12.60	12.00	11.40
					OFF	289	41.0	37.5	12.03	12.72	12.12	11.52
5	5	2	22	58.2	ON	354	58.2	61.3	12.32	12.75	12.15	11.55
					OFF	360	59.8	67.0	12.34	12.75	12.15	11.55
6	5	1	46	121.7	ON	292	41.3	37.5	12.04	12.73	12.13	11.53
					OFF	316	48.0	43.4	12.16	12.75	12.15	11.55
6	5	2	21	55.5	ON	327	50.8	46.7	12.21	12.75	12.15	11.55
					OFF	336	53.3	50.3	12.24	12.75	12.15	11.55
6	5	3	22	58.2	ON	354	58.0	60.4	12.32	12.75	12.15	11.55
					OFF	360	59.7	66.0	12.34	12.75	12.15	11.55
7	9	1	14	37.0	ON	322	49.4	44.8	12.19	12.75	12.15	11.55
					OFF	329	51.2	47.2	12.21	12.75	12.15	11.55
7	9	2	15	39.7	ON	335	52.9	49.5	12.24	12.75	12.15	11.55
					OFF	341	54.5	52.3	12.26	12.75	12.15	11.55
7	9	3	68	179.9	ON	346	56.0	55.1	12.29	12.75	12.15	11.55
					OFF	365	61.1	71.7	12.36	12.75	12.15	11.55
8	9	1	21	55.5	ON	313	46.8	41.9	12.14	12.75	12.15	11.55
					OFF	323	49.6	44.9	12.19	12.75	12.15	11.55
8	9	2	77	203.7	ON	339	53.9	50.9	12.26	12.75	12.15	11.55
					OFF	363	60.4	68.2	12.35	12.75	12.15	11.55
9	9	0	9	23.8	ON	161	-23.2	29.7	11.19	0.	0.	0.
					OFF	163	-20.6	29.1	11.20	0.	0.	0.
9	9	1	108	285.7	ON	310	45.3	40.3	12.13	12.74	12.14	11.54
					OFF	356	57.8	58.9	12.33	12.75	12.15	11.55
10	5	1	37	97.9	ON	377	62.9	88.7	12.41	12.75	12.15	11.55
					OFF	379	62.5	99.9	12.42	12.75	12.15	11.55
11	6	1	19	50.3	ON	375	62.8	82.8	12.40	12.75	12.15	11.55
					OFF	377	63.0	88.8	12.41	12.75	12.15	11.55
11	6	2	19	50.3	ON	378	63.0	93.6	12.42	12.75	12.15	11.55
					OFF	379	62.6	99.7	12.42	12.75	12.15	11.55
16	6	0	10	26.5	ON	368	61.0	67.1	12.38	12.75	12.15	11.55
					OFF	370	61.6	70.0	12.38	12.75	12.15	11.55
18	1	1	33	87.3	ON	295	39.8	34.9	12.06	12.72	12.12	11.52
					OFF	313	44.9	38.6	12.14	12.74	12.14	11.54
18	1	2	19	50.3	ON	378	62.8	103.9	12.42	12.75	12.15	11.55
					OFF	377	61.9	109.6	12.41	12.75	12.15	11.55
19	1	1	23	60.8	ON	287	37.3	33.3	12.02	12.70	12.10	11.50
					OFF	300	41.2	35.7	12.08	12.72	12.12	11.52
19	1	2	54	142.8	ON	314	44.8	38.3	12.15	12.74	12.14	11.54
					OFF	339	52.1	45.9	12.26	12.75	12.15	11.55
20	1	1	31	82.0	ON	279	35.0	31.9	11.98	12.68	12.08	11.48
					OFF	298	40.3	35.0	12.07	12.72	12.12	11.52
20	1	2	22	58.2	ON	345	53.7	48.0	12.28	12.75	12.15	11.55
					OFF	352	56.1	52.1	12.31	12.75	12.15	11.55
20	1	3	42	111.1	ON	329	44.3	142.0	12.21	12.74	12.14	11.54
					OFF	309	38.1	146.0	12.12	12.70	12.10	11.50
22	1	1	19	50.3	ON	269	26.7	25.5	11.93	12.57	11.97	11.37
					OFF	278	30.2	28.7	11.97	12.63	12.03	11.43
22	1	2	81	214.2	ON	289	33.6	30.8	12.03	12.67	12.07	11.47
					OFF	333	46.0	38.9	12.23	12.75	12.15	11.55
22	1	3	28	74.1	ON	342	48.6	41.4	12.27	12.75	12.15	11.55
					OFF	353	52.1	45.4	12.32	12.75	12.15	11.55
22	1	4	36	95.2	ON	381	58.3	123.6	12.43	12.75	12.15	11.55
					OFF	373	54.9	130.5	12.39	12.75	12.15	11.55
23	5	1	18	47.6	ON	273	27.8	26.6	11.95	12.59	11.99	11.39

					NG[redacted]		[redacted]	[redacted]	11.99	12.64	12.04	11.44
23	5	2	99	261.9	ON	360	53.7	47.4	12.34	12.75	12.15	11.55
					OFF	385	62.2	69.2	12.44	12.75	12.15	11.55
23	5	3	63	166.6	ON	388	63.0	73.6	12.45	12.75	12.15	11.55
					OFF	392	64.1	93.1	12.47	12.75	12.15	11.55
24	3	1	24	63.5	ON	392	64.2	86.2	12.47	12.75	12.15	11.55
					OFF	392	64.2	94.0	12.47	12.75	12.15	11.55
25	3	1	66	174.6	ON	344	48.6	40.8	12.28	12.75	12.15	11.55
					OFF	368	56.2	51.1	12.38	12.75	12.15	11.55
25	3	2	60	158.7	ON	371	55.1	130.9	12.39	12.75	12.15	11.55
					OFF	351	48.1	139.6	12.31	12.75	12.15	11.55
26	4	1	43	113.7	ON	392	64.4	89.1	12.47	12.75	12.15	11.55
					OFF	392	63.7	103.0	12.46	12.75	12.15	11.55
27	1	1	24	63.5	ON	272	26.7	25.0	11.94	12.57	11.97	11.37
					OFF	284	31.1	28.8	12.00	12.64	12.04	11.44
28	7	1	32	84.6	ON	324	42.3	35.2	12.19	12.73	12.13	11.53
					OFF	339	46.8	38.7	12.26	12.75	12.15	11.55
29	5	1	61	161.3	ON	321	40.3	146.0	12.18	12.72	12.12	11.52
					OFF	286	30.3	150.4	12.01	12.63	12.03	11.43
30	2	1	36	95.2	ON	298	34.4	30.3	12.07	12.67	12.07	11.47
					OFF	318	40.3	33.6	12.16	12.72	12.12	11.52
31	2	1	43	113.7	ON	311	38.6	32.5	12.13	12.71	12.11	11.51
					OFF	332	44.9	36.6	12.23	12.74	12.14	11.54
31	2	2	24	63.5	ON	389	63.5	72.1	12.45	12.75	12.15	11.55
					OFF	391	64.5	79.7	12.46	12.75	12.15	11.55
35	4	1	54	142.8	ON	347	47.9	38.5	12.29	12.75	12.15	11.55
					OFF	366	54.5	46.0	12.37	12.75	12.15	11.55
36	4	1	62	164.0	ON	368	54.0	45.1	12.37	12.75	12.15	11.55
					OFF	383	60.2	56.9	12.43	12.75	12.15	11.55
37	4	1	71	187.8	ON	297	32.3	28.4	12.07	12.65	12.05	11.45
					OFF	335	43.5	34.7	12.24	12.74	12.14	11.54
37	4	2	23	60.8	ON	363	52.5	42.9	12.36	12.75	12.15	11.55
					OFF	371	55.2	46.6	12.39	12.75	12.15	11.55
37	4	3	24	63.5	ON	383	60.1	56.2	12.43	12.75	12.15	11.55
					OFF	388	62.0	62.2	12.45	12.75	12.15	11.55
38	7	1	86	227.5	ON	307	34.8	29.5	12.11	12.68	12.08	11.48
					OFF	349	47.7	37.8	12.30	12.75	12.15	11.55
38	7	2	22	58.2	ON	356	49.6	39.6	12.33	12.75	12.15	11.55
					OFF	363	52.4	42.6	12.36	12.75	12.15	11.55
38	7	3	65	171.9	ON	373	55.6	47.0	12.39	12.75	12.15	11.55
					OFF	387	61.7	60.6	12.45	12.75	12.15	11.55
39	9	1	79	209.0	ON	375	56.6	48.4	12.40	12.75	12.15	11.55
					OFF	390	63.3	66.6	12.46	12.75	12.15	11.55
40	4	1	27	71.4	ON	318	37.9	30.9	12.17	12.70	12.10	11.50
					OFF	331	42.0	33.3	12.22	12.73	12.13	11.53
40	4	2	82	216.9	ON	349	47.2	37.1	12.30	12.75	12.15	11.55
					OFF	376	57.1	49.1	12.41	12.75	12.15	11.55
42	3	1	44	116.4	ON	391	65.9	87.3	12.46	12.75	12.15	11.55
					OFF	388	65.3	102.3	12.45	12.75	12.15	11.55
47	7	1	8	21.2	ON	387	63.0	61.8	12.45	12.75	12.15	11.55
					OFF	388	63.6	64.2	12.45	12.75	12.15	11.55
53	7	1	23	60.8	ON	366	52.1	39.5	12.37	12.75	12.15	11.55
					OFF	372	55.0	42.9	12.39	12.75	12.15	11.55
53	7	2	160	423.2	ON	384	60.6	52.8	12.44	12.75	12.15	11.55
					OFF	385	66.3	103.8	12.44	12.75	12.15	11.55

54	7	1	35	92.6	ON	360	49.8	37.0	12.34	12.75	12.15	11.55
					OFF	371	54.3	41.8	12.39	12.75	12.15	11.55
54	7	2	90	238.0	ON	384	60.7	52.7	12.44	12.75	12.15	11.55
					OFF	391	66.6	78.2	12.46	12.75	12.15	11.55
55	8	1	152	402.0	ON	354	47.4	34.8	12.32	12.75	12.15	11.55
					OFF	389	63.9	61.8	12.45	12.75	12.15	11.55
56	9	1	21	55.5	ON	326	37.8	28.9	12.20	12.70	12.10	11.50
					OFF	335	41.1	30.6	12.24	12.72	12.12	11.52
56	9	2	118	312.1	ON	350	45.7	33.4	12.30	12.74	12.14	11.54
					OFF	383	60.0	50.5	12.43	12.75	12.15	11.55
56	9	3	38	100.5	ON	390	65.3	67.8	12.46	12.75	12.15	11.55
					OFF	391	66.9	80.4	12.46	12.75	12.15	11.55
58	3	1	37	97.9	ON	391	67.0	78.4	12.46	12.75	12.15	11.55
					OFF	388	67.4	92.2	12.45	12.75	12.15	11.55
62	5	1	21	55.5	ON	390	67.5	80.4	12.46	12.75	12.15	11.55
					OFF	389	67.8	88.3	12.45	12.75	12.15	11.55
63	5	1	16	42.3	ON	389	63.6	57.7	12.46	12.75	12.15	11.55
					OFF	390	65.4	64.4	12.46	12.75	12.15	11.55

STELLAR-INDEX SUMMARY

CAMERA DATA	ET	FILM	FILTER	GRID	ASSEMBLY NO D65
STELLAR	2.0	3401	NONE	77	
INDEX	1/500	3400	W/21	70	

PERFORMANCE SUMMARY

OPN	NO	FR	STEL FEET	INDX FEET	H	M	S	Q	ON LAT	ON LONG	Q	OFF LAT	OFF LONG	SEC DUR
PRE-FLT		18	1.78	3.56										
1	4	0	3	0.30	0.59	23	27	58	2	66	149W	2	62 147W	60
2	4	1	2	0.20	0.40	00	57	32	2	71	176W	2	68 173W	49
5	5	1	10	0.99	1.98	05	28	03	2	81	095E	2	67 118E	231
5	5	2	4	0.40	0.79	05	38	10	2	41	124E	2	38 124E	55
6	5	1	6	0.59	1.19	07	03	02	2	66	096E	2	58 099E	130
6	5	2	3	0.30	0.59	07	06	09	2	54	099E	2	50 100E	55
6	5	3	4	0.40	0.79	07	09	05	2	42	101E	2	38 101E	55
7	9	1	2	0.20	0.40	08	36	42	2	56	076E	2	53 077E	38
7	9	2	2	0.20	0.40	08	37	56	2	51	077E	2	48 077E	39
7	9	3	10	0.99	1.98	08	39	10	2	46	078E	2	35 079E	164
8	9	1	3	0.30	0.59	10	06	51	2	59	052E	2	56 053E	56
8	9	2	11	1.09	2.18	10	09	20	2	49	054E	2	37 056E	187
9	9	0	1	0.10	0.20	11	17	33	1	39	132W	1	42 132W	47
9	9	1	16	1.58	3.17	11	37	23	2	61	029E	2	43 032E	277
10	5	1	5	0.50	0.99	13	17	14	2	25	011E	2	20 011E	84
11	6	1	3	0.30	0.59	14	47	33	2	28	011W	2	25 011W	45
11	6	2	2	0.20	0.40	14	48	53	2	23	011W	2	20 011W	45
16	6	0	2	0.20	0.40	22	20	40	2	37	126W	2	35 126W	25
18	1	1	5	0.50	0.99	01	14	54	2	68	179W	2	62 176W	93
18	1	2	2	0.20	0.40	01	27	23	2	17	171W	2	14 171W	45
19	1	1	4	0.40	0.79	02	45	10	2	71	155E	2	66 158E	69
19	1	2	7	0.69	1.39	02	47	26	2	62	160E	2	52 162E	144
20	1	1	5	0.50	0.99	04	15	32	2	74	130E	2	67 135E	93
20	1	2	3	0.30	0.59	04	21	24	2	50	140E	2	46 140E	54
20	1	3	6	0.59	1.19	04	37	12	3	14	143E	3	21 144E	113
22	1	1	3	0.30	0.59	07	15	12	2	82	061E	2	79 075E	59
22	1	2	11	1.09	2.18	07	17	09	2	75	082E	2	61 092E	223
22	1	3	4	0.40	0.79	07	21	42	2	57	093E	2	53 094E	70

22	1	4	5	0.50	0.99	07	34	22	2	05	097E	2	00	097E	83
23	5	1	3	0.30	0.59	08	46	31	2	81	044E	2	78	055E	58
23	5	2	14	1.39	2.77	08	54	26	2	50	071E	2	35	073E	229
23	5	3	9	0.89	1.78	08	58	50	2	32	073E	2	23	074E	140
24	3	1	3	0.30	0.59	10	31	24	2	26	051E	2	22	051E	54
25	3	1	10	0.99	1.98	11	54	43	2	57	024E	2	47	026E	158
25	3	2	8	0.79	1.58	12	08	49	2	00	029E	3	09	029E	143
26	4	1	7	0.69	1.39	13	33	47	2	24	005E	2	18	005E	99
27	1	1	3	0.30	0.59	14	50	16	2	82	052W	2	78	036W	76
28	7	1	5	0.50	0.99	16	25	46	2	65	046W	2	60	044W	83
29	5	1	8	0.79	1.58	18	17	46	3	20	061W	3	31	061W	173
30	2	1	6	0.59	1.19	19	25	30	2	74	098W	2	68	093W	102
31	2	1	6	0.59	1.19	20	57	42	2	70	117W	2	62	113W	113
31	2	2	3	0.30	0.59	21	06	52	2	32	109W	2	29	109W	55
35	4	1	8	0.79	1.58	03	04	29	2	58	155E	2	50	157E	130
36	4	1	9	0.89	1.78	04	37	28	2	50	134E	2	41	135E	142
37	4	1	10	0.99	1.98	06	01	56	2	76	097E	2	64	108E	193
37	4	2	3	0.30	0.59	06	07	57	2	53	111E	2	49	112E	55
37	4	3	4	0.40	0.79	06	10	45	2	41	112E	2	37	113E	55
38	7	1	12	1.19	2.38	07	33	37	2	74	078E	2	59	087E	227
38	7	2	3	0.30	0.59	07	38	01	2	56	087E	2	53	088E	54
38	7	3	9	0.89	1.78	07	39	59	2	48	089E	2	38	090E	149
39	9	1	12	1.19	2.38	09	11	21	2	47	066E	2	35	067E	179
40	4	1	4	0.40	0.79	10	36	30	2	70	036E	2	66	039E	71
40	4	2	11	1.09	2.18	10	39	15	2	59	041E	2	46	043E	196
42	3	1	6	0.59	1.19	13	49	46	2	24	000W	2	18	000E	99
47	7	1	3	0.30	0.59	21	21	33	2	37	115W	2	34	115W	47
53	7	1	4	0.40	0.79	06	23	33	2	53	105E	2	50	106E	55
53	7	2	23	2.28	4.55	06	26	29	2	42	107E	2	17	108E	360
54	7	1	5	0.50	0.99	07	53	48	2	56	082E	2	51	083E	84
54	7	2	12	1.19	2.38	07	57	28	2	41	084E	2	28	085E	199
55	8	1	22	2.18	4.36	09	24	02	2	59	058E	2	36	062E	349
56	9	1	3	0.30	0.59	10	52	17	2	70	030E	2	67	032E	54
56	9	2	17	1.68	3.37	10	54	31	2	61	035E	2	43	038E	276
56	9	3	6	0.59	1.19	11	01	37	2	32	039E	2	27	039E	84
58	3	1	5	0.50	0.99	14	04	46	2	28	006W	2	22	005W	85
62	5	1	3	0.30	0.59	20	08	56	2	26	097W	2	23	097W	47
63	5	1	3	0.30	0.59	21	37	17	2	37	120W	2	34	120W	52

[redacted]

TOP SECRET [redacted]

NO. [redacted]

A. 1022-1, LAUNCH 2201Z, 7/19/65
B. DRY
C. FINAL PERFORMANCE ESTIMATE, PART 2

RATE ESTIMATE
FWD PAN CAMERA NUMBER 168

OPN	NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN R/SEC	RATE I/SEC	PCT CALIB	RATE REQD
1	4 0	20	8	3 ON	1205	0.3433	0.02896	2.157	51.76	-1.6	-1.4
				OFF	60	0.3567	0.03010	2.241	53.79	-1.6	-1.1
2	4 1	16	8	3 ON	1115	0.3215	0.02713	2.020	48.48	-1.6	-2.9
				OFF	49	0.3327	0.02808	2.091	50.18	-1.6	-2.4
5	5 1	73	8	3 ON	971	0.2943	0.02483	1.849	44.37	-1.6	-3.1
				OFF	231	0.3418	0.02884	2.148	51.54	-1.6	-1.9
5	5 2	22	8	3 ON	1578	0.4184	0.03531	2.629	63.10	-1.6	-1.1
				OFF	55	0.4255	0.03590	2.674	64.17	-1.6	-1.5
6	5 1	47	8	3 ON	1210	0.3445	0.02907	2.165	51.95	-1.6	-1.6
				OFF	130	0.3736	0.03152	2.347	56.34	-1.6	-0.9
6	5 2	21	8	3 ON	1398	0.3863	0.03260	2.427	58.26	-1.6	-0.7
				OFF	55	0.3965	0.03345	2.491	59.79	-1.6	-0.9
6	5 3	23	8	3 ON	1574	0.4177	0.03525	2.625	62.99	-1.6	-1.1
				OFF	55	0.4249	0.03585	2.670	64.07	-1.6	-1.5
7	9 1	15	8	3 ON	1372	0.3810	0.03215	2.394	57.45	-1.6	-0.7
				OFF	38	0.3883	0.03276	2.439	58.55	-1.6	-0.8
7	9 2	15	8	3 ON	1446	0.3958	0.03340	2.487	59.69	-1.6	-0.7
				OFF	39	0.4024	0.03396	2.529	60.68	-1.6	-0.9
7	9 3	69	8	3 ON	1520	0.4091	0.03452	2.571	61.70	-1.6	-0.9
				OFF	164	0.4314	0.03640	2.711	65.06	-1.6	-1.8
8	9 1	21	8	3 ON	1322	0.3702	0.03124	2.326	55.83	-1.6	-0.9
				OFF	56	0.3816	0.03220	2.398	57.55	-1.6	-0.9
8	9 2	78	8	3 ON	1471	0.4005	0.03380	2.517	60.40	-1.6	-0.8
				OFF	187	0.4285	0.03616	2.692	64.62	-1.6	-1.7
9	9 0	9	8	3 ON	106	0.1910	0.01612	1.200	28.81	-1.6	-4.0
				OFF	47	0.1925	0.01624	1.209	29.03	-1.6	-5.0
9	9 1	109	8	3 ON	1296	0.3608	0.03045	2.267	54.41	-2.6	-2.0
				OFF	277	0.4131	0.03486	2.596	62.30	-2.6	-2.3
10	5 1	37	8	3 ON	1827	0.4383	0.03698	2.754	66.09	-2.6	-3.4
				OFF	84	0.4402	0.03715	2.766	66.38	-2.6	-3.5
11	6 1	19	8	3 ON	1788	0.4363	0.03681	2.741	65.79	-2.6	-3.2
				OFF	45	0.4384	0.03699	2.754	66.11	-2.6	-3.4
11	6 2	19	8	3 ON	1868	0.4397	0.03710	2.762	66.30	-2.6	-3.5
				OFF	45	0.4402	0.03715	2.766	66.39	-2.6	-3.5
16	6 0	10	8	3 ON	1682	0.4275	0.03607	2.686	64.47	-2.6	-2.7
				OFF	25	0.4297	0.03626	2.700	64.80	-2.6	-2.9
18	1 1	33	8	3 ON	1220	0.3434	0.02898	2.158	51.78	-2.6	-2.9
				OFF	93	0.3640	0.03071	2.287	54.89	-2.6	-2.4
18	1 2	19	8	3 ON	1968	0.4397	0.03710	2.763	66.31	-2.6	-3.3
				OFF	45	0.4384	0.03699	2.754	66.10	-2.6	-3.2
19	1 1	23	8	3 ON	1178	0.3336	0.02815	2.096	50.31	-2.6	-3.4
				OFF	69	0.3491	0.02946	2.194	52.65	-2.6	-2.8
19	1 2	54	8	3 ON	1314	0.3649	0.03079	2.293	55.03	-2.6	-2.1

TOP SECRET [redacted]

NO. [redacted]

					OFF	144	0.3938	0.03322	2.474	59.38	-2.6	-2.0
20	1	1	31	8	3 ON	1142	0.3248	0.02741	2.041	48.98	-2.6	-4.0
					OFF	93	0.3462	0.02921	2.175	52.21	-2.6	-3.0
20	1	2	22	8	3 ON	1494	0.4008	0.03382	2.518	60.44	-2.6	-1.9
					OFF	54	0.4093	0.03454	2.572	61.73	-2.6	-2.2
20	1	3	42	8	3 ON	2442	0.3825	0.03227	2.403	57.68	-2.6	-0.4
					OFF	113	0.3590	0.03029	2.256	54.13	-2.6	0.2
22	1	1	19	7	3 ON	1007	0.3131	0.02642	1.967	47.21	-2.6	0.3
					OFF	59	0.3231	0.02726	2.030	48.72	-2.6	0.0
22	1	2	81	7	3 ON	1125	0.3359	0.02835	2.111	50.66	-2.6	0.5
					OFF	223	0.3866	0.03262	2.429	58.30	-2.6	1.9
22	1	3	28	7	3 ON	1397	0.3978	0.03356	2.499	59.98	-2.6	2.1
					OFF	70	0.4106	0.03465	2.580	61.92	-2.6	1.8
22	1	4	36	7	3 ON	2157	0.4427	0.03735	2.781	66.75	-2.6	1.0
					OFF	83	0.4329	0.03653	2.720	65.29	-2.6	1.7
23	5	1	18	7	3 ON	1030	0.3186	0.02688	2.002	48.04	-2.1	0.8
					OFF	58	0.3285	0.02772	2.064	49.53	-2.1	0.4
23	5	2	99	7	3 ON	1504	0.4198	0.03542	2.637	63.30	-2.1	2.3
					OFF	229	0.4494	0.03792	2.824	67.77	-2.1	1.1
23	5	3	63	7	3 ON	1769	0.4524	0.03817	2.842	68.22	-2.1	1.0
					OFF	140	0.4575	0.03861	2.875	68.99	-2.1	0.6
24	3	1	24	7	3 ON	1865	0.4569	0.03855	2.871	68.90	-2.1	0.7
					OFF	54	0.4576	0.03861	2.875	69.00	-2.1	0.6
25	3	1	66	7	3 ON	1406	0.4014	0.03387	2.522	60.53	-2.1	2.6
					OFF	158	0.4291	0.03621	2.696	64.70	-2.1	2.0
25	3	2	60	7	3 ON	2253	0.4327	0.03651	2.719	65.25	-2.1	2.2
					OFF	143	0.4093	0.03453	2.572	61.72	-2.1	3.5
26	4	1	43	7	3 ON	1892	0.4574	0.03859	2.874	68.97	-2.1	0.7
					OFF	99	0.4565	0.03852	2.868	68.84	-2.1	0.7
27	1	1	24	7	3 ON	1025	0.3177	0.02681	1.996	47.91	-2.1	0.6
					OFF	76	0.3309	0.02792	2.079	49.90	-2.1	0.3
28	7	1	32	7	3 ON	1297	0.3781	0.03190	2.376	57.02	-2.1	2.3
					OFF	83	0.3955	0.03337	2.485	59.64	-2.1	2.3
29	5	1	62	7	3 ON	2560	0.3741	0.03156	2.350	56.41	-2.1	4.3
					OFF	173	0.3337	0.02816	2.097	50.33	-2.1	4.4
30	2	1	36	7	3 ON	1167	0.3476	0.02933	2.184	52.42	-2.1	1.2
					OFF	102	0.3708	0.03129	2.330	55.91	-2.1	1.9
31	2	1	44	7	3 ON	1230	0.3626	0.03059	2.278	54.67	-2.1	1.1
					OFF	113	0.3874	0.03269	2.434	58.42	-2.1	1.6
31	2	2	24	7	3 ON	1780	0.4531	0.03823	2.847	68.32	-2.1	0.8
					OFF	55	0.4558	0.03846	2.864	68.73	-2.1	0.6
35	4	1	54	7	3 ON	1423	0.4047	0.03415	2.543	61.02	-2.1	2.5
					OFF	130	0.4272	0.03605	2.684	64.42	-2.1	2.0
36	4	1	62	7	3 ON	1546	0.4262	0.03596	2.678	64.26	-2.2	2.1
					OFF	142	0.4445	0.03751	2.793	67.03	-2.2	1.3
37	4	1	71	7	3 ON	1156	0.3446	0.02908	2.165	51.96	-2.2	0.8
					OFF	193	0.3883	0.03276	2.440	58.55	-2.2	2.1
37	4	2	23	7	3 ON	1517	0.4214	0.03556	2.648	63.55	-2.2	2.1
					OFF	55	0.4296	0.03625	2.700	64.79	-2.2	1.8
37	4	3	24	7	3 ON	1685	0.4445	0.03751	2.793	67.03	-2.2	1.3
					OFF	55	0.4494	0.03792	2.824	67.77	-2.2	1.0
38	7	1	86	7	3 ON	1203	0.3559	0.03003	2.236	53.66	-2.2	1.5
					OFF	227	0.4050	0.03417	2.544	61.06	-2.2	2.3
38	7	2	22	7	3 ON	1466	0.4125	0.03480	2.592	62.20	-2.2	2.3
					OFF	54	0.4214	0.03556	2.648	63.55	-2.2	2.1

38	7	3	65	7	3	ON	1585	0.4320	0.03645	2.715	65.15	-2.2	1.9
						OFF	149	0.4488	0.03787	2.820	67.68	-2.2	1.1
39	9	1	79	7	3	ON	1606	0.4350	0.03670	2.733	65.59	-2.2	1.7
						OFF	179	0.4527	0.03819	2.844	68.26	-2.2	0.8
40	4	1	27	7	3	ON	1260	0.3691	0.03114	2.319	55.66	-2.2	1.7
						OFF	71	0.3844	0.03243	2.415	57.96	-2.2	1.9
40	4	2	82	7	3	ON	1424	0.4044	0.03413	2.541	60.99	-2.2	2.2
						OFF	196	0.4364	0.03682	2.742	65.81	-2.2	1.5
42	3	1	43	7	3	ON	1944	0.4549	0.03839	2.858	68.60	-2.7	0.1
						OFF	99	0.4518	0.03812	2.839	68.13	-2.7	0.3
47	7	1	20	7	3	ON	1771	0.4500	0.03797	2.828	67.86	-2.7	0.5
						OFF	47	0.4526	0.03819	2.843	68.24	-2.7	0.3
53	7	1	23	7	3	ON	1555	0.4258	0.03592	2.675	64.20	-2.7	1.5
						OFF	55	0.4333	0.03656	2.722	65.33	-2.7	1.2
53	7	2	161	7	3	ON	1731	0.4470	0.03772	2.809	67.41	-2.7	0.8
						OFF	360	0.4486	0.03785	2.819	67.65	-2.7	0.5
54	7	1	35	7	3	ON	1515	0.4193	0.03538	2.635	63.23	-2.7	1.6
						OFF	84	0.4318	0.03643	2.713	65.11	-2.7	1.2
54	7	2	90	7	3	ON	1735	0.4474	0.03775	2.811	67.46	-2.7	0.8
						OFF	199	0.4551	0.03840	2.859	68.62	-2.7	0.2
55	8	1	153	7	3	ON	1473	0.4119	0.03476	2.588	62.12	-2.7	1.6
						OFF	349	0.4527	0.03820	2.845	68.27	-2.7	0.4
56	9	1	21	7	3	ON	1313	0.3796	0.03203	2.385	57.24	-2.7	1.3
						OFF	54	0.3906	0.03296	2.454	58.90	-2.7	1.4
56	9	2	119	7	3	ON	1447	0.4071	0.03435	2.558	61.39	-2.7	1.7
						OFF	276	0.4460	0.03763	2.802	67.25	-2.7	0.8
56	9	3	38	7	3	ON	1873	0.4546	0.03836	2.856	68.55	-2.7	0.3
						OFF	84	0.4548	0.03838	2.858	68.58	-2.7	0.2
58	3	1	37	7	3	ON	1951	0.4549	0.03838	2.858	68.59	-2.7	0.2
						OFF	85	0.4522	0.03815	2.841	68.18	-2.7	0.4
62	5	1	21	7	3	ON	1979	0.4543	0.03833	2.854	68.50	-2.7	0.4
						OFF	47	0.4526	0.03819	2.844	68.26	-2.7	0.5
63	5	1	17	7	3	ON	1826	0.4531	0.03823	2.847	68.32	-2.7	0.6
						OFF	52	0.4546	0.03836	2.857	68.56	-2.7	0.4

RATE ESTIMATE
AFT PAN CAMERA NUMBER 169

OPN	NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN R/SEC	RATE I/SEC	PCT CALIB	RATE REQD
1	4	0	10	8	3 ON	1220	0.3412	0.02879	2.144	51.45	-3.1	-2.9
					OFF	31	0.3475	0.02932	2.184	52.40	-3.1	-2.8
2	4	1	15	8	3 ON	1115	0.3163	0.02669	1.988	47.70	-3.1	-4.6
					OFF	49	0.3274	0.02762	2.057	49.37	-3.1	-4.1
5	5	1	73	8	3 ON	971	0.2895	0.02443	1.819	43.66	-3.1	-4.8
					OFF	231	0.3363	0.02838	2.113	50.71	-3.1	-3.5
5	5	2	22	8	3 ON	1578	0.4117	0.03474	2.587	62.08	-3.1	-2.8
					OFF	55	0.4187	0.03533	2.630	63.13	-3.1	-3.2
6	5	1	46	8	3 ON	1210	0.3390	0.02860	2.130	51.11	-3.1	-3.3
					OFF	130	0.3676	0.03102	2.310	55.43	-3.1	-2.6
6	5	2	21	8	3 ON	1398	0.3801	0.03207	2.388	57.32	-3.1	-2.3
					OFF	55	0.3901	0.03291	2.451	58.82	-3.1	-2.5
6	5	3	22	8	3 ON	1574	0.4110	0.03468	2.582	61.97	-3.1	-2.8
					OFF	55	0.4180	0.03527	2.627	63.04	-3.1	-3.2
7	9	1	14	8	3 ON	1372	0.3748	0.03163	2.355	56.52	-3.1	-2.4
					OFF	38	0.3820	0.03223	2.400	57.60	-3.1	-2.5

7	9	2	15	8	3 ON	1448	0.3894	0.03286	2.447	58.72	-3.1	-2.4
					OFF	39	0.3959	0.03341	2.488	59.70	-3.1	-2.6
7	9	3	68	8	3 ON	1520	0.4025	0.03396	2.529	60.70	-3.1	-2.6
					OFF	164	0.4245	0.03582	2.667	64.01	-3.1	-3.5
8	9	1	21	8	3 ON	1322	0.3642	0.03073	2.289	54.93	-3.1	-2.5
					OFF	56	0.3755	0.03168	2.359	56.62	-3.1	-2.5
8	9	2	77	8	3 ON	1471	0.3941	0.03325	2.476	59.42	-3.1	-2.4
					OFF	187	0.4216	0.03557	2.649	63.58	-3.1	-3.3
9	9	0	9	8	3 ON	106	0.1879	0.01586	1.181	28.34	-3.1	-5.7
					OFF	47	0.1894	0.01598	1.190	28.56	-3.1	-6.7
9	9	1	108	8	3 ON	1296	0.3608	0.03045	2.267	54.41	-2.4	-2.0
					OFF	277	0.4132	0.03486	2.596	62.30	-2.4	-2.3
10	5	1	37	8	3 ON	1827	0.4383	0.03698	2.754	66.10	-2.4	-3.4
					OFF	84	0.4402	0.03715	2.766	66.39	-2.4	-3.5
11	6	1	19	8	3 ON	1788	0.4363	0.03681	2.741	65.79	-2.4	-3.2
					OFF	45	0.4384	0.03699	2.755	66.11	-2.4	-3.4
11	6	2	19	8	3 ON	1868	0.4397	0.03710	2.762	66.30	-2.4	-3.5
					OFF	45	0.4402	0.03715	2.766	66.39	-2.4	-3.5
16	6	0	10	8	3 ON	1682	0.4275	0.03607	2.686	64.47	-2.4	-2.7
					OFF	25	0.4297	0.03626	2.700	64.80	-2.4	-2.9
18	1	1	33	8	3 ON	1220	0.3434	0.02898	2.158	51.78	-2.4	-2.9
					OFF	93	0.3640	0.03071	2.287	54.89	-2.4	-2.3
18	1	2	19	8	3 ON	1968	0.4397	0.03710	2.763	66.31	-2.4	-3.3
					OFF	45	0.4384	0.03699	2.754	66.11	-2.4	-3.2
19	1	1	23	8	3 ON	1178	0.3336	0.02815	2.096	50.31	-2.4	-3.4
					OFF	69	0.3491	0.02946	2.194	52.65	-2.4	-2.8
19	1	2	54	8	3 ON	1314	0.3649	0.03079	2.293	55.03	-2.4	-2.1
					OFF	144	0.3938	0.03322	2.474	59.38	-2.4	-2.0
20	1	1	31	8	3 ON	1142	0.3248	0.02741	2.041	48.98	-2.4	-4.0
					OFF	93	0.3462	0.02921	2.175	52.21	-2.4	-3.0
20	1	2	22	8	3 ON	1494	0.4008	0.03382	2.518	60.44	-2.4	-1.9
					OFF	54	0.4093	0.03454	2.572	61.73	-2.4	-2.2
20	1	3	42	8	3 ON	2442	0.3825	0.03227	2.403	57.68	-2.4	-0.4
					OFF	113	0.3590	0.03029	2.256	54.14	-2.4	0.2
22	1	1	19	7	3 ON	1007	0.3130	0.02641	1.967	47.20	-2.4	0.3
					OFF	59	0.3230	0.02725	2.030	48.71	-2.4	0.0
22	1	2	81	7	3 ON	1125	0.3359	0.02834	2.110	50.65	-2.4	0.5
					OFF	223	0.3866	0.03262	2.429	58.29	-2.4	1.9
22	1	3	28	7	3 ON	1397	0.3977	0.03356	2.499	59.97	-2.4	2.1
					OFF	70	0.4106	0.03464	2.580	61.91	-2.4	1.8
22	1	4	36	7	3 ON	2157	0.4426	0.03734	2.781	66.74	-2.4	1.0
					OFF	83	0.4329	0.03653	2.720	65.28	-2.4	1.7
23	5	1	18	7	3 ON	1030	0.3175	0.02679	1.995	47.88	-2.3	0.4
					OFF	58	0.3274	0.02762	2.057	49.36	-2.3	0.1
23	5	2	99	7	3 ON	1504	0.4183	0.03530	2.629	63.08	-2.3	2.0
					OFF	229	0.4479	0.03779	2.814	67.54	-2.3	0.8
23	5	3	63	7	3 ON	1769	0.4508	0.03804	2.833	67.99	-2.3	0.7
					OFF	140	0.4560	0.03848	2.865	68.76	-2.3	0.3
24	3	1	24	7	3 ON	1865	0.4553	0.03842	2.861	68.66	-2.3	0.4
					OFF	54	0.4560	0.03848	2.865	68.77	-2.3	0.3
25	3	1	66	7	3 ON	1406	0.4000	0.03375	2.514	60.33	-2.3	2.2
					OFF	158	0.4276	0.03608	2.687	64.49	-2.3	1.7
25	3	2	60	7	3 ON	2253	0.4313	0.03639	2.710	65.03	-2.3	1.9
					OFF	143	0.4079	0.03442	2.563	61.51	-2.3	3.2
26	4	1	43	7	3 ON	1892	0.4559	0.03847	2.864	68.74	-2.3	0.3

					OFF	99	0.4550	0.03839	2.859	68.61	-2.3	0.4
27	1	1	24	7	3 ON	1025	0.3166	0.02671	1.989	47.74	-2.3	0.3
					OFF	76	0.3298	0.02782	2.072	49.73	-2.3	-0.1
28	7	1	32	7	3 ON	1297	0.3768	0.03180	2.368	56.82	-2.3	2.0
					OFF	83	0.3942	0.03326	2.477	59.44	-2.3	2.0
29	5	1	61	7	3 ON	2560	0.3728	0.03146	2.342	56.22	-2.3	3.9
					OFF	173	0.3326	0.02806	2.090	50.16	-2.3	4.1
30	2	1	36	7	3 ON	1167	0.3464	0.02923	2.177	52.24	-2.3	0.9
					OFF	102	0.3695	0.03118	2.322	55.72	-2.3	1.6
31	2	1	43	7	3 ON	1230	0.3613	0.03049	2.270	54.49	-2.3	0.8
					OFF	113	0.3861	0.03258	2.426	58.22	-2.3	1.3
31	2	2	24	7	3 ON	1780	0.4516	0.03810	2.837	68.09	-2.3	0.4
					OFF	55	0.4543	0.03833	2.854	68.50	-2.3	0.3
35	4	1	54	7	3 ON	1423	0.4033	0.03403	2.534	60.82	-2.3	2.1
					OFF	130	0.4258	0.03593	2.675	64.20	-2.3	1.7
36	4	1	62	7	3 ON	1546	0.4271	0.03604	2.684	64.40	-1.9	2.3
					OFF	142	0.4455	0.03759	2.799	67.18	-1.9	1.5
37	4	1	71	7	3 ON	1156	0.3454	0.02914	2.170	52.08	-1.9	1.1
					OFF	193	0.3891	0.03283	2.445	58.68	-1.9	2.3
37	4	2	23	7	3 ON	1517	0.4224	0.03564	2.654	63.69	-1.9	2.3
					OFF	55	0.4306	0.03633	2.706	64.93	-1.9	2.0
37	4	3	24	7	3 ON	1685	0.4455	0.03759	2.799	67.18	-1.9	1.5
					OFF	55	0.4504	0.03800	2.830	67.92	-1.9	1.2
38	7	1	86	7	3 ON	1203	0.3566	0.03009	2.241	53.78	-1.9	1.7
					OFF	227	0.4058	0.03424	2.550	61.20	-1.9	2.5
38	7	2	22	7	3 ON	1466	0.4134	0.03488	2.597	62.34	-1.9	2.6
					OFF	54	0.4224	0.03564	2.654	63.69	-1.9	2.3
38	7	3	65	7	3 ON	1585	0.4330	0.03654	2.721	65.29	-1.9	2.1
					OFF	149	0.4498	0.03796	2.826	67.83	-1.9	1.3
39	9	1	79	7	3 ON	1606	0.4359	0.03678	2.739	65.74	-1.9	1.9
					OFF	179	0.4537	0.03828	2.850	68.41	-1.9	1.0
40	4	1	27	7	3 ON	1260	0.3699	0.03121	2.324	55.78	-1.9	1.9
					OFF	71	0.3852	0.03250	2.420	58.09	-1.9	2.1
40	4	2	82	7	3 ON	1424	0.4053	0.03420	2.547	61.12	-1.9	2.4
					OFF	196	0.4374	0.03691	2.748	65.96	-1.9	1.7
42	3	1	44	7	3 ON	1944	0.4541	0.03831	2.853	68.47	-2.7	-0.1
					OFF	99	0.4509	0.03805	2.833	67.99	-2.7	0.1
47	7	1	8	7	3 ON	1785	0.4501	0.03798	2.828	67.87	-2.7	0.3
					OFF	19	0.4510	0.03805	2.834	68.01	-2.7	0.2
53	7	1	23	7	3 ON	1555	0.4249	0.03586	2.670	64.08	-2.7	1.3
					OFF	55	0.4324	0.03649	2.717	65.21	-2.7	1.0
53	7	2	160	7	3 ON	1731	0.4462	0.03765	2.803	67.28	-2.7	0.6
					OFF	360	0.4477	0.03778	2.813	67.52	-2.7	0.3
54	7	1	35	7	3 ON	1515	0.4185	0.03531	2.629	63.11	-2.7	1.4
					OFF	84	0.4309	0.03636	2.708	64.99	-2.7	1.1
54	7	2	90	7	3 ON	1735	0.4465	0.03768	2.806	67.33	-2.7	0.6
					OFF	199	0.4542	0.03832	2.854	68.49	-2.7	0.0
55	8	1	152	7	3 ON	1473	0.4111	0.03469	2.583	62.00	-2.7	1.5
					OFF	349	0.4519	0.03813	2.839	68.14	-2.7	0.2
56	9	1	21	7	3 ON	1313	0.3788	0.03196	2.380	57.13	-2.7	1.1
					OFF	54	0.3899	0.03289	2.450	58.79	-2.7	1.2
56	9	2	118	7	3 ON	1447	0.4063	0.03428	2.553	61.27	-2.7	1.5
					OFF	276	0.4451	0.03756	2.797	67.12	-2.7	0.6
56	9	3	38	7	3 ON	1873	0.4537	0.03828	2.851	68.42	-2.7	0.1
					OFF	84	0.4539	0.03830	2.852	68.45	-2.7	0.0

58	3	1	37	7	3	ON	1951	0.4540	0.03831	2.852	68.46	-2.7	0.1
						OFF	85	0.4513	0.03808	2.835	68.05	-2.7	0.2
62	5	1	21	7	3	ON	1979	0.4534	0.03826	2.849	68.37	-2.7	0.2
						OFF	47	0.4518	0.03812	2.839	68.12	-2.7	0.3
63	5	1	16	7	3	ON	1826	0.4522	0.03815	2.841	68.19	-2.7	0.4
						OFF	52	0.4537	0.03829	2.851	68.42	-2.7	0.2

RAMP PROFILES

R- 8 A- 3 PERIOD= 3840

R= 0.3223 A= 0.1296

TUR	PER	CPS	ANG V
-0	5.189	0.1927	0.01743
100	5.154	0.1940	0.01755
200	5.051	0.1980	0.01791
300	4.891	0.2045	0.01849
400	4.687	0.2134	0.01930
500	4.454	0.2245	0.02031
600	4.208	0.2376	0.02149
700	3.960	0.2525	0.02284
800	3.720	0.2688	0.02431
900	3.494	0.2862	0.02589
1000	3.286	0.3043	0.02753
1100	3.096	0.3230	0.02921
1200	2.877	0.3476	0.03144
1300	2.694	0.3712	0.03358
1400	2.544	0.3931	0.03556
1500	2.425	0.4124	0.03730
1600	2.334	0.4285	0.03875
1700	2.269	0.4406	0.03985
1800	2.230	0.4485	0.04057
1900	2.213	0.4518	0.04086
2000	2.220	0.4504	0.04074
2100	2.251	0.4443	0.04019
2200	2.305	0.4338	0.03924
2300	2.385	0.4193	0.03792
2400	2.493	0.4012	0.03629
2500	2.630	0.3803	0.03439
2600	2.800	0.3572	0.03231
2700	3.004	0.3329	0.03011
2800	3.208	0.3117	0.02819
2900	3.408	0.2934	0.02654
3000	3.628	0.2757	0.02493
3100	3.863	0.2589	0.02341
3200	4.108	0.2434	0.02201
3300	4.357	0.2295	0.02076
3400	4.596	0.2176	0.01968
3500	4.813	0.2078	0.01879
3600	4.993	0.2003	0.01811
3700	5.120	0.1953	0.01766
3800	5.184	0.1929	0.01745

R- 7 A- 3 PERIOD= 3840

R= 0.3379 A= 0.1296

TUR	PER	CPS	ANG V
-0	4.801	0.2083	0.01884

100	4.770	0.2096	0.01896
200	4.682	0.2136	0.01932
300	4.544	0.2201	0.01990
400	4.367	0.2290	0.02071
500	4.165	0.2401	0.02172
600	3.949	0.2532	0.02291
700	3.730	0.2681	0.02425
800	3.516	0.2844	0.02572
900	3.313	0.3018	0.02730
1000	3.126	0.3199	0.02894
1100	2.953	0.3386	0.03063
1200	2.753	0.3632	0.03285
1300	2.585	0.3868	0.03499
1400	2.447	0.4087	0.03697
1500	2.336	0.4280	0.03871
1600	2.252	0.4441	0.04016
1700	2.192	0.4562	0.04126
1800	2.155	0.4641	0.04198
1900	2.139	0.4674	0.04227
2000	2.146	0.4660	0.04215
2100	2.174	0.4599	0.04160
2200	2.225	0.4494	0.04065
2300	2.300	0.4349	0.03933
2400	2.399	0.4168	0.03770
2500	2.526	0.3959	0.03580
2600	2.682	0.3728	0.03372
2700	2.870	0.3485	0.03152
2800	3.055	0.3273	0.02960
2900	3.236	0.3090	0.02795
3000	3.433	0.2913	0.02634
3100	3.643	0.2745	0.02483
3200	3.861	0.2590	0.02343
3300	4.079	0.2451	0.02217
3400	4.289	0.2332	0.02109
3500	4.477	0.2234	0.02020
3600	4.632	0.2159	0.01952
3700	4.742	0.2109	0.01907
3800	4.796	0.2085	0.01886

CLOCK SUMMARY
PRELIMINARY CLOCK CORRELATION
ORDER FIT 1

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
40717.297	104793.64390	40717.29890	-0.00095	9	1
80485.598	144561.95590	80485.60200	-0.00309	16	1
36239.857	186716.21990	36239.85660	0.00131	24	1
75995.477	226471.84490	75995.47280	0.00517	31	1
37206.245	274082.62690	37206.24420	0.00179	40	1
76949.312	313825.70790	76949.31630	-0.00335	47	1
32603.139	355879.54190	32603.14090	-0.00098	55	1
77801.997	401078.40890	77801.99790	0.00010	63	1

A0=-0.6407632168D 05 A1= 0.999999777063D 00
SIGMA=0.00246 NO. POINTS= 8
RATIO OF CLOCK TIME TO SYS TIME= 0.100000022294D 01
ORDER FIT 2

SYS TIME I/P	CL TIME I/P	COMP SYS TM	DELTA ST	REV	STA
40717.297	104793.66390	40717.29730	0.00060	9	1
80485.598	144561.95590	80485.60180	-0.00281	16	1
36239.857	186716.21990	36239.85730	0.00066	24	1
75995.477	226471.84490	75995.47390	0.00407	31	1
37206.245	274082.62690	37206.24530	0.00066	40	1
76949.312	313825.70790	76949.31700	-0.00407	47	1
32603.139	355879.54190	32603.14080	-0.00081	55	1
77801.997	401078.40890	77801.99620	0.00171	63	1

A0=-0.6407632853D 05 A1= 0.999999840827D 00

A2=-0.1263925145674D-12

SIGMA=0.00226 NO. POINTS= 8

CLOCK OPERATIONS

OPN	NU	FR		H	M	S	DEC	BINARY
1	4	0	20 ON	23	27	58	62154	0001110110100011001010001000 0
			OFF	23	28	58	62214	0001110110101010011110111000 0
2	4	1	16 ON	00	57	32	67528	0010000000110011001010100000 0
			OFF	00	58	21	67577	0010000000111001001001010100 0
5	5	1	73 ON	05	28	03	83759	0010011111110000011111001100 0
			OFF	05	31	54	83990	0010100000000110010101111100 0
5	5	2	22 ON	05	38	10	84366	0010100000111010100101011000 0
			OFF	05	39	05	84421	0010100001000001010011000100 0
6	5	1	47 ON	07	03	02	89458	0010101010101000001010101000 0
			OFF	07	05	12	89588	0010101010111000000010010000 0
6	5	2	21 ON	07	06	09	89645	0010101010111111011111100100 0
			OFF	07	07	04	89700	0010101011000101101101010000 0
6	5	3	23 ON	07	09	05	89821	0010101011010100011110100100 0
			OFF	07	10	00	89876	0010101011011011001100010000 0
7	9	1	15 ON	08	36	42	95078	0010110101010110001100111000 0
			OFF	08	37	20	95116	0010110101011010110101110000 0
7	9	2	15 ON	08	37	56	95152	0010110101011111100111100000 0
			OFF	08	38	35	95191	0010110101100011111111101100 0
7	9	3	69 ON	08	39	10	95226	0010110101101000010001001000 0
			OFF	08	41	54	95390	0010110101111100010010011000 0
8	9	1	21 ON	10	06	51	100487	0010111111101010011110101100 0
			OFF	10	07	47	100543	0010111111110001010100001100 0
8	9	2	78 ON	10	09	20	100635	0010111111111100100010111100 0
			OFF	10	12	27	100822	0011000000010011010111111000 0
9	9	0	9 ON	11	17	33	104729	0011000111110000010011010100 0
			OFF	11	18	20	104776	0011000111110110000010100000 0
9	9	1	109 ON	11	37	23	105919	0011001010000001100100001100 0
			OFF	11	42	00	106196	0011001010100011011000010000 0
10	5	1	37 ON	13	17	14	111910	0011010101011100111000111000 0
			OFF	13	18	38	111994	0011010101100111001001001000 0
11	6	1	19 ON	14	47	33	117328	0011011111110010010001000000 0
			OFF	14	48	18	117373	0011011111111011111000010010 00
11	6	2	19 ON	14	48	53	117409	0011011111111110000100111010 00
			OFF	14	49	38	117454	0011100000000001101001011000 0
16	6	0	10 ON	22	20	40	144516	0100010011101001000111010000 0
			OFF	22	21	05	144541	0100010011101100001010100100 0
18	1	1	33 ON	01	14	54	154970	0100100111100101001111001000 0
			OFF	01	16	27	155063	0100100111110000100101101100 0
18	1	2	19 ON	01	27	23	155719	0100101001000000101010101100 0
			OFF	01	28	08	155764	0100101001000110001010010000 0
19	1	1	23 ON	02	45	10	160386	0100110001111010010111101000 0

				OFF	02	46	19	160455	0100110010000010110010101 1000
19	1	2	54	ON	02	47	26	160522	0100110010001010111110001 0000
				OFF	02	49	50	160666	0100110010011100100011001 0000
20	1	1	31	ON	04	15	32	165808	0100111100010000001111000 0000
				OFF	04	17	05	165901	0100111100011011100101100 1000
20	1	2	22	ON	04	21	24	166160	0100111100111011001101000 0000
				OFF	04	22	18	166214	0100111101000001110010111 0000
20	1	3	42	ON	04	37	12	167108	0100111110101110111011010 0000
				OFF	04	39	05	167221	0100111110111100101110000 1000
22	1	1	19	ON	07	15	12	176588	0101010000110100001001110 0000
				OFF	07	16	11	176647	0101010000111011010110101 1000
22	1	2	81	ON	07	17	09	176705	0101010001000010011011110 1000
				OFF	07	20	52	176928	0101010001011110110101000 0000
22	1	3	28	ON	07	21	42	176978	0101010001100011110000101 0000
				OFF	07	22	52	177048	0101010001101100010011100 0000
22	1	4	36	ON	07	34	22	177738	0101010011000000100010001 0000
				OFF	07	35	45	177821	0101010011001010101010100 1000
23	5	1	18	ON	08	46	31	182067	0101011011010000111110011 1000
				OFF	08	47	29	182125	0101011011011000000011100 1000
23	5	2	99	ON	08	54	26	182541	0101011100001010110101100 1000
				OFF	08	58	15	182770	0101011100100110110010101 0000
23	5	3	63	ON	08	58	50	182806	0101011100101011001011111 0000
				OFF	09	01	10	182946	0101011100111100010001101 0000
24	3	1	24	ON	10	31	24	188360	0101100111010001001010100 0000
				OFF	10	32	18	188414	0101100111010111110000011 0000
25	3	1	66	ON	11	54	43	193358	0101110000110011010001011 0000
				OFF	11	57	21	193516	0101110001000110100011110 0000
25	3	2	60	ON	12	08	49	194205	0101110010011010101010100 1000
				OFF	12	11	12	194348	0101110010101100000111110 0000
26	4	1	43	ON	13	33	47	199302	0101111100001000110110111 0000
				OFF	13	35	26	199401	0101111100010100111100010 1000
27	1	1	24	ON	14	50	16	203891	0110000100111001000010011 1000
				OFF	14	51	32	203967	0110000101000010010100001 1000
28	7	1	32	ON	16	25	46	209622	0110001111110100100111111 0000
				OFF	16	27	09	209705	0110001111111110110000010 1000
29	5	1	62	ON	18	17	46	216341	0110011100101000110100000 1000
				OFF	18	20	39	216514	0110011100111101111011101 0000
30	2	1	36	ON	19	25	30	220405	0110100100011000111010000 1000
				OFF	19	27	12	220507	0110100100100101010110111 1000
31	2	1	44	ON	20	57	42	225938	0110101110111100010100101 0000
				OFF	20	59	35	226051	0110101111001010000111011 1000
31	2	2	24	ON	21	06	52	226488	0110101111111111011101100 0000
				OFF	21	07	47	226543	0110110000000110001011001 1000
35	4	1	54	ON	03	04	29	247945	0111011000111010101110010 1000
				OFF	03	06	39	248075	0111011001001010100101111 1000
36	4	1	62	ON	04	37	28	253524	0111100011100011110000010 0000
				OFF	04	39	50	253666	0111100011110101000101101 0000
37	4	1	71	ON	06	01	56	258592	0111101101001110011010000 0000
				OFF	06	05	09	258785	0111101101100101111101110 1000
37	4	2	23	ON	06	07	57	258953	0111101101111010011110010 1000
				OFF	06	08	52	259008	0111101110000001001100000 0000
37	4	3	24	ON	06	10	45	259121	0111101110001110111110110 1000
				OFF	06	11	40	259176	0111101110010101101100100 0000
38	7	1	86	ON	07	33	37	264093	0111110111101101111010100 1000
				OFF	07	37	24	264320	0111111000001001101000000 0000

NO. [redacted]

38	7	2	22	ON	07	38	01	264356	0111111000001110000010100000
				OFF	07	38	55	264410	0111111000010100100111001000
38	7	3	65	ON	07	39	59	264475	0111111000011100100010111000
				OFF	07	42	28	264624	0111111000101110101111000000
39	9	1	79	ON	09	11	21	269956	1000000010111001100111010000
				OFF	09	14	20	270135	1000000011001111011101101 1000
40	4	1	27	ON	10	36	30	275066	1000001100101001011001001 0000
				OFF	10	37	41	275137	1000001100110010000011110 1000
40	4	2	82	ON	10	39	15	275230	1000001100111101011010011 0000
				OFF	10	42	31	275426	1000001101010101010101101 0000
42	3	1	43	ON	13	49	46	286662	1000100010110000111010111 0000
				OFF	13	51	25	286761	1000100010111101000000010 1000
47	7	1	20	ON	21	21	33	313769	1001010110011101111000010 1000
				OFF	21	22	20	313816	1001010110100011100111100 0000
53	7	1	23	ON	06	23	33	346288	1010010100011111011111000 0000
				OFF	06	24	28	346343	1010010100100110001100101 1000
53	7	2	161	ON	06	26	29	346464	1010010100110100111110000 0000
				OFF	06	32	29	346824	1010010101100000111010100 0000
54	7	1	35	ON	07	53	48	351704	1010011110110100100111100 0000
				OFF	07	55	12	351788	1010011110111110110111110 0000
54	7	2	90	ON	07	57	28	351924	1010011111001111011110010 0000
				OFF	08	00	47	352123	1010011111100111110000111 1000
55	8	1	153	ON	09	24	02	357118	1010101001001001100000011 0000
				OFF	09	29	51	357467	1010101001110100000110111 1000
56	9	1	21	ON	10	52	17	362413	1010110011001111110111100 1000
				OFF	10	53	11	362467	1010110011010110011101011 1000
56	9	2	119	ON	10	54	31	362547	1010110011100000001110011 1000
				OFF	10	59	07	362823	1010110100000001111010101 1000
56	9	3	38	ON	11	01	37	362973	1010110100010100001110100 1000
				OFF	11	03	01	363057	1010110100011110011110110 1000
58	3	1	37	ON	14	04	46	373962	1011001001010001101010001 0000
				OFF	14	06	11	374047	1011001001011100000010001 1000
62	5	1	21	ON	20	08	56	395812	1011110010111100111001010 0000
				OFF	20	09	43	395859	1011110011000010101000011 1000
63	5	1	21	ON	21	37	17	401113	1011111101000011111111010 1000
				OFF	21	38	09	401165	1011111101001010010101100 1000