[redacted]

[redacted]

[redacted]

Copy No. ____
28 Pages
(Including Cover Sheet)

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-07

VEHICLE NO. 1609

MISSION NO. 1007

CAMERA NOS. 144 & 145

Prepared by: [redacted]

Checked by: [redacted]

Approved by: [redacted]

Approved by: [redacted] Program Manager

[redacted]

2 JUL 1964

LOGGED

[redacted]

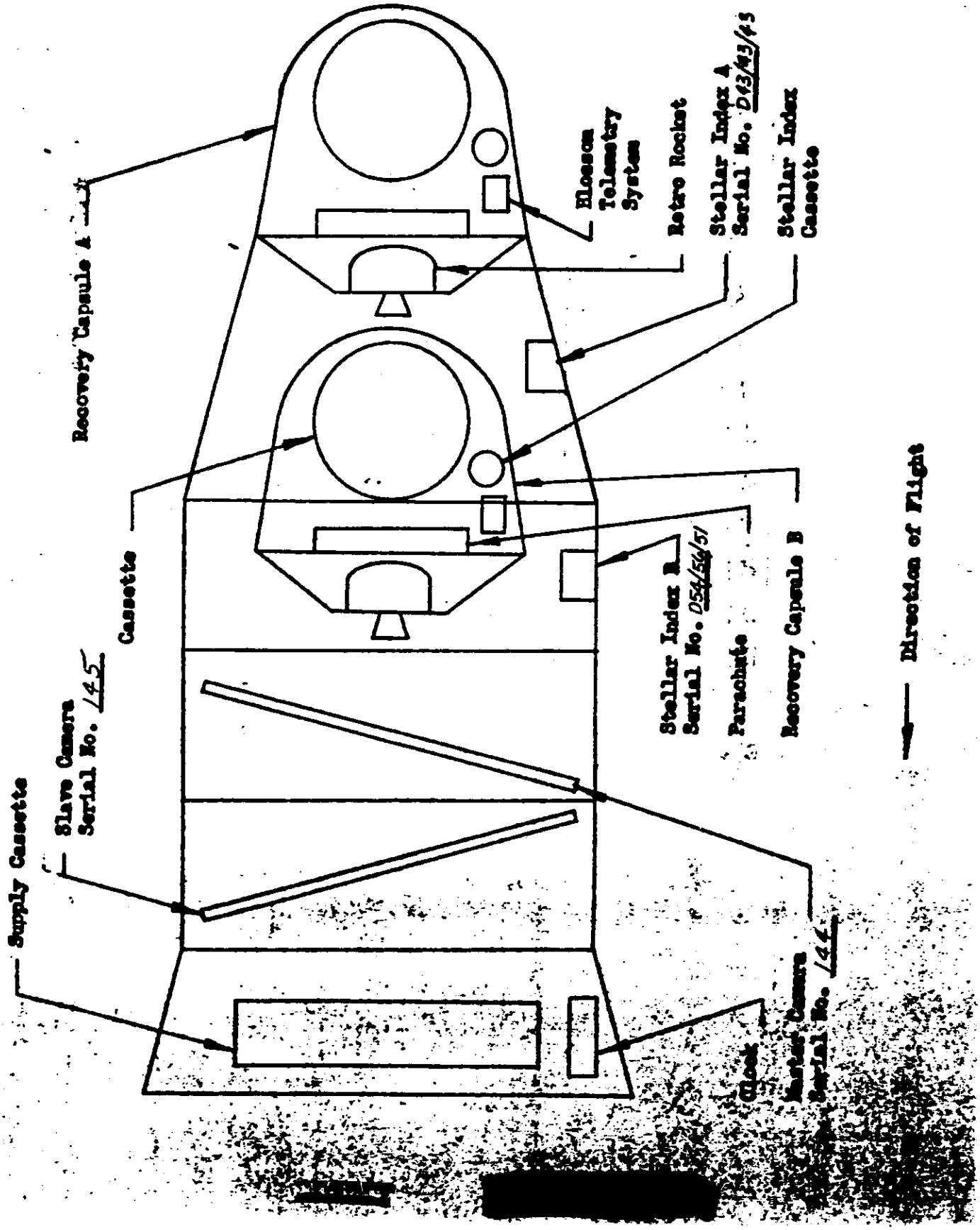
TABLE OF CONTENTS

[redacted]

[redacted]

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 E 145

VEHICLE LAYOUT:



[redacted]

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144/145

GENERAL FLIGHT DATA:

Master Camera Serial No. 144

Slave Camera Serial No. 145

Stellar Index "A" Serial No. D43/43/43

Stellar Index "B" Serial No. D54/56/51

Launch Date 6-19-54 ← should read: 6-19-64

Orbital Parameters: (Rev. 32)

Period 90.96 Min. Eccentricity .02188108B

Perigee 100.18 NM Perigee Latitude 48°56.0' Deg. N

Apogee 258.44 NM Inclination Angle 84°59.6' Deg. N

Recovery Orbit No. 65 (UNIT #1)

Recovery Date 6-22-64

REMARKS:

[redacted]

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 & 145

LENS SETTINGS AND FILM TYPES:

Panoramic Camera Settings:	Camera No. 144	Camera No. 145
Panoramic Optics Slit Width	.250 in.	.200 in.
Panoramic Optics Filter Type	WRATTEN 25	WRATTEN 21
Horizon Optics Exp. Time	1/100 sec.	1/100 sec.
Horizon Optics Aperture	F8.0 TAKE UP F6.8 SUPPLY	F6.8 TAKE UP F8.0 SUPPLY
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 SEC	1/500	2 SEC	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.

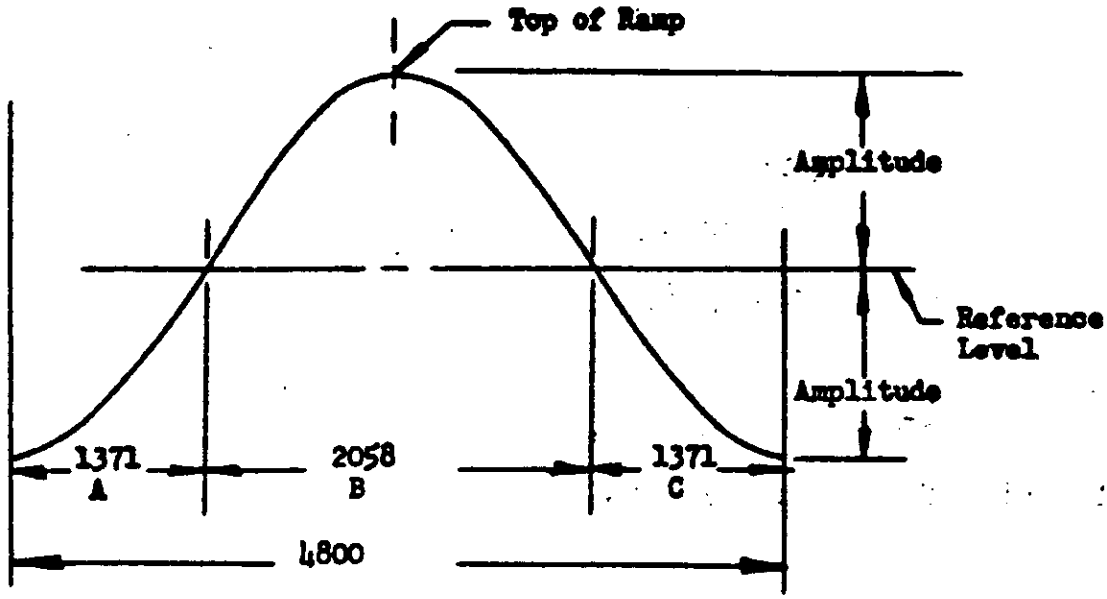
Film:

Panoramic Cameras:	Camera No. 144	Camera No. 145
Type	SØ 132	SØ 132
Length	15800 ft.	15800 ft.
Splices	4	4
Emul. Data	55-9-4-4	51-7-4-4

Stellar Index Cameras:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Type	SØ-102	SØ 130	SØ 102	SØ 130
Emul. Data	7-3-5-4	13-4-4-4	7-3-5-4	13-4-4-4

V/H RAMP CONFIGURATION AND CONSTANTS:



Cycle Rate Computation:

A. 0 to 1371 Sec Up Ramp: CPS=R+A Sin (1.5 X -1.5707963)

B. 1372 to 3429 Sec Up Ramp: CPS=R+A Sin (2 X -2.0943951) ≤ .4626

C. 3430 to 4800 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) = $2\pi \left(\frac{0.3224}{24\ CP}\right)$ = 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 = $\frac{\text{Time Up Ramp (Seconds)}}{1309.6179}$ 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

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 & 145

CYCLE PERIOD DATA:

PRE-FLIGHT CYCLE PERIODS:

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Time Up Ramp Sec
		Master	Slave	
11	11 (*)	3.752	3.747	
11	1	13.184	13.786	0
11	1	5.953	5.978	913
11	1	2.193	2.195	2400
11	2	11.156	11.517	0
11	2	5.363	5.373	975
11	2	5.108	5.114	1025
11	2	2.226	2.233	2400

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
11	11	3.745	3.800	8	850
11	1	5.895	6.030	24	913
11	2	5.370	5.430	40	975
11	2	5.075	5.145	56	1025

* AMPLITUDE EQUALS ZERO.

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144/145

LENS DATA SUMMARY: Master Camera No. 144

Lens Serial No. 1212435

Slit Width .250 Inch

Filter Type WRATTEN 25

Equivalent Operational Focal Length 609.602 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	241	SØ 132	HIGH
Other	150	SØ 132	LØW

Dynamic:

Itek Pre-Vibration	165	SØ 132	HIGH
Itek Post Vibration	126	SØ 132	LØW
AP	172	SØ 132	HIGH
AP	105	SØ 132	LØW
Other			

Note: Itek Post Vibration Resolution of 165 lines/MM Reported In Message No. _____ dated 6-19-64

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3	2	1	0	359	358	357		
Distortion Millimeters	.005	.004	.002	.000	.001	.002	.003		

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 145

LENS DATA SUMMARY: (Horizon Cameras for [redacted] Camera No. 144)

	Take-Up	Supply
Lens Serial No.	812277	812281
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F8.0	F6.8
Operational Focal Length	54.53 MM	54.40 MM
Radial Distortion:		
10° off Axis	.001 MM	.007 MM
20° off Axis	.001 MM	.019 MM
Tangential Distortion (Maximum Vector)	.008 MM	.009 MM

Resolution:

Angle off Axis Deg.	0	5	10	15	20	25	27.5	0	5	10	15	20	25	27.5
Radial Resolution	184	173	153	114	109	105	46	164	164	144	126	122	118	51
Tangential Resolution	164	145	134	108	91	60	41	164	145	134	108	91	57	46

116 Lines/MM Avg. 117 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 HIGH contrast target.

[redacted]

[redacted]

SECRET

SYSTEM NO. J-07

VEHICLE NO. 1609

MISSION NO. 1007

CAMERA NOS. 144 & 145

LENS DATA SUMMARY: Slave Camera No. 145

Lens Serial No. 1172435

Slit Width .200 Inch

Filter Type WRATTEN 21

Equivalent Operational Focal Length 609.602 MM

Resolution:

Static:

	Lines/MM	Film Type	Target Contrast
Bench Test	243	SO 132	HIGH
Other	152	SO 132	LOW

Dynamic:

Itek ~~Pre-Vibration~~	159	SO 132	HIGH
Itek ~~Post-Vibration~~	123	SO 132	LOW
AP	187	SO 132	HIGH
AP	110	SO 132	LOW
Other			

NOTE: Itek Post Vibration Resolution of 159 lines/MM Reported In Message No. _____ dated 6-19-64

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	3	2	1	0	359	358	357		
Distortion Millimeters	.003	.002	.001	.000	.002	.003	.005		

[redacted]

[redacted]

SYSTEM NO. J-07 — [redacted]

VEHICLE NO. 1609

MISSION NO. 1007

CAMERA NOS. 144 & 145

LENS DATA SUMMARY: (Horizon Cameras for SLAVE Camera No. 145)

	Take-Up	Supply
Lens Serial No.	812287	812283
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F6.8	F8.0
Operational Focal Length	54.33 MM	54.51 MM
Radial Distortion:		
10° off Axis	.004 MM	.006 MM
20° off Axis	.005 MM	.017 MM
Tangetial Distortion (Maximum Vector)	.002 MM	.006 MM

Resolution:

Angle off Axis Deg.	0	5	10	15	20	25	27.5
Radial Resolution	164	155	162	134	116	105	46
Tangetial Resolution	164	145	142	115	91	67	46

0	5	10	15	20	25	27.5
182	182	144	126	122	105	52
182	162	142	115	97	60	46

118 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 SO 132 film and HIGH contrast target.

[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 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.

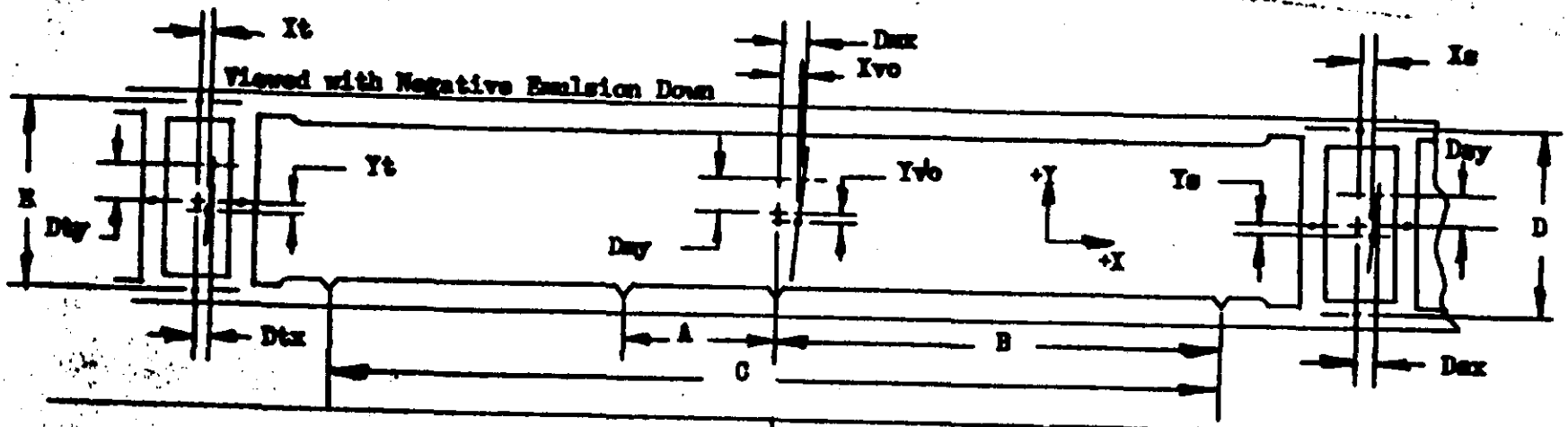
9.0 The format dimensions are measured to the best estimate of format edge.

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 Dax and Day 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. T-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 & 145

FORMAT DIMENSIONS: (PANORAMIC CAMERAS)



Camera No. 144	Vehicle Motion ↓	Scan Direction →
A 76.4	Xt +.247	Dtx +.239
B 355.3	Yt -.072	Dty +2.639
C 710.9	Xs -.398	Dsx -.397
D 56.511	Ys +.173	Dsy -1.727
E 56.529	Xvo +.566	Dsx +.581
	Yvo +.095	Dsy +3.095

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	56.352	—	—
Width	754.9	—	—

Camera No. 145	Vehicle Motion ↓	Scan Direction →
A 76.2	Xt -.007	Dtx -.012
B 355.8	Yt -.062	Dty +2.405
C 711.1	Xs -.088	Dsx -.088
D 56.551	Ys -.076	Dsy -1.864
E 56.547	Xvo -.887	Dsx -.866
	Yvo +.321	Dsy +3.321

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	56.050	—	—
Width	756.6	—	—

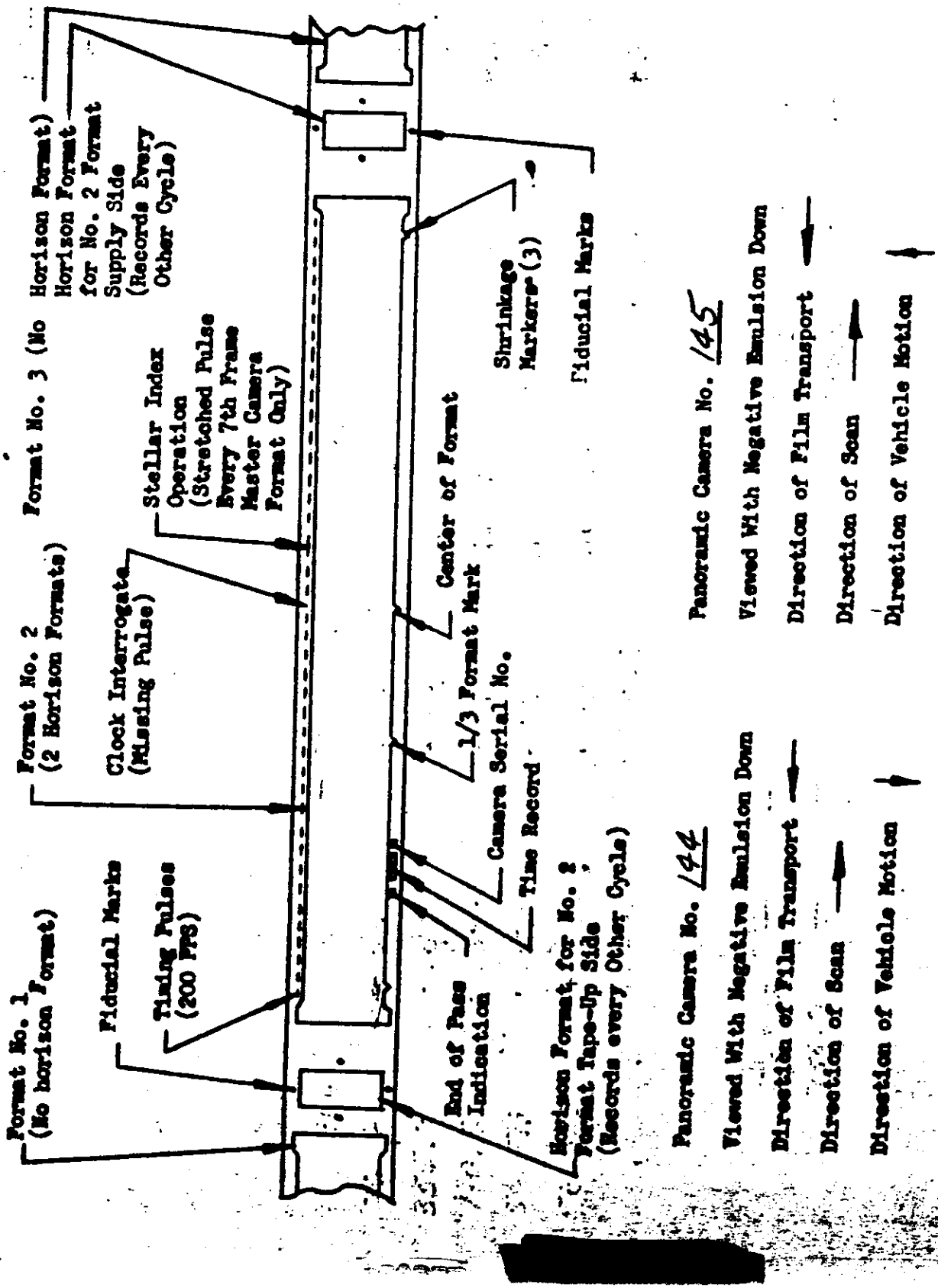
Notes: 1. All dimensions are in millimeters and are average dimensions of three formats.
2. Height of main format is taken at center of format.
3. Dt, Ds, Ds, X and Y dimensions are taken 10MM above point defining target center.
4. Format Sign Convention

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

[redacted]

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1067
CAMERA NOS. 144/145

FORMAT LAYOUT: (PANORAMIC CAMERAS)



SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144165

[redacted] ORIGINAL

LENS DATA SUMMARY STELLAR INDEX A:D43/43/43:

	Stellar	Index
Lens Serial No.	10658	813060
Reseau Serial No.	43	43
Filter Type	NONE	WRATTEN 21
Aperture	F1.8	F4.5
Exposure Time	2 Sec.	1/500 Sec.
Operational Focal Length	N/A MM	38.12 MM
Equivalent Focal Length	____ MM	____ MM

Resolution:

Angle off axis					
Resolution L/MM High Contrast					
Resolution L/MM Low Contrast					

0	10	20	30	35
73	82	107	99	87
73	77	87	46	16

Note: Index Resolution of 72.3 Lines/MM AWAR
Read From 5ϕ130 Film.

Distortion: (MAX. VECTOR)
TANGENTIAL DISTORTION ON INDEX .007

Angle off Axis Deg.					
Distortion Millimeters					

Perpendicularity of Reseau to Optical Axis	.0004	.007
Location of Principal Point:	X — MM	X — MM
	Y — MM	Y — MM

[redacted]

SYSTEM NO. J-07

VEHICLE NO. 1609

MISSION NO. 1007

CAMERA NOS. 144 & 145

LENS DATA SUMMARY STELLAR INDEX B: D54/56/51

	Stellar	Index
Lens Serial No.	11294	813052
Reseau Serial No.	51	56
Filter Type	NONE	WRATTEN 21
Aperture	F1.8	F4.5
Exposure Time	2 Sec.	1/500 Sec.
Operational Focal Length	N/A MM	38.63 MM
Equivalent Focal Length	85 MM	38 MM

Resolution:

Angle off axis						0	10	20	30	35
Resolution L/MM High Contract						82	95	110	95	80
Resolution L/MM Low Contrast						82	92	87	52	30

NOTE: Index Resolution of 71 . Lines/MM AWAR

Read From SO 130 Film.

Distortion:

TANGENTIAL DISTORTION ON INDEX .004 (MAX. VECTOR)

Angle off Axis Deg.										
Distortion Millimeters										

Perpendicularity of Reseau to Optical Axis	.0009	.0004
Location of Principal Point	X — MM	X — MM
	Y — MM	Y — MM

SYSTEM NO. J-07
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 / 145

[redacted]

PRELIMINARY CLOCK CORRELATION:

ORBIT	SYSTEM TIME	CLOCK TIME	DIFFERENCE
8	39772.58	367841.674	—
16	85104.202	413173.281	.015 S
24	40615.175	455084.243	.011 S
31	80579.545	495048.414	.199 S
40	41642.560	5640.492	.026 S
47	81392.310	45390.253	.010 S
56	42548.905	92946.792	.056 S

[redacted]

[redacted]

SYSTEM NUMBER J-07
VEHICLE NUMBER 1609
MISSION NUMBER 1007
PANORAMIC CAMERA NUMBERS 144 AND 145
STELLAR/INDEX CAMERA NUMBER C43/43/43

[redacted]

PERFORMANCE ESTIMATE

SUB	PROG		CAM NO.	PAN FR.	SI FR	LAT. ON	LAT. OFF	TIME ON ZC	TIME ON ST	TUR NO	DUR SEC.	SOLAR SEC	SOLAR ON	SOLAR OFF	EXPOS. ON	EXPOS. OFF
LAUNCH			144	123	17											
LAUNCH			145	121												
1	1	0	144	16	02	252	249	20	2915	11	1	2121	37	44	45	4.0	4.0
1	1	0	145	16		253	250	20	2915	11	1	2121	37	44	45	3.2	3.2
2	1	1	144	60	09	272	262	20	8070	11	1	1807	157	36	41	4.6	4.3
2	1	1	145	60		273	263	20	8070	11	1	1807	157	36	41	3.7	3.4
6	6	1	144	43	06	255	248	2030173		11	1	2085	99	44	45	4.0	3.9
6	6	1	145	43		256	249	2030173		11	1	2085	99	43	45	3.2	3.1
6	6	2	144	81	12	244	231	2030335		11	1	2247	184	46	45	3.8	3.8
6	6	2	145	81		245	232	2030335		11	1	2247	184	46	46	3.1	3.0
7	10	1	144	187	26	257	228	2035605		11	1	2062	419	43	45	3.9	3.7
7	10	1	145	186		258	229	2035605		11	1	2062	419	43	45	3.1	3.0
8	10	0	144	12	02	139	142	2039813		1111		814	46	-7	-5	6.9	6.9
8	10	0	145	12		138	141	2039813		1111		814	46	-8	-6	5.5	5.5
9	8	1	144	127	18	262	242	2046448		11	1	1993	290	41	46	4.0	3.7
9	8	1	145	125		263	243	2046448		11	1	1993	290	41	46	3.2	3.0
20	4	1	144	56	08	255	246	2120198		11	1	2138	129	44	46	3.9	3.8
20	4	1	145	56		256	247	2120198		11	1	2138	129	44	46	3.2	3.1
21	8	1	144	134	19	254	233	2125671		11	1	2157	303	45	47	3.9	3.8
21	8	1	145	134		255	234	2125671		11	1	2157	303	44	47	3.1	3.0
22	2	1	144	37	06	259	253	2131058		11	1	2089	84	43	45	4.0	3.9
22	2	1	145	36		260	254	2131058		11	1	2089	84	43	45	3.2	3.2
22	2	2	144	37	05	243	237	2131293		11	1	2324	83	47	47	3.8	3.8
22	2	2	145	37		244	238	2131293		11	1	2324	83	47	47	3.1	3.1
23	3	1	144	43	06	259	252	2136517		11	1	2091	98	43	45	3.9	3.8
23	3	1	145	43		260	253	2136517		11	1	2091	98	43	45	3.2	3.1
23	3	2	144	101	15	250	234	2136651		11	1	2224	228	46	47	3.8	3.8
23	3	2	145	101		251	235	2136651		11	1	2224	228	46	47	3.1	3.0
24	3	0	144	8	01	140	143	2140761		11	1	880	46	-8	-6	10.8	10.2
24	3	0	145	8		137	141	2140761		11	1	880	46	-10	-7	8.7	8.2
24	8	1	144	153	22	267	243	2141860		11	1	1980	348	40	47	4.0	3.7
24	8	1	145	151		268	244	2141860		11	1	1980	348	39	47	3.2	3.0
25	3	1	144	56	08	256	247	2147481		11	1	2142	128	44	46	3.9	3.8
25	3	1	145	56		257	248	2147481		11	1	2142	128	44	46	3.1	3.1
36	7	1	144	34	04	275	269	2220830		11	2	1901	85	35	39	4.4	4.2
36	7	1	145	34		276	270	2220830		11	2	1901	85	35	38	3.5	3.4
36	7	2	144	81	12	253	240	2221159		11	2	2229	186	46	48	3.9	3.9
36	7	2	145	79		254	241	2221159		11	2	2229	186	46	48	3.2	3.1
37	8	1	144	165	24	254	228	2226602		11	2	2215	375	46	48	3.8	3.8
37	8	1	145	164		255	229	2226602		11	2	2215	375	45	48	3.1	3.1
38	9	1	144	37	05	259	253	2231984		11	2	2144	84	44	46	3.9	3.9
38	9	1	145	36		260	254	2231984		11	2	2144	84	43	46	3.2	3.1
38	9	2	144	157	22	250	225	2232117		11	2	2276	361	47	47	3.8	3.9
38	9	2	145	155		251	226	2232117		11	2	2276	361	47	47	3.1	3.2

[redacted]

[redacted]

[redacted]

```
 39  2 1 144   35 05 259 253 2237443 11 2 2150   81 44 46 4.0 3.9
 39  2 1 145   35    260 254 2237443 11 2 2150   81 43 45 3.2 3.2
 40 10 0 144    8 01 140 142 2241684 11 2  937   45 -9 -710.710.2
 40 10 0 145    8    137 140 2241684 11 2  937   45-11 -8 8.6 8.2
 40 10 1 144  119 17 260 242 2242883 11 2 2137 273 43 48 3.9 3.8
 40 10 1 145  118    261 242 2242883 11 2 2137 273 43 48 3.2 3.1
 41  2 1 144   48 07 259 251 2248355 11 2 2156 113 44 46 4.0 3.9
 41  2 1 145   48    260 252 2248355 11 2 2156 113 43 46 3.2 3.2
049  *** 144    3       (S E E  N O T E  B E L O W)
049  *** 145    3       (S E E  N O T E  B E L O W)
 52 10 1 144   53 07 278 269 2321691 11 2 1911 132 34 39 4.3 4.1
 52 10 1 145   53    279 270 2321691 11 2 1911 132 33 38 3.5 3.3
 52 10 2 144  139 20 260 238 2321962 11 2 2183 320 44 50 3.9 3.9
 52 10 2 145  137    261 239 2321962 11 2 2183 320 43 50 3.2 3.1
 53  8 1 144   37 05 255 249 2327493 11 2 2259  83 46 48 3.9 3.8
 53  8 1 145   36    256 250 2327493 11 2 2259  83 46 48 3.1 3.1
 53  8 2 144  130 19 244 223 2327655 11 2 2420 302 49 48 3.8 4.0
 53  8 2 145  128    245 224 2327655 11 2 2420 302 49 49 3.1 3.3
 54  8 1 144   42 06 259 253 2332890 11 2 2203  97 44 47 3.9 3.8
 54  8 1 145   42    260 253 2332890 11 2 2203  97 44 47 3.1 3.1
 54  8 2 144  156 22 250 225 2333023 11 2 2337 360 48 49 3.8 4.0
 54  8 2 145  155    251 226 2333023 11 2 2337 360 47 49 3.1 3.2
 55  7 1 144  107 16 260 243 2338332 11 2 2193 245 44 49 3.9 3.8
 55  7 1 145  106    261 244 2338332 11 2 2193 245 44 49 3.1 3.1
 56 10 0 144    9 01 139 142 2342589 11 2  997  46-10 -8 9.6 9.2
 56 10 0 145    9    137 140 2342589 11 2  997  46-12-10 7.7 7.4
 56 10 1 144  182 26 272 244 2343608 11 2 2016 423 37 49 4.1 3.8
 56 10 1 145  181    273 244 2343608 11 2 2016 423 37 49 3.3 3.1
 57  2 1 144   49 07 256 249 2349301 11 2 2258 114 46 48 4.0 3.9
 57  2 1 145   49    257 249 2349301 11 2 2258 114 45 48 3.2 3.1

AAA BB C DDD EEE FF GHH GII JJKKKKK LL M 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

[redacted]

[redacted]

[redacted]

*** NOTE - T/M RECORDS INDICATE 3 FRAMES WERE TAKEN DURING THE REV 49[redacted] ACQUISITION. THERE IS NO FEASIBLE EXPLANATION OF WHY THIS MIGHT HAVE OCCURRED, IF, IN FACT IT DID OCCUR. A STUDY OF THIS ANOMALY IS NOW UNDER WAY.

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

J- 7 RAMP R-11 A- 1
R= 0.2635 A= 0.1962 RAMP PERIOD= 4800

TIME	PERIOD	CPS	GAV
0	14.859	0.0673	0.00609
100	14.580	0.0686	0.00620
200	13.807	0.0724	0.00655
300	12.695	0.0788	0.00712
400	11.424	0.0875	0.00792
500	10.142	0.0986	0.00892
600	8.942	0.1118	0.01011
700	7.871	0.1271	0.01149
800	6.942	0.1441	0.01303
900	6.149	0.1626	0.01471
1000	5.479	0.1825	0.01651
1100	4.914	0.2035	0.01840
1200	4.440	0.2252	0.02037
1300	4.041	0.2475	0.02238
1400	3.676	0.2721	0.02461
1500	3.314	0.3018	0.02729
1600	3.025	0.3306	0.02990
1700	2.794	0.3579	0.03237
1800	2.611	0.3829	0.03463
1900	2.468	0.4052	0.03665
2000	2.357	0.4242	0.03837
2100	2.275	0.4395	0.03975
2200	2.219	0.4506	0.04076
2300	2.186	0.4574	0.04137
2400	2.179	0.4589	0.04151
2500	2.186	0.4574	0.04137
2600	2.219	0.4506	0.04076
2700	2.275	0.4395	0.03975
2800	2.357	0.4242	0.03837
2900	2.468	0.4052	0.03665
3000	2.611	0.3829	0.03463
3100	2.794	0.3579	0.03237
3200	3.025	0.3306	0.02990
3300	3.314	0.3018	0.02729
3400	3.676	0.2721	0.02461
3500	4.041	0.2475	0.02238
3600	4.440	0.2252	0.02037
3700	4.914	0.2035	0.01840
3800	5.479	0.1825	0.01651
3900	6.149	0.1626	0.01471
4000	6.942	0.1441	0.01303
4100	7.871	0.1271	0.01149

[redacted]

[redacted]

4200	8.942	0.1118	0.01011
4300	10.142	0.0986	0.00892
4400	11.424	0.0875	0.00792
4500	12.695	0.0788	0.00712
4600	13.807	0.0724	0.00655
4700	14.580	0.0686	0.00620
4800	14.859	0.0673	0.00609

J- 7 RAMP R-11 A- 2

R= 0.2641 A= 0.1815 RAMP PERIOD= 4800

TIME	PERIOD	CPS	GAV
0	12.107	0.0826	0.00747
100	11.935	0.0838	0.00758
200	11.449	0.0873	0.00790
300	10.728	0.0932	0.00843
400	9.870	0.1013	0.00916
500	8.964	0.1116	0.01009
600	8.078	0.1238	0.01120
700	7.253	0.1379	0.01247
800	6.510	0.1536	0.01389
900	5.855	0.1708	0.01545
1000	5.286	0.1892	0.01711
1100	4.794	0.2086	0.01886
1200	4.373	0.2287	0.02068
1300	4.012	0.2493	0.02255
1400	3.676	0.2720	0.02460
1500	3.339	0.2995	0.02709
1600	3.066	0.3262	0.02950
1700	2.846	0.3514	0.03178
1800	2.670	0.3746	0.03388
1900	2.530	0.3952	0.03574
2000	2.423	0.4128	0.03733
2100	2.343	0.4269	0.03861
2200	2.287	0.4372	0.03954
2300	2.255	0.4435	0.04011
2400	2.244	0.4456	0.04030
2500	2.255	0.4435	0.04011
2600	2.287	0.4372	0.03954
2700	2.343	0.4269	0.03861
2800	2.423	0.4128	0.03733
2900	2.530	0.3952	0.03574
3000	2.670	0.3746	0.03388
3100	2.846	0.3514	0.03178
3200	3.066	0.3262	0.02950
3300	3.339	0.2995	0.02709
3400	3.676	0.2720	0.02460
3500	4.012	0.2493	0.02255
3600	4.373	0.2287	0.02068
3700	4.794	0.2086	0.01886
3800	5.286	0.1892	0.01711
3900	5.855	0.1708	0.01545
4000	6.510	0.1536	0.01389
4100	7.253	0.1379	0.01247

[redacted]

[redacted]

[redacted]

4200	8.078	0.1238	0.01120
4300	8.964	0.1116	0.01009
4400	9.870	0.1013	0.00916
4500	10.728	0.0932	0.00843
4600	11.449	0.0873	0.00790
4700	11.935	0.0838	0.00758
4800	12.107	0.0826	0.00747

PRELIMINARY CLOCK CORRELATION

ORBIT	SYSTEM TIME	CLOCK TIME	DELTA SYS. TIME	DELTA CLOCK TIME	ERROR
8	39673.745	367742.841			
8	39772.58	367841.674	98.835	98.833	.002
16	85104.202	413173.281	45331.607	45331.622	.015
24	40615.175	455084.243	41910.973	41910.962	.011
31	80579.545	495048.414	39964.370	39964.171	.199
40	41642.56	5640.492	47463.015	47462.989	.026
47	81392.310	45390.253	39749.760	39749.150	.010
56	42548.905	92946.792	47556.595	47556.539	.056

[redacted]

[redacted]

SYSTEM NO. I-87
VEHICLE NO. 1609
MISSION NO. 1007
CAMERA NOS. 144 & 145

HORIZON LENS SETTINGS (Viewed from top of vehicle inflight)