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Copy No. 24 Pages
(Including Cover Sheet)

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-17

VEHICLE NO. 1607

MISSION NO. 1015

CAMERA NOS. 138/141

Prepared by: [redacted]

Checked by: _____

Approved by: _____

Approved by: [redacted]
Manager

[redacted]

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CAMERA NOS. 138/141

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VEHICLE LAYOUT:

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SYSTEM NO. J-17
VEHICLE NO. 1607
MISSION NO. 1015
CAMERA NOS. 138/141

[redacted]

GENERAL FLIGHT DATA:

Master Camera Serial No. 138

Slave Camera Serial No. 141

Stellar Index "A" Serial No. D61/61/61

Stellar Index "B" Serial No. D58/58/58

Launch Date DECEMBER 19, 1964

Reactivation Date N/A

Reactivation Orbit No. N/A

Orbital Parameters: (Rev. 10)

Period 90.535 Min. Eccentricity .01860

Perigee 96.56 NM Perigee Latitude 22.96 Deg. N

Apogee 230.64 NM Inclination Angle 74.973 Deg. N

Recovery Orbit No. 81

Recovery Date DECEMBER 24, 1964

REMARKS:

[redacted]

SYSTEM NO. J-17
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MISSION NO. 1015
CAMERA NOS. 138/141

LENS SETTINGS AND FILM TYPES:

Panoramic Camera Settings:	Camera No. 138	Camera No. 141
Panoramic Optics Slit Width	.250 in.	.175 in.
Panoramic Optics Filter Type	WRATTEN 21	WRATTEN 21
Horizon Optics Exp. Time	1/100 sec.	1/100 sec.
Horizon Optics Aperture	F6.8 SUPPLY F8.0 TAKEUP	F8.0 SUPPLY F6.8 TAKEUP
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	1/500	2.0	1/500
Aperture Setting	F1.8	F4.5	F1.8	F4.5
Filter Type	NONE	WRATTEN 21	NONE	WRATTEN 21

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

Film:

Panoramic Cameras:	Camera No. 138	Camera No. 141
Type	7J-40	7J-40
Length	16000 ft.	16000 ft.
Splices	4	4
Emul. Data	68-6-7-4	68-6-7-4

Stellar Index Cameras:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Type	3J-34	7J-33	3J-34	7J-33
Emul. Data	44-30-7-4	31-4-7-4	44-30-7-4	31-4-7-4

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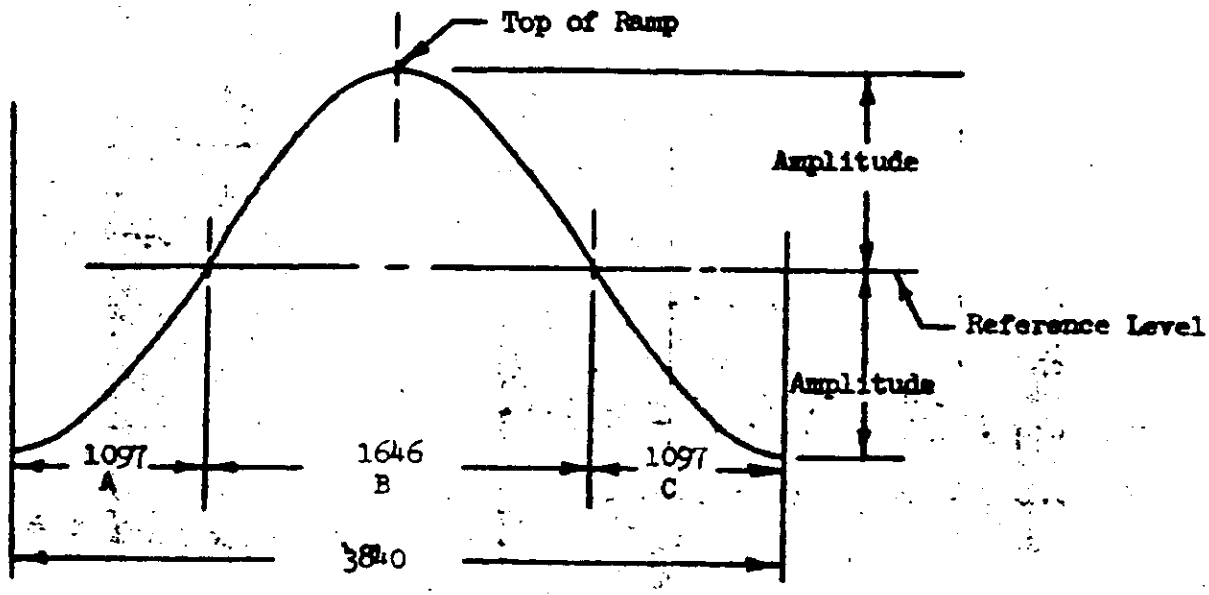
V/H RAMP CONFIGURATION AND CONSTANTS:



Cycle Rate Computation:

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

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

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

FMC Rate Computation:

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

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

Scan Velocity Computation:

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

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

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 = Sample Cycle Period in Sec/Cycle

CPS = Camera Cycle Rate in Cycles/Sec

SLIT = Slit Width in Inches

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CYCLE PERIOD DATA:

PRE-FLIGHT CYCLE PERIODS:

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Time Up Ramp Sec
		Master	Slave	
7	5	4.771	4.794	182
7	5	2.320	2.294	1680
7	4	2.212	2.185	1859
7	4	2.212	2.185	1846
6	4	4.564	4.531	298
6	4	2.205	2.180	1834
6	4	4.500	4.466	338
6	4	2.206	2.181	1792

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
7	5	4.796	4.832	9	182
7	5	2.360	2.380	16	1680
7	4	2.260	2.275	31	1859
7	4	2.268	2.272	47	1846
6	4	4.624	4.648	56	298
6	4	2.250	2.260	63	1834
6	4	4.705	4.710	72	338
6	4	2.246	2.251	79	1792

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CAMERA NOS. 138/141

LENS DATA SUMMARY: Master Camera No. 138

Lens Serial No. 1152435

Slit Width .250 Inch

Filter Type WRATTEN 21

Equivalent Operational Focal Length 609.602 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	300	SO-132	HI
Other	140	SO-132	LO

Dynamic:

Itek Pre-Vibration	164	SO-132	HI
Itek Post Vibration	120	SO-132	LO
AP	185	SO-132	HI
AP	117	SO-132	LO
Other			

Note: Itek Post Vibration Resolution of 164 lines/MM Reported In Message No. _____ dated _____

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3.0	2.0	1.0	0.0					
Distortion Millimeters	.003	.002	.001	.000					

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MISSION NO. 1015
CAMERA NOS. 138/141

LENS DATA SUMMARY: (Horizon Cameras for [redacted] Camera No. 138)

	Take-Up	Supply
Lens Serial No.	813525	813558
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F8.0	F6.8
Operational Focal Length	54.93 MM	54.89 MM
Radial Distortion:		
10° off Axis	.001 MM	.001 MM
20° off Axis	.002 MM	.001 MM
Tangential Distortion (Maximum Vector)	.004 MM	.001 MM

Resolution:

Angle off Axis Deg.	0	5	10	15	20	25	27.5	0	10	15	20	25	30	
Radial Resolution	164	155	136	106	87	112	91	170	111	87	75	97	63	
Tangential Resolution	164	145	127	102	91	60	51	170	98	89	66	58	42	

114 Lines/MM Avg. 94 Lines/MM Avg.

Note:

1. Distortion and resolution are read at equivalent operational focal length.
2. Resolution in lines per mm on SO-132 film and HI contrast target.

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SYSTEM NO. J-17

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CAMERA NOS. 138/141

LENS DATA SUMMARY: Slave Camera No. 141

Lens Serial No. 1182435

Slit Width .175 Inch

Filter Type WRATTEN 21

Equivalent Operational Focal Length 609.617 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	258	SO-132	HI
Other	158	SO-132	LO

Dynamic:

Itek Pre-Vibration	165	SO-132	HI
Itek Post Vibration	130	SO-132	LO
AP	189	SO-132	HI
AP	121	SO-132	LO
Other			

NOTE: Itek Post Vibration Resolution of 165 lines/MM Reported In Message No. _____ dated _____.

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3.0	2.0	1.0	0.0					
Distortion Millimeters	.006	.003	.001	.000					

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SYSTEM NO. J-17

VEHICLE NO. 1607

MISSION NO. 1015

CAMERA NOS. 138/141

LENS DATA SUMMARY: (Horizon Cameras for SLAVE Camera No. 141)

	Take-Up	Supply
Lens Serial No.	813526	813534
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F6.8	F8.0
Operational Focal Length	54.93 MM	54.80 MM
Radial Distortion:		
10° off Axis	.009 MM	.004 MM
20° off Axis	.015 MM	.004 MM
Tangetial Distortion (Maximum Vector)	.009 MM	.007 MM

Resolution:

Angle off Axis Deg.	0	5	10	15	20	25	27.5
Radial Resolution	164	145	114	99	97	111	103
Tangetial Resolution	164	145	112	102	91	60	51

0	10	15	20	25	27.5	
170	148	101	95	97	75	
170	138	100	80	55	42	

111 Lines/MM Avg. 106 Lines/MM Avg.

NOTE:

1. Distortion and resolution are read at equivalent operational focal length.
2. Resolution in lines per MM on SO-132 film and HI contrast target.

TOP SECRET [redacted]

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 -15.00° ±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 Ivo 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 Is, Ys and It, 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.

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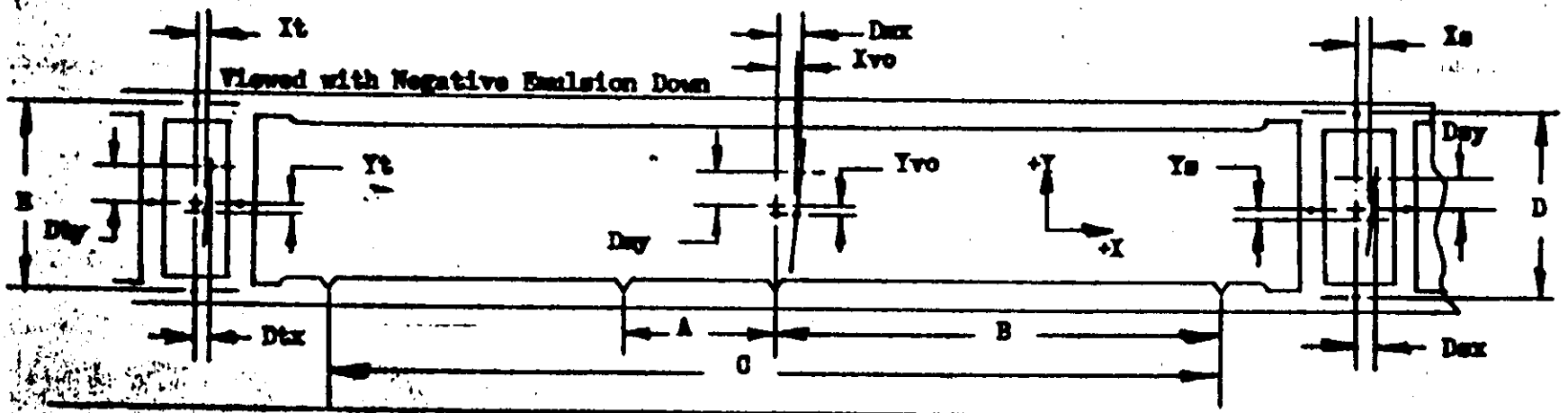
FORMAT DIMENSIONS: (PANORAMIC CAMERAS)



Camera No. 138	Vehicle Motion	Seam Direction
A 76.1	Xt −0.020	Dtx −0.028
B 355.1	Yt +0.155	Dty +2.873
C 710.2	Xs +0.222	Dsx +0.224
D 56.440	Ys +0.121	Dsy +2.476
E 56.432	Xvo +0.565	Dsx +0.551
	Yvo +1.006	Dsy +4.006

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	55.610	N/A	N/A
Width	753.8	N/A	N/A

Camera No. 141	Vehicle Motion	Seam Direction
A 76.2	Xt −0.186	Dtx −0.191
B 354.8	Yt −0.203	Dty +1.762
C 710.0	Xs −0.171	Dsx −0.180
D 56.454	Ys −0.001	Dsy −2.097
E 56.488	Xvo −1.014	Dsx −1.003
	Yvo +0.167	Dsy +3.167

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	57.065	N/A	N/A
Width	753.5	N/A	N/A

Notes: 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, X and Y dimensions are taken 10MM above point defining target center.
4. Format Sign Convention

−X+Y	+X+Y
−X−Y	+X−Y

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[redacted] DRAFT

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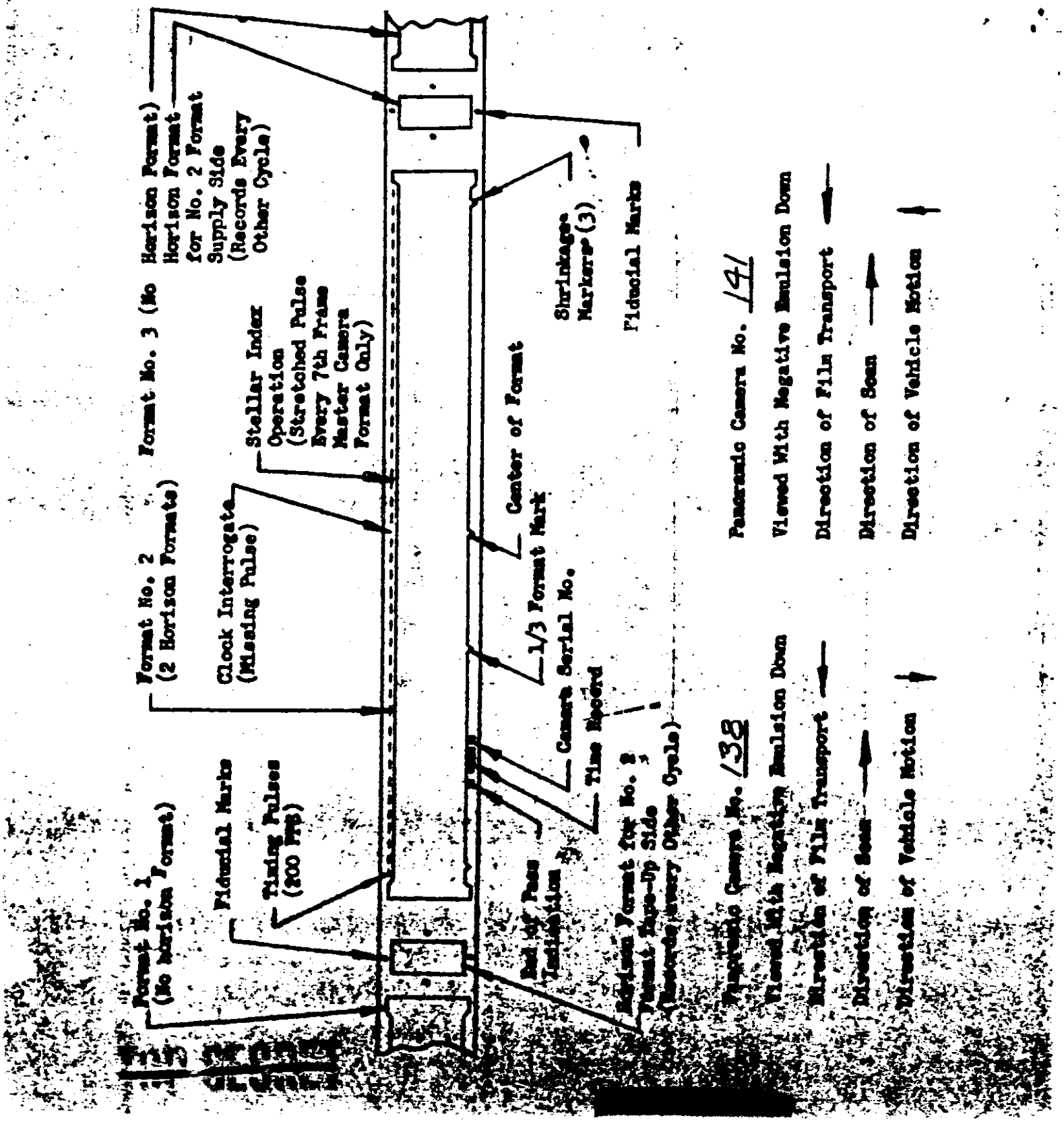
FORMAT LAYOUT: (PANORAMIC CAMERAS)



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MISSION NO. 1015
CAMERA NOS. 138/141

LENS DATA SUMMARY STELLAR INDEX D61/61/61 : 1 MISSION

	Stellar		Index	
Lens Serial No.	10516		817016	
Reseau Serial No.	61		61	
Filter Type	NONE		WRATTEN 21	
Aperture	F1.8		F4.5	
Exposure Time	2	Sec.	1/500	Sec.
Equivalent Focal Length	NA*	MM	38.02	MM

Resolution:

Angle Off Axis	0	10	20	30	35
Resolution L/MM High Contrast	93/93	110/107	101/88	78/50	76/42

NOTE: Index Resolution of 74.3 Lines/MM AWAR
Read From SØ-130 Film.

Distortion:

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

Alignment:

0.0007 "/.957 Inches 0.0002 "/2.25 Inches

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CAMERA NOS. 138/141

[redacted]

LENS DATA SUMMARY STELLAR INDEX D58/58/58 : 2 MISSION

	Stellar		Index	
Lens Serial No.	10631		813068	
Reseau Serial No.	58		58	
Filter Type	NONE		WRATTEN 21	
Aperture	F1.8		F4.5	
Exposure Time	2	Sec.	1/500	Sec.
Equivalent Focal Length	85 NOM.	MM	38.334	MM

Resolution:

Angle Off Axis	0	10	20	30	35
Resolution L/MM High Contrast	73/73	82/82	107/86	87/56	77/20

NOTE: Index Resolution of 70.5 Lines/MM AWAR

Read From SO-180 Film.

Distortion:

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

Alignment:

0.0006 "/.937 Inches 0.0003 "/2.25 Inches

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[redacted] FOR DRAFT [redacted]

PRELIMINARY CLOCK CORRELATION:

ORBIT	CORRECTED SYSTEM TIME	CLOCK TIME	DIFFERENCE
9	37345.266	102153.105	
16	76952.912	141760.761	
25	37526.884	188734.745	
31	72101.596	223309.466	
41	38229.084	275836.967	
47	72574.359	310182.251	
56	33457.126	357965.030	
63	73025.182	397033.096	
72	33482.973	443890.899	
79	73391.552	483799.488	

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[redacted] FOR DRAFT

SYSTEM NO. J-IV
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CAMERA NOS. 138/141

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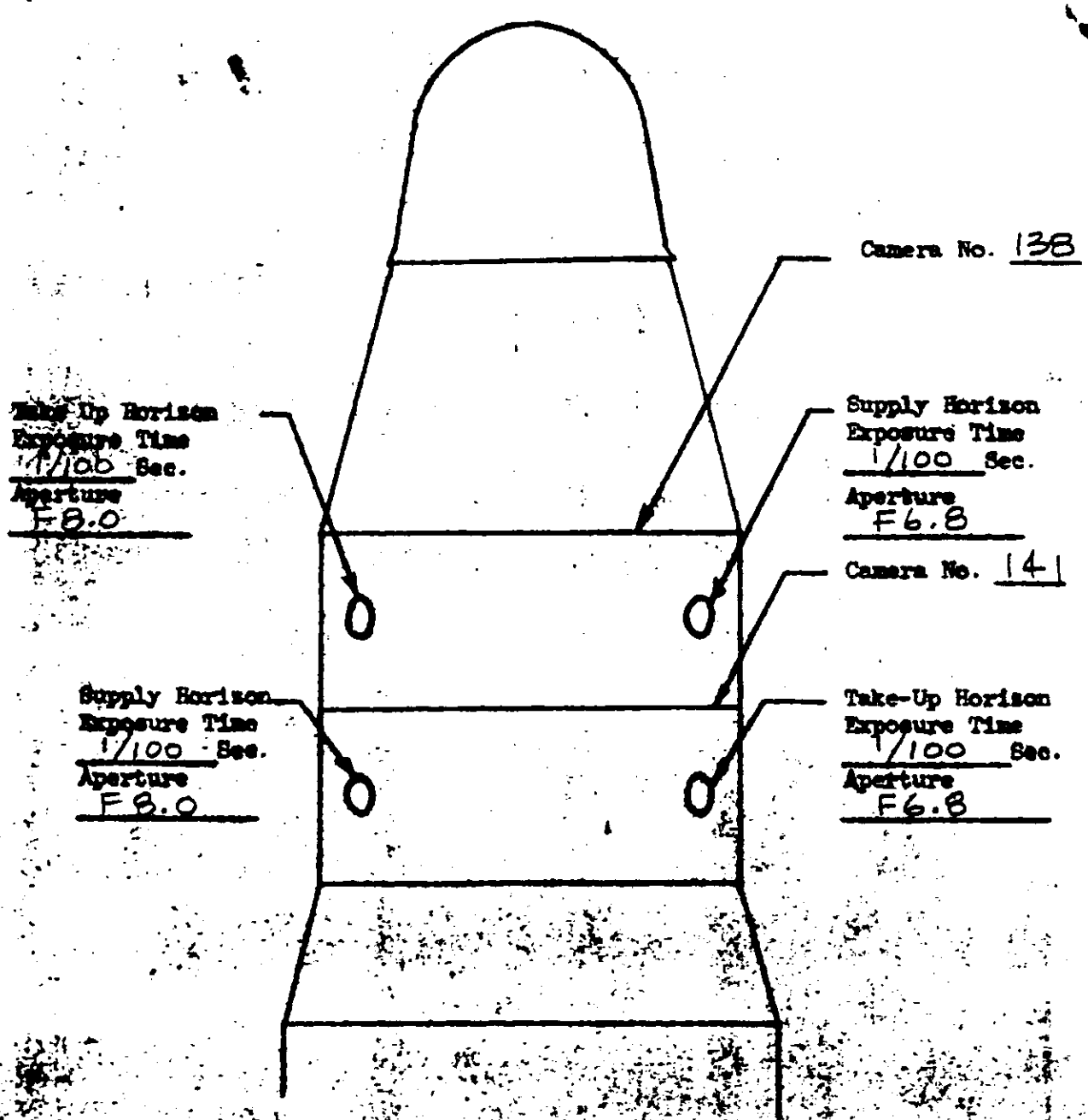
HORIZON LENS SETTINGS (Viewed from top of vehicle inflight)



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A. 1015-1
B. DRY
C. PERFORMANCE ESTIMATE

SUB	PROG	CAM NO.	PAN FR.	SI FR	LAT. ON	LAT. OFF	TIME ON ZD	TIME ON ST	TUR NO	TUR SEC.	DUR SEC	SOLAR ON	SOLAR OFF	EXPOS. ON	EXPOS. OFF
LAUNCH		138	250	35											
LAUNCH		141	249												
1	4 0	138	15	02	252	250	1981578		7	5	1385	39	13 15	4.6	4.6
1	4 0	141	14		253	251	1981578		7	5	1385	39	12 14	3.5	3.4
3	9 1	138	28	04	254	249	20	6028	7	5	1360	73	12 16	4.5	4.3
3	9 1	141	28		254	250	20	6028	7	5	1360	73	11 15	3.2	3.1
4	9 1	138	101	15	259	242	2011369		7	5	1262	269	7 22	4.8	4.2
4	9 1	141	100		260	243	2011369		7	5	1262	269	6 21	3.4	3.0
5	9 1	138	79	11	258	246	2016810		7	5	1314	205	7 19	4.6	4.2
5	9 1	141	77		259	247	2016810		7	5	1314	205	6 18	3.3	3.0
5	9 2	138	37	05	237	232	2017147		7	5	1651	86	27 31	4.0	3.9
5	9 2	141	36		238	233	2017147		7	5	1651	86	26 31	2.9	2.8
6	9 1	138	28	04	255	250	2022301		7	5	1317	73	11 15	4.6	4.4
6	9 1	141	27		256	251	2022301		7	5	1317	73	10 14	3.3	3.2
6	9 2	138	139	20	240	218	2022541		7	5	1557	330	24 42	4.1	3.9
6	9 2	141	137		241	219	2022541		7	5	1557	330	24 42	2.9	2.8
8	3 1	138	39	06	260	254	2033076		7	5	1147	108	5 12	4.9	4.6
8	3 1	141	38		261	255	2033076		7	5	1147	108	4 11	3.5	3.3
8	3 2	138	61	09	245	236	2033320		7	5	1391	149	19 28	4.3	4.0
8	3 2	141	60		246	237	2033320		7	5	1391	149	19 27	3.0	2.8
9	3 0	138	10	01	139	142	2037376		7	5	138	49-53-51		8.9	8.8
9	3 0	141	10		137	140	2037376		7	5	138	49-54-52		6.3	6.2
10	2 1	138	73	10	206	305	2044788		7	5	2123	176	51 57	4.0	4.2
10	2 1	141	73		207	304	2044788		7	5	2123	176	50 56	2.8	2.9
14	3 1	138	30	05	223	218	2066259		7	5	1874	71	39 42	4.1	4.1
14	3 1	141	29		224	219	2066259		7	5	1874	71	38 42	2.9	2.9
16	3 0	138	16	02	238	235	2076896		7	5	1653	38	26 28	4.2	4.2
16	3 0	141	15		239	236	2076896		7	5	1653	38	25 28	3.1	3.1
20	5-0	138	37	05	260	255	2111853		7	5	1299	99	5 11	4.7	4.5
20	5-0	141	36		261	255	2111853		7	5	1299	99	4 10	3.4	3.2
20	5 2	138	32	05	252	247	2111990		7	5	1436	80	13 18	4.4	4.3
20	5 2	141	31		253	248	2111990		7	5	1436	80	12 17	3.2	3.0
21	5 1	138	28	04	253	248	2117416		7	5	1434	71	13 17	4.4	4.3
21	5 1	141	28		253	249	2117416		7	5	1434	71	12 16	3.2	3.1
21	5 2	138	27	04	241	237	2117604		7	5	1622	63	24 28	4.1	4.0
21	5 2	141	26		242	237	2117604		7	5	1622	63	23 27	2.9	2.9
21	5 3	138	59	08	233	224	2117727		7	5	1745	137	31 39	4.0	3.9
21	5 3	141	57		234	224	2117727		7	5	1745	137	31 38	2.9	2.8
22	5 1	138	28	04	258	253	2122764		7	5	1352	73	8 12	4.6	4.4
22	5 1	141	27		258	254	2122764		7	5	1352	73	7 11	3.3	3.2
22	5 2	138	81	12	233	220	2123156		7	5	1745	192	31 42	4.0	3.9
22	5 2	141	80		234	221	2123156		7	5	1745	192	31 41	2.9	2.8
24	3 1	138	52	07	261	252	2133575		7	4	1306	140	5 13	4.7	4.4
24	3 1	141	52		261	253	2133575		7	4	1306	140	4 12	3.3	3.1
24	3 2	138	24	04	245	242	2133826		7	4	1557	56	20 23	4.2	4.1
24	3 2	141	23		246	242	2133826		7	4	1557	56	19 23	2.9	2.9

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[redacted]

26	3	1	138	22	03	303	307	2145434	7	4	2310	55	59	60	4.3	4.4
26	3	1	141	22		302	306	2145434	7	4	2310	55	58	60	3.0	3.1
30	1	1	138	31	04	238	233	2166524	7	4	1957	71	27	31	3.9	4.0
30	1	1	141	30		239	234	2166524	7	4	1957	71	26	30	2.8	2.8
30	1	2	138	29	04	224	220	2166729	7	4	2163	70	39	42	4.1	4.1
30	1	2	141	29		225	221	2166729	7	4	2163	70	38	42	2.9	3.0
31	1	1	138	24	04	233	230	2172022	7	4	1758	56	31	34	4.0	4.0
31	1	1	141	23		234	230	2172022	7	4	1758	56	30	33	3.0	2.9
35	8	1	138	22	03	260	257	22 6907	7	4	1332	58	5	8	4.6	4.5
35	8	1	141	21		261	258	22 6907	7	4	1332	58	4	7	3.3	3.2
35	8	2	138	24	03	250	246	22 7088	7	4	1513	57	16	19	4.2	4.1
35	8	2	141	23		250	247	22 7088	7	4	1513	57	15	19	3.0	3.0
36	8	1	138	29	04	254	249	2212453	7	4	1451	72	12	16	4.4	4.2
36	8	1	141	28		254	250	2212453	7	4	1451	72	11	16	3.1	3.0
36	8	2	138	30	05	246	241	2212579	7	4	1578	72	20	24	4.1	4.0
36	8	2	141	30		247	242	2212579	7	4	1578	72	19	23	3.0	2.9
37	8	1	138	42	06	255	248	2217866	7	4	1437	105	11	17	4.4	4.2
37	8	1	141	41		255	249	2217866	7	4	1437	105	10	17	3.1	3.0
37	8	2	138	54	07	229	221	2218270	7	4	1841	123	36	43	3.9	3.9
37	8	2	141	52		230	221	2218270	7	4	1841	123	35	42	2.8	2.8
38	6	1	138	64	10	257	247	2223262	7	4	1407	161	9	19	4.4	4.1
38	6	1	141	63		258	247	2223262	7	4	1407	161	8	18	3.1	2.9
38	6	2	138	24	03	242	238	2223500	7	4	1645	55	23	27	4.0	4.0
38	6	2	141	24		243	239	2223500	7	4	1645	55	23	26	2.8	2.8
38	6	3	138	50	07	234	226	2223624	7	4	1769	115	31	38	3.9	3.9
38	6	3	141	50		235	227	2223624	7	4	1769	115	30	37	2.8	2.7
38	6	4	138	39	06	204	301	2224067	7	4	2211	93	56	60	4.0	4.2
38	6	4	141	38		205	300	2224067	7	4	2211	93	55	59	2.9	2.9
39	9	1	138	34	05	261	255	2228624	7	4	1342	90	5	10	4.7	4.5
39	9	1	141	34		261	256	2228624	7	4	1342	90	4	9	3.3	3.1
39	9	2	138	24	03	253	249	2228750	7	4	1467	60	12	16	4.4	4.3
39	9	2	141	24		254	250	2228750	7	4	1467	60	12	15	3.1	3.0
39	9	3	138	26	04	247	243	2228845	7	4	1563	62	18	22	4.2	4.1
39	9	3	141	26		248	244	2228845	7	4	1563	62	17	21	3.0	2.9
41	1	1	138	32	04	254	249	2239592	7	4	1455	78	11	16	4.2	4.1
41	1	1	141	31		255	250	2239592	7	4	1455	78	10	15	3.1	3.0
47	7	0	138	56	08	238	229	2272425	7	4	1726	129	27	35	3.9	3.9
47	7	0	141	56		239	230	2272425	7	4	1726	129	27	34	2.8	2.7
52	8	1	138	83	12	260	248	2312803	6	4	1373	206	5	18	4.4	4.0
52	8	1	141	82		261	249	2312803	6	4	1373	206	4	17	3.1	2.8
53	8	1	138	50	07	260	253	2318232	6	4	1375	124	5	13	4.4	4.1
53	8	1	141	49		261	254	2318232	6	4	1375	124	4	12	3.1	2.9
53	8	2	138	29	04	243	239	2318521	6	4	1663	64	23	27	3.9	3.8
53	8	2	141	28		243	239	2318521	6	4	1663	64	22	26	2.7	2.7
53	8	3	138	109	16	236	220	2318621	6	4	1764	246	29	44	3.8	3.8
53	8	3	141	108		237	221	2318621	6	4	1764	246	28	44	2.7	2.7
54	8	1	138	75	11	257	245	2323727	6	4	1444	177	9	20	4.1	3.9
54	8	1	141	74		257	246	2323727	6	4	1444	177	8	19	2.9	2.7
56	1	0	138	10	01	139	141	2333393	6	4	260	47-60-58			8.6	8.5
56	1	0	141	10		137	140	2333393	6	4	260	47-61-59			6.0	5.9
57	1	1	138	43	06	254	247	2340059	6	4	1500	103	12	18	4.2	4.0
57	1	1	141	43		254	248	2340059	6	4	1500	103	11	18	2.9	2.8
63	2	1	138	20	03	236	233	2372909	6	4	1796	47	30	33	4.1	4.1
63	2	1	141	20		237	233	2372909	6	4	1796	47	29	32	2.9	2.8

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66	6	1	138	47	07	258	251	24	2437	6	4	1447	113	7	14	4.2	4.0
66	6	1	141	46		259	252	24	2437	6	4	1447	113	6	14	3.0	2.9
67	6	1	138	97	14	260	246	24	7823	6	4	1410	236	4	20	4.3	3.9
67	6	1	141	95		261	247	24	7823	6	4	1410	236	4	19	3.1	2.8
69	6	1	138	37	05	258	253	2418712		6	4	1447	89	7	12	4.2	4.1
69	6	1	141	36		259	254	2418712		6	4	1447	89	6	12	3.0	2.9
69	6	2	138	31	04	242	238	2418974		6	4	1709	68	24	28	3.8	3.8
69	6	2	141	30		243	238	2418974		6	4	1709	68	23	27	2.7	2.7
69	6	3	138	70	10	235	225	2419079		6	4	1814	157	30	40	3.8	3.8
69	6	3	141	69		236	226	2419079		6	4	1814	157	30	40	2.7	2.7
69	6	4	138	25	04	200	304	2419617		6	4	2353	62	63	66	4.1	4.3
69	6	4	141	25		200	303	2419617		6	4	2353	62	62	65	2.9	3.0
69	6	5	138	18	03	306	309	2419717		6	4	2452	46	67	69	4.3	4.5
69	6	5	141	18		305	308	2419717		6	4	2452	46	67	68	3.1	3.2
70	3	1	138	48	06	261	253	2424101		6	4	1411	122	4	12	4.4	4.2
70	3	1	141	48		261	254	2424101		6	4	1411	122	3	11	3.1	2.9
70	3	2	138	37	06	249	243	2424296		6	4	1606	87	17	22	4.1	4.0
70	3	2	141	37		250	244	2424296		6	4	1606	87	16	22	2.9	2.8
71	6	1	138	100	14	261	246	2429530		6	4	1419	235	4	19	4.1	3.8
71	6	1	141	98		261	247	2429530		6	4	1419	235	3	19	3.0	2.7
72	6	0	138	10	01	139	142	2433834		6	4	298		49-62-60		9.0	8.8
72	6	0	141	10		137	140	2433834		6	4	298		49-64-61		6.3	6.2
73	8	1	138	38	06	302	308	2441359		6	4	2366	96	64	68	4.2	4.4
73	8	1	141	38		301	307	2441359		6	4	2366	96	64	68	2.9	3.1
77	6	1	138	28	04	222	218	2462696		6	4	1999	64	43	47	3.9	3.9
77	6	1	141	28		223	219	2462696		6	4	1999	64	42	46	2.7	2.8
79	6	0	138	17	02	236	234	2473332		6	4	1787	39	29	32	4.0	4.0
79	6	0	141	17		237	235	2473332		6	4	1787	39	28	31	2.8	2.8

AAA BB C DDD EEE FF GHH GII JJKKKKK LLMM NNNN OOO PP QQ RRR SSS

A ORBITAL TIMER SUBCYCLE NUMBER
B PROGRAM NUMBER
C OPERATION NUMBER
D PAN. CAMERA SERIAL NUMBER (MASTER IS EVEN, SLAVE IS ODD)
E EST. NO OF PAN FRAMES, BASED ON COUNTER READINGS INFLITE
F EST. NUMBER OF STELLAR/INDEX FRAMES
G QUADRANT
H EST. LATITUDE OF FIRST FORMAT CENTER IN PASS
I EST. LATITUDE OF LAST FORMAT CENTER IN PASS
J ZULU DATE
K SYSTEM TIME IN SECONDS (GMT)
L FMC PROGRAMMER REFERENCE LEVEL
M FMC PROGRAMMER AMPLITUDE LEVEL
N EST. TIME UP RAMP IN SECONDS TO OPERATE COMMAND
O EST. SECONDS DURATION OF OPERATION, BETWEEN ON AND OFF
P SOLAR ELEVATION AT ITEM H
Q SOLAR ELEVATION AT ITEM I
R EST. MILLISECONDS EXPOSURE TIME AT ITEM H
S EST. MILLISECONDS EXPOSURE TIME AT ITEM I

FRAMES TO FEET,PAN X 2.645 STELLAR X 0.099,INDEX X 0.198

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NOTE - THE LATITUDES OF STEREO COVERAGE ACHIEVED ON REVS. 2 THROUGH 6 WERE NOT THOSE DESIRED. THIS WAS DUE TO THE LACK OF VALID TRACKING DATA FOR ORBIT PERIOD DETERMINATION PRIOR TO REV. 7.

NOTE - THE LATITUDES OF STEREO COVERAGE ACHIEVED ON OPERATION 079-06-0 WERE NOT AS PROGRAMMED DUE TO TIMER RESET REQUIRED FOR RECOVERY

NOTE - THE LAST FIVE FRAMES OF OPERATION 079-06-0 ARE IN THE SECOND BUCKET

J- 17 RAMP R- 7 A- 5
R= 0.3265 A= 0.1102 RAMP PERIOD= 3840

TIME	PERIOD	CPS	GAV
0	4.621	0.2164	0.01957
100	4.597	0.2175	0.01967
200	4.527	0.2209	0.01998
300	4.417	0.2264	0.02048
400	4.274	0.2340	0.02116
500	4.108	0.2434	0.02202
600	3.928	0.2546	0.02303
700	3.742	0.2672	0.02417
800	3.558	0.2811	0.02542
900	3.380	0.2959	0.02676
1000	3.213	0.3113	0.02815
1100	3.057	0.3272	0.02959
1200	2.873	0.3480	0.03148
1300	2.716	0.3681	0.03330
1400	2.586	0.3867	0.03498
1500	2.480	0.4032	0.03646
1600	2.399	0.4168	0.03770
1700	2.341	0.4271	0.03863
1800	2.305	0.4338	0.03924
1900	2.290	0.4366	0.03949
2000	2.297	0.4354	0.03938
2100	2.324	0.4303	0.03891
2200	2.373	0.4213	0.03811
2300	2.445	0.4090	0.03699
2400	2.541	0.3936	0.03560
2500	2.661	0.3758	0.03399
2600	2.807	0.3562	0.03222
2700	2.980	0.3356	0.03035
2800	3.149	0.3175	0.02872
2900	3.312	0.3020	0.02731
3000	3.485	0.2869	0.02595
3100	3.668	0.2726	0.02466
3200	3.854	0.2595	0.02347
3300	4.037	0.2477	0.02240
3400	4.210	0.2375	0.02148
3500	4.363	0.2292	0.02073
3600	4.488	0.2228	0.02015

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3700	4.574	0.2186	0.01977
3800	4.617	0.2166	0.01959

J- 17 RAMP R- 7 A- 4
R= 0.3263 A= 0.1198 RAMP PERIOD= 3840

TIME	PERIOD	CPS	GAV
0	4.843	0.2065	0.01868
100	4.814	0.2077	0.01879
200	4.731	0.2114	0.01912
300	4.600	0.2174	0.01966
400	4.432	0.2256	0.02041
500	4.239	0.2359	0.02134
600	4.031	0.2481	0.02244
700	3.819	0.2618	0.02368
800	3.612	0.2769	0.02504
900	3.413	0.2930	0.02650
1000	3.229	0.3097	0.02801
1100	3.058	0.3270	0.02958
1200	2.859	0.3497	0.03163
1300	2.691	0.3716	0.03361
1400	2.552	0.3918	0.03544
1500	2.441	0.4097	0.03706
1600	2.356	0.4245	0.03840
1700	2.295	0.4358	0.03941
1800	2.257	0.4431	0.04007
1900	2.242	0.4461	0.04035
2000	2.248	0.4448	0.04023
2100	2.277	0.4392	0.03972
2200	2.328	0.4295	0.03884
2300	2.404	0.4160	0.03763
2400	2.504	0.3993	0.03612
2500	2.632	0.3799	0.03436
2600	2.788	0.3586	0.03244
2700	2.975	0.3361	0.03040
2800	3.159	0.3166	0.02863
2900	3.338	0.2996	0.02710
3000	3.531	0.2832	0.02562
3100	3.735	0.2677	0.02421
3200	3.946	0.2534	0.02292
3300	4.157	0.2406	0.02176
3400	4.357	0.2295	0.02076
3500	4.537	0.2204	0.01994
3600	4.684	0.2135	0.01931
3700	4.787	0.2089	0.01889
3800	4.838	0.2067	0.01869

J- 17 RAMP R- 6 A- 4
R= 0.3269 A= 0.1304 RAMP PERIOD= 3840

TIME	PERIOD	CPS	GAV
0	5.089	0.1965	0.01777
100	5.055	0.1978	0.01789
200	4.955	0.2018	0.01825
300	4.800	0.2083	0.01884
400	4.602	0.2173	0.01965

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500	4.376	0.2285	0.02067
600	4.137	0.2417	0.02186
700	3.896	0.2567	0.02322
800	3.662	0.2731	0.02470
900	3.441	0.2906	0.02628
1000	3.238	0.3088	0.02793
1100	3.052	0.3276	0.02963
1200	2.838	0.3523	0.03187
1300	2.659	0.3761	0.03402
1400	2.512	0.3982	0.03601
1500	2.395	0.4176	0.03777
1600	2.306	0.4337	0.03923
1700	2.242	0.4460	0.04034
1800	2.203	0.4539	0.04105
1900	2.187	0.4572	0.04135
2000	2.194	0.4558	0.04122
2100	2.224	0.4497	0.04067
2200	2.277	0.4391	0.03972
2300	2.356	0.4245	0.03839
2400	2.461	0.4063	0.03675
2500	2.596	0.3852	0.03484
2600	2.762	0.3620	0.03274
2700	2.962	0.3376	0.03053
2800	3.162	0.3162	0.02860
2900	3.358	0.2978	0.02694
3000	3.572	0.2800	0.02532
3100	3.801	0.2631	0.02380
3200	4.040	0.2475	0.02239
3300	4.281	0.2336	0.02113
3400	4.514	0.2215	0.02004
3500	4.725	0.2116	0.01914
3600	4.899	0.2041	0.01846
3700	5.022	0.1991	0.01801
3800	5.084	0.1967	0.01779

PRELIMINARY SMOOTHED CLOCK CORRELATION DATA

REV	CLOCK TIME	COR SYSTEM TIME
9	102153.105	37345.266
16	141760.761	76952.912
25	188734.745	37526.884
31	223309.466	72101.596
41	275836.967	38229.084
47	310182.251	72574.359
56	357465.030	33457.126
63	397033.096	73025.182
72	443890.899	33482.973
79	483799.488	73391.552

RATIO CLOCK TO SYSTEM= 0.1000000254D 01

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