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(Including Cover Sheet)

CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-09

VEHICLE NO. 1176

MISSION NO. 1006

CAMERA NOS. 148 - 149

Prepared by: [redacted]

Checked by: [redacted]

Approved by [redacted]

Approved by [redacted]

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TOP SECRET

12 JUN 1964

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TABLE OF CONTENTS

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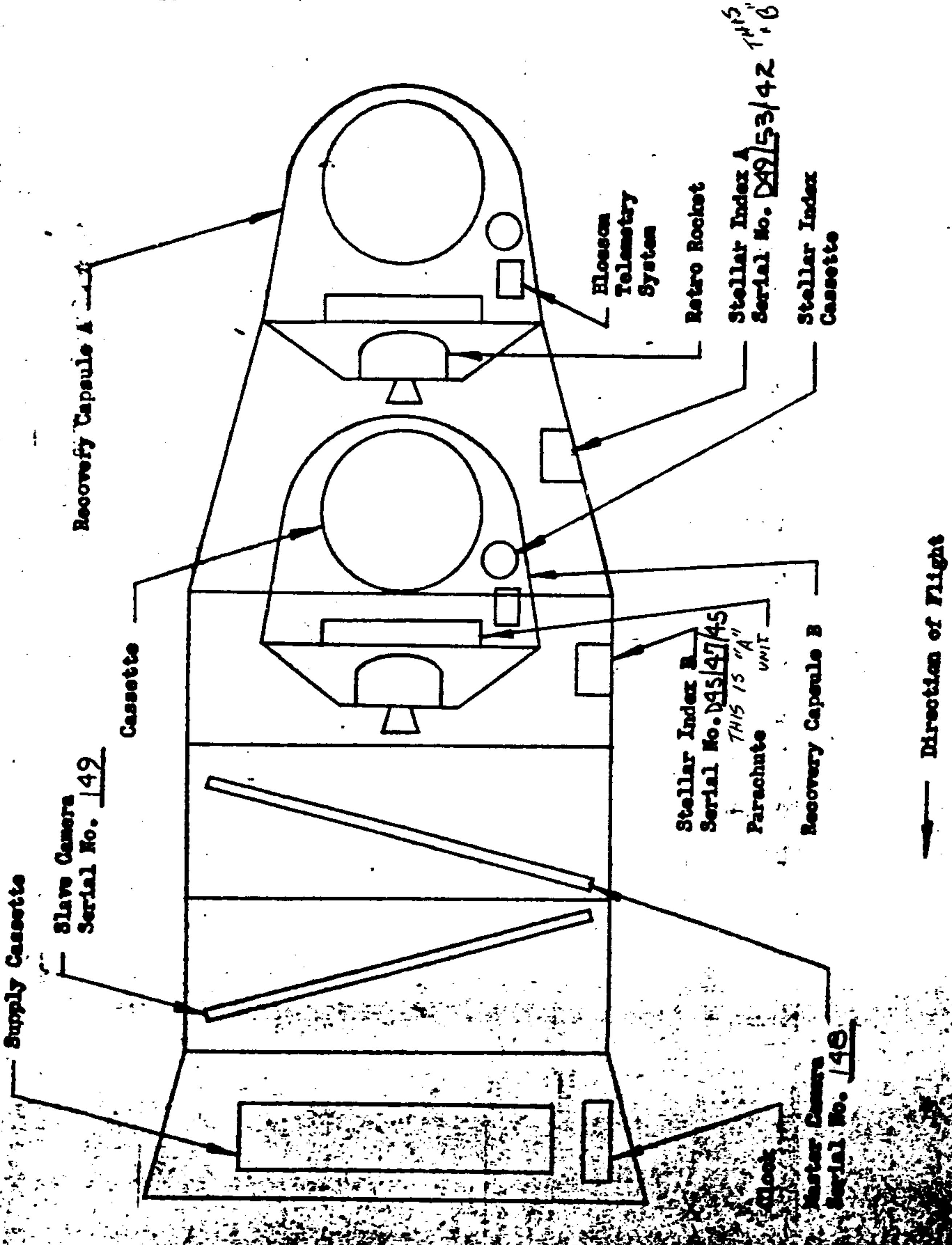
VEHICLE LAYOUT:



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SYSTEM NO. J-09
VEHICLE NO. 1206
MISSION NO. 1006
CAMERA NOS. 148-149

GENERAL FLIGHT DATA:

Master Camera Serial No. 148

Slave Camera Serial No. 149

Stellar Index "A" Serial No. D49/53/42

Stellar Index "B" Serial No. D45/47/45

Launch Date 4 JUNE 1964

Reactivation Date —

Reactivation Orbit No. —

Orbital Parameters: (Rev. 32)

Period 90.53 Min. Eccentricity .02333

Perigee 86.50 NM Perigee Latitude 69.73 Deg. N

Apogee 255.0 NM Inclination Angel 79.96 Deg. N

Recovery Orbit No. 65

Recovery Date 8 JUNE 1964

REMARKS:

SYSTEM NO. J-89
VEHICLE NO. 1176
MISSION NO. 1006
CAMERA NOS. 148-149

LENS SETTINGS AND FILM TYPES:

Panoramic Camera Settings:	Camera No. 148	Camera No. 149
Panoramic Optics Slit Width	.200 in.	.200 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 TAKE UP	F8.0 SUPPLY F6.8 TAKE UP
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	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.

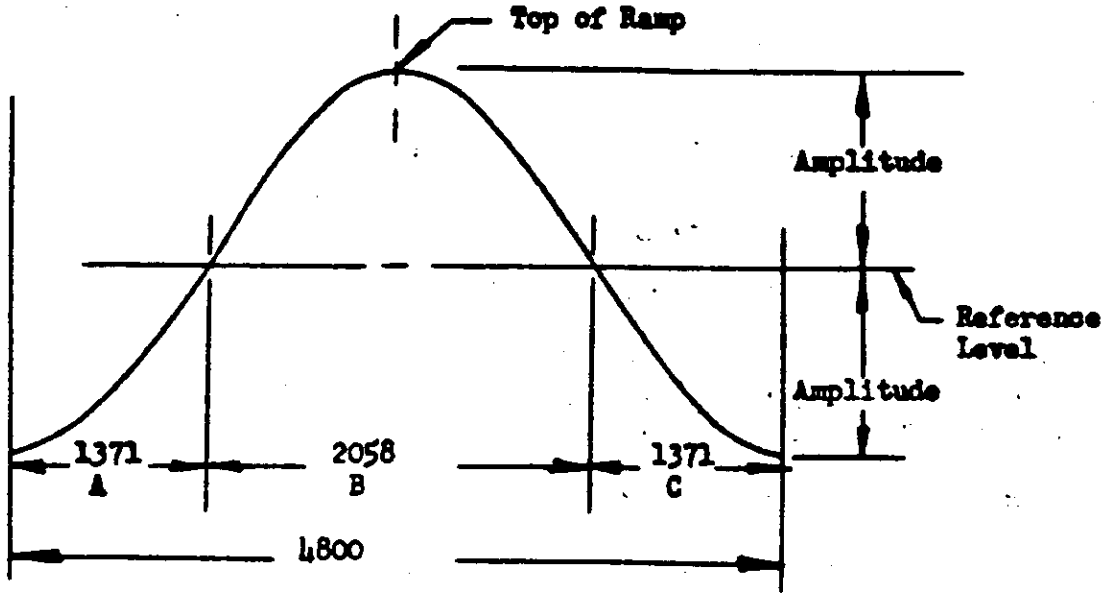
Film:

Panoramic Cameras:	Camera No. 148	Camera No. 149
Type	7J-40	7J-40
TOTAL SUPPLY Length	15800 ft.	15800 ft.
Splices	4	4
Emul. Data	48-5-1-4	48-5-7-1-4

Stellar Index Cameras:

	Stellar Index A		Stellar Index B	
	Stellar	Index	Stellar	Index
Type	3J-34	7J-33	3J-34	7J-33
Emul. Data	7-3-3-4	28-1-1-4	7-3-3-4	28-1-1-4

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) $\leq$ .4625

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 = $\frac{1}{CPS}$

CPS = Camera Cycle Rate in Cycles/Sec

SLIT = Slit Width in Inches

SYSTEM NO. J-09
VEHICLE NO. 1176
MISSION NO. 1006
CAMERA NOS. 148-149

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	1	3.791	3.780	1010
11	1	3.639	3.629	1075
11	1	3.503	3.495	1136
11	1	3.368	3.361	1200

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
11	1	3.777	3.843	9	1010
11	1	3.640	3.680	25	1075
11	1	3.488	3.536	40	1136
11	1	3.360	3.913	56	1200

SYSTEM NO. J-09
VEHICLE NO. 1176
MISSION NO. 1006
CAMERA NOS. 148-149

LENS DATA SUMMARY: Master Camera No. 148

Lens Serial No. 1242435

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	241	SO-132	Hi
	146	SO-132	LO

Dynamic: (POST VIBRATION)

Itek	174	SO-132	Hi
Itek	129	SO-132	LO
AP	181	SO-132	Hi
AP	109.5	SO-132	LO
Other			

Note: Post Vibration Resolution of 181 lines/MM Reported In Message No. [redacted] dated 5 JUN. 64 -

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	0.0	1.0	2.0	3.0	359.0	358.0	357.0		
Distortion Millimeters	.000	.001	.003	.004	.001	.004	.009		

SYSTEM NO. J-09
VEHICLE NO. 1176
MISSION NO. 1006
CAMERA NOS. 148-149

LENS DATA SUMMARY: (Horizon Cameras for PANORAMIC Camera No. 148)

	Take-Up	Supply
Lens Serial No.	812296	813549
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F8.0	F6.8
Operational Focal Length	54.75 MM	54.83 MM
Radial Distortion:		
10° off Axis	.000 MM	.001 MM
20° off Axis	.007 MM	.004 MM
Tangential Distortion (Maximum Vector)	.002 MM	.004 MM

Resolution:

Angle off Axis Deg.	0	5	10	15	20	25	27.5	0	10	15	20	25		
Radial Resolution	164	153	153	133	125	112	58	170	112	87	80	68		
Tangential Resolution	164	153	142	121	97	64	44	170	116	89	66	55		

120 Lines/MM Avg. 101 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 HC contrast target.

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TOP SECRET

SYSTEM NO. J-09

VEHICLE NO. 1176

MISSION NO. 1006

CAMERA NOS. 148-149

LENS DATA SUMMARY: Slave Camera No. 149

Lens Serial No. 1262435

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	252	SO-132	Hi
Other	138	SO-132	Lo

Dynamic: (POST VIBRATION)

Itek	168	SO-132	Hi
Itek	129	SO-132	Lo
AP	180.5	SO-132	Hi
AP	106	SO-132	Lo
Other			

NOTE: Post Vibration Resolution of 180.5 lines/MM Reported In

Message No. [redacted] dated 5 JUN 64

Distortion - Positive (Pincushion)

Angle Off Axis Deg.	0.0	1.0	2.0	3.0	359.0	358.0	357.0		
Distortion Millimeters	.000	.001	.003	.004	.001	.002	.005		

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TOP SECRET

SYSTEM NO. J-09

VEHICLE NO. 1176

MISSION NO. 1006

CAMERA NOS. 148-149

LENS DATA SUMMARY: (Horizon Cameras for SLAVE Camera No. 149)

	Take-Up	Supply
Lens Serial No.	813559	813536
Exposure Time	1/100 Sec.	1/100 Sec.
Filter Type	WRATTEN 25	WRATTEN 25
Aperture	F6.8	F8.0
Operational Focal Length	54.24 MM	55.12 MM
Radial Distortion:		
10° off Axis	.004 MM	.004 MM
20° off Axis	.006 MM	.009 MM
Tangetial Distortion (Maximum Vector)	.001 MM	.001 MM

Resolution:

Angle off Axis Deg.	0	10	15	20	25	30	
Radial Resolution	170	61	87	79	87	71	
Tangetial Resolution	170	98	79	66	55	40	

0	10	15	20	25	27.5	
170	132	92	80	97	63	
170	116	95	75	55	43	

89 Lines/MM Avg.

99 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-09
VEHICLE NO. 1176
MISSION NO. 1006
CAMERA NOS. 148-149

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 D_{mx} and D_{my} 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 D_{tx}, D_{ty}, D_{sx} and D_{sy} are the offsets of these measurements.

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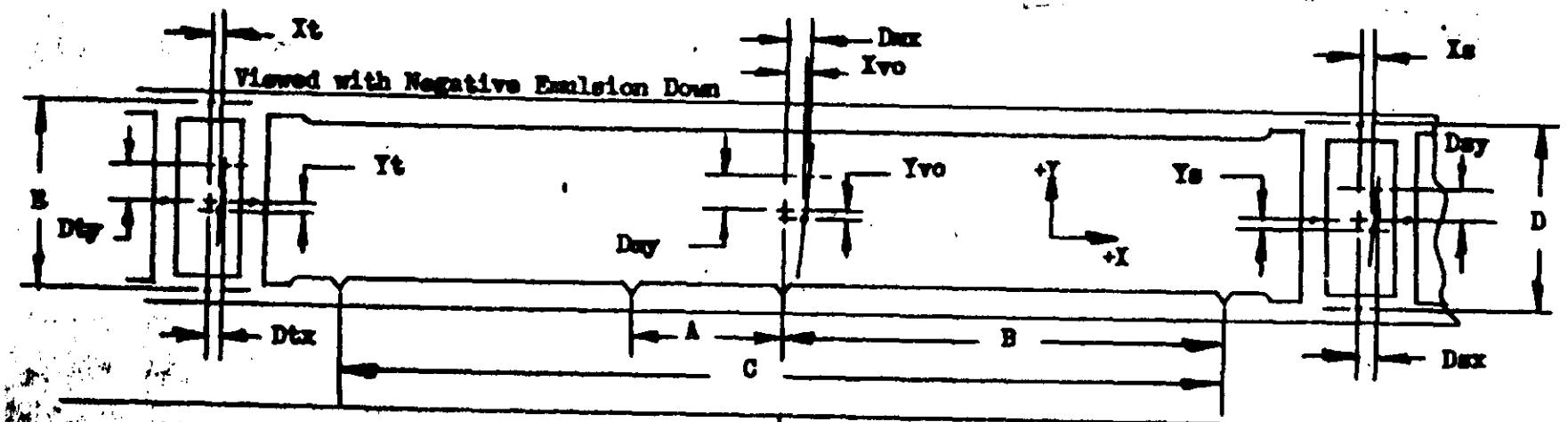
SYSTEM NO. J-09
VEHICLE NO. 1136
MISSION NO. 1006
CAMERA NOS. 148-149

FORMAT DIMENSIONS: (PANORAMIC CAMERAS)



Camera No. 148	Vehicle Motion	Scan Direction
A 76.10	Xt N/A	Dtx -0.010
B 355.30	Yt -0.058	Dty +2.000
C 710.40	Xs -0.093	Dsx +0.008
D N/A	Ys -0.125	Dsy +2.000
E N/A	Xvo +1.243	Dsx -0.002
	Yvo +0.502	Dsy -2.000

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	55.70	N/A	N/A
Width	753.20	N/A	N/A

Camera No. 149	Vehicle Motion	Scan Direction
A 76.10	Xt -0.049	Dtx -0.007
B 355.20	Yt -0.088	Dty +2.000
C 710.20	Xs -0.565	Dsx +0.004
D 56.464	Ys +0.024	Dsy -2.000
E 56.511	Xvo -0.540	Dsx +0.005
	Yvo -0.703	Dsy +2.000

Format Dimensions:

	Panoramic	Take-Up	Supply
Height	56.00	N/A	N/A
Width	752.30	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, De, 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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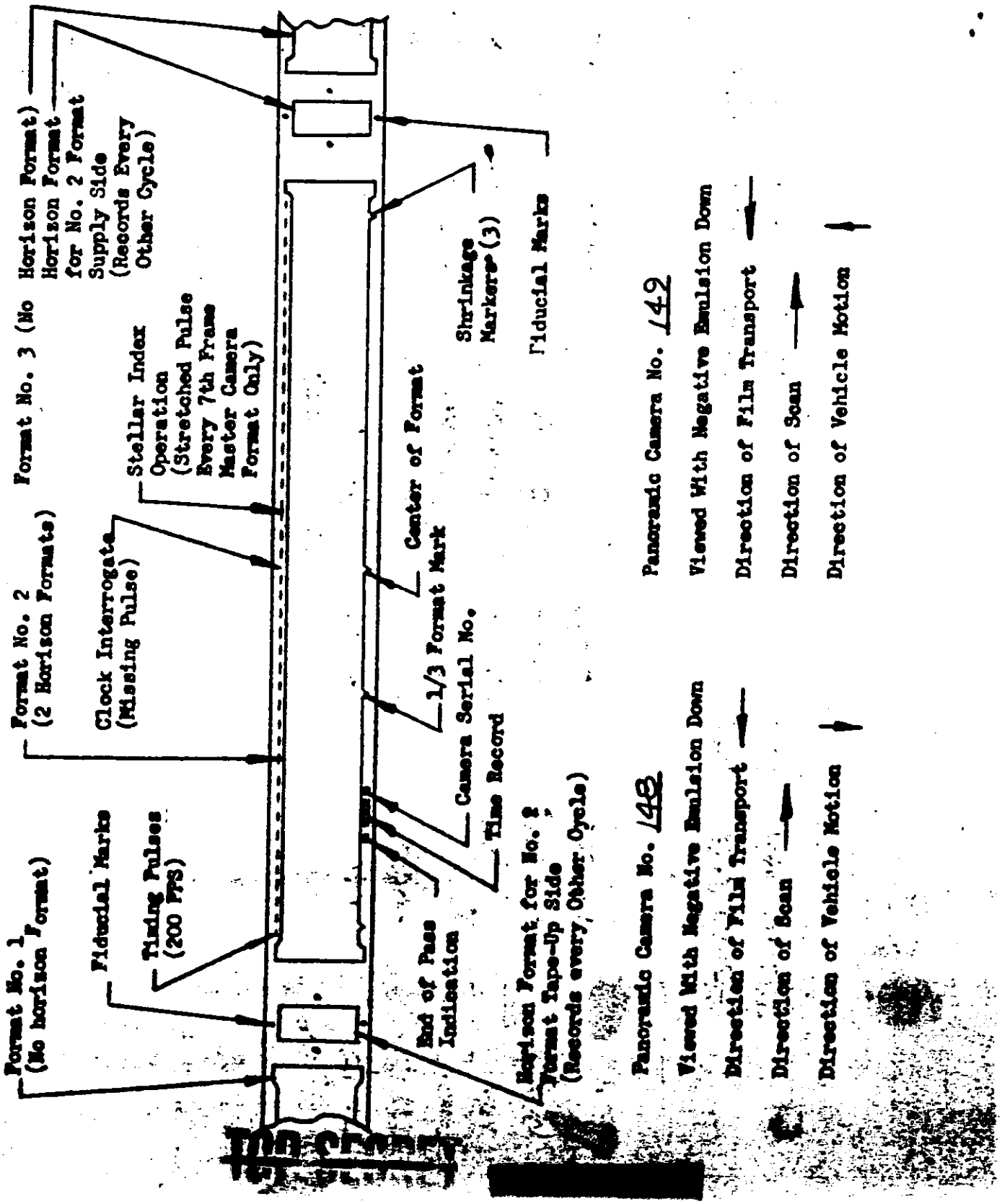
SYSTEM NO. J-09
VEHICLE NO. 1176
MISSION NO. 1006
CAMERA NOS. 148-149

FORMAT LAYOUT: (PANORAMIC CAMERAS)



SYSTEM NO. J-09
VEHICLE NO. 1196
MISSION NO. 1006
CAMERA NOS. 148-149

LENS DATA SUMMARY STELLAR INDEX A D49/53/42:

	Stellar	Index
Lens Serial No.	11303	813061
Reseau Serial No.	42	53
Filter Type	DOVE	WRATTEN 21
Aperture	F1.8	F4.5
Exposure Time	2.0 Sec.	1/500 Sec.
Operational Focal Length	N/A MM	MM
Equivalent Operational Focal Length	N/A MM	38.08 MM

Resolution:

Angle off axis	0	10	20	30	35
Resolution L/MM High Contrast	82	87	104	84	79
Resolution L/MM Low Contrast	82	87	84	47	40

Note: Index Resolution of 72.2 Lines/MM AWAR
Read From SO-130 Film.

Distortion: N/A

Angle off Axis Deg.										
Distortion Millimeters										

Perpendicularity of Reseau to Optical Axis .0004/.937 IN. .0009/2.25 IN.

Location of Principal Point: N/A X MM X MM
Y MM Y MM

[redacted]

SYSTEM NO. [illegible]

VEHICLE NO. 1176

MISSION NO. 1006

CAMERA NOS. 148-149

[redacted]

LENS DATA SUMMARY STELLAR INDEX B: D45/47/45

	Stellar	Index
Lens Serial No.	11053	813062
Reseau Serial No.	45	47
Filter Type	NONE	WRATTEN 21
Aperture	F1.8	F4.5
Exposure Time	2.0 Sec.	1/500 Sec.
Equivalent (OPERATIONAL) Focal Length	N/A MM	38.249 MM

Resolution:

Angle off axis	0	10	20	30	35
Resolution L/MM High Contrast	82	98	104	83	70
Resolution L/MM Low Contrast	92	89	75	45	26

NOTE: Index Resolution of 71 Lines/MM AWAR
Read From SO-130 Film.

Distortion: N/A

Angle off Axis Deg.										
Distortion Millimeters										

Perpendicularity of Reseau to Optical Axis	.0005/.937 IN	.0008/2.25 IN
Location of Principal Point N/A	X ____ MM	X ____ MM
	Y ____ MM	Y ____ MM

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SYSTEM NO. J-09

VEHICLE NO. 1176

MISSION NO. 1006

CAMERA NOS. 148-149

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PRELIMINARY CLOCK CORRELATION:

ORBIT	SYSTEM TIME	CLOCK TIME	DELTA SYS. TIME	DELTA CLOCK TIME	ERROR
9	43933.015	356859.525	—	—	—
25	44487.140	443813.564	86954.125	86954.039	.086
31	78697.275	478023.709	34210.135	34210.145	.010
40	39538.555	525264.986	47241.280	47241.273	.007
47	79180.918	028036.462	39642.363	39642.391	.028
56	39997.471	075252.967	47216.553	47216.505	.048
63	79595.975	114851.473	39598.504	39598.506	.002

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SYSTEM NUMBER J-C9
VEHICLE NUMBER 1176
MISSION NUMBER 1006
PANORAMIC CAMERA NUMBERS 148 AND 149
STELLAR/INDEX CAMERA NUMBER 049/53/42

PERFORMANCE ESTIMATE

SUB	PROG		CAM NO.	PAN FR.	SI FR	LAT. ON	LAT. OFF	TIME ON ZD	TIME ON ST	TUR NO	DUR SEC.	SOLAR SEC	SOLAR ON	SOLAR OFF	EXPOS. ON	EXPOS. OFF
LAUNCH			148	69	9											
LAUNCH			149	67												
1	1	0	148	16	03	251	249	05	1758	11	4	1987	39	49	49	3.5	3.4
1	1	0	149	16		252	250	05	1758	11	4	1987	39	48	49	3.5	3.4
2	1	1	148	35	05	265	260	05	6984	11	4	1764	86	43	46	3.4	3.3
2	1	1	149	35		266	261	05	6984	11	4	1764	86	43	45	3.4	3.3
3	3	1	148	43	06	259	252	0512523		11	4	1860	100	46	48	3.2	3.1
3	3	1	149	42		260	253	0512523		11	4	1860	100	46	48	3.3	3.2
5	3	1	148	103	15	250	234	0523533		11	4	1991	233	49	50	3.1	3.0
5	3	1	149	102		251	235	0523533		11	4	1991	233	49	50	3.2	3.0
6	7	1	148	37	05	257	252	0528859		1	5	2128	84	47	48	3.1	3.1
6	7	1	149	37		258	253	0528859		1	5	2128	84	46	48	3.1	3.1
6	7	2	148	66	09	242	232	0529085		1	5	2355	148	50	49	3.0	3.0
6	7	2	149	66		243	233	0529085		1	5	2355	148	50	49	3.0	3.0
6	7	3	148	33	05	230	225	0529272		1	5	2541	74	49	47	3.0	3.1
6	7	3	149	33	.	230	225	0529272		1	5	2541	74	49	48	3.0	3.1
7	8	1	148	196	28	256	227	0534326		11	1	2185	428	47	48	2.9	2.9
7	8	1	149	194		256	227	0534326		11	1	2185	428	47	48	3.0	3.0
9	3	0	148	12	02	139	142	0543976		11	1	967	45	-5	-3	5.5	5.3
9	3	0	149	11		138	141	0543976		11	1	967	45	-7	-4	6.0	5.8
9	3	1	148	65	09	254	245	0545215		11	1	2207	143	48	50	3.0	3.0
9	3	1	149	64		255	246	0545215		11	1	2207	143	47	50	3.0	3.0
15	1	1	148	51	07	244	236	0577988		11	1	2412	113	50	50	3.0	3.0
15	1	1	149	51		245	237	0577988		11	1	2412	113	50	50	3.0	3.0
18	7	1	148	53	08	268	261	06	7520	11	1	2056	118	42	46	3.1	3.0
18	7	1	149	53		269	261	06	7520	11	1	2056	118	42	46	3.1	3.0
19	3	1	148	48	07	274	268	0612853		11	1	1940	110	38	43	3.2	3.0
19	3	1	149	48		275	268	0612853		11	1	1940	110	38	42	3.2	3.1
19	3	2	148	39	05	255	249	0613165		11	1	2252	84	49	51	2.9	2.9
19	3	2	149	39		255	250	0613165		11	1	2252	84	49	51	3.0	2.9
21	3	1	148	35	05	251	246	0624085		11	1	2291	75	50	51	2.9	2.9
21	3	1	149	35		252	247	0624085		11	1	2291	75	50	51	3.0	2.9
21	3	2	148	161	23	244	220	0624198		11	1	2404	356	52	48	2.9	3.1
21	3	2	149	159		244	220	0624198		11	1	2404	356	52	48	2.9	3.1
22	4	1	148	38	06	258	252	0629418		11	1	2185	84	48	50	3.0	3.0
22	4	1	149	38		259	253	0629418		11	1	2185	84	47	50	3.0	3.0
22	4	2	148	41	06	242	236	0629659		11	1	2426	89	52	52	2.9	3.0
22	4	2	149	41		243	237	0629659		11	1	2426	89	52	52	3.0	3.0
22	4	3	148	53	07	233	225	0629787		11	1	2554	118	52	50	3.0	3.0
22	4	3	149	53		234	226	0629787		11	1	2554	118	52	50	3.0	3.1
23	7	1	148	105	15	249	233	0634990		11	1	2354	232	51	52	2.9	3.0
23	7	1	149	104		249	234	0634990		11	1	2354	232	51	52	3.0	3.0
24	5	1	148	115	17	271	255	0640074		11	1	2010	256	40	49	3.1	2.9
24	5	1	149	114		272	256	0640074		11	1	2010	256	40	49	3.1	3.0

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24	5	2	148	70	1C	252	242	C64C368	11	1	2304	151	50	52	2.9	2.9
24	5	2	149	69		253	243	C64C368	11	1	2304	151	50	52	2.9	2.9
25	5	0	148	12	01	139	142	0644529	11	1	1035	46	-7	-5	5.6	5.4
25	5	0	149	12		138	141	0644529	11	1	1035	46	-8	-6	5.6	5.4
25	9	1	148	128	19	258	239	0645719	11	1	2225	281	48	52	3.0	2.9
25	9	1	149	126		258	240	0645719	11	1	2225	281	47	52	3.0	3.0
31	2	1	148	38	05	250	245	0678428	11	1	2385	85	50	52	3.0	3.1
31	2	1	149	38		251	245	0678428	11	1	2385	85	50	51	3.0	3.1
35	5	1	148	40	06	263	257	0713563	11	1	2200	87	46	49	3.0	2.9
35	5	1	149	40		263	258	0713563	11	1	2200	87	46	49	3.0	3.0
36	5	1	148	94	13	254	240	0719133	11	1	2343	205	51	54	2.9	2.9
36	5	1	149	93		254	241	0719133	11	1	2343	205	50	54	3.0	3.0
37	5	1	148	47	07	255	249	0724535	11	1	2317	100	50	52	2.9	2.9
37	5	1	149	46		256	250	0724535	11	1	2317	100	49	52	3.0	2.9
37	5	2	148	155	22	243	220	0724716	11	1	2498	350	53	50	2.9	3.1
37	5	2	149	153		244	221	0724716	11	1	2498	350	53	51	3.0	3.2
38	10	1	148	47	07	259	253	0729907	11	1	2263	101	48	51	2.9	2.9
38	10	1	149	47		260	253	0729907	11	1	2263	101	48	51	3.0	2.9
38	10	2	148	151	21	249	227	0730059	11	1	2415	335	52	53	2.9	3.1
38	10	2	149	150		250	227	0730059	11	1	2415	335	52	53	2.9	3.1
40	2	0	148	13	02	138	140	0739581	11	1	1096	46	-10	-7	5.1	5.0
40	2	0	149	13		136	139	0739581	11	1	1096	46	-11	-8	5.1	5.0
40	2	1	148	45	07	260	254	0740752	11	1	2268	100	47	50	3.0	3.0
40	2	1	149	44		261	255	0740752	11	1	2268	100	47	50	3.1	3.1
49	5	0	148	19	02	223	220	08 3776	11	1	2987	44	51	50	3.2	3.3
49	5	0	149	19		224	220	08 3776	11	1	2987	44	52	51	3.2	3.3
49	5	2	148	24	04	315	320	08 4330	11	1	3541	83	29	25	4.6	4.9
49	5	2	149	24		313	319	08 4330	11	1	3541	83	30	26	4.7	4.9
52	5	1	148	101	14	254	240	0819589	11	1	2405	220	51	56	2.9	3.0
52	5	1	149	99		255	240	0819589	11	1	2405	220	51	56	2.9	3.0
53	5	1	148	75	11	259	249	0824940	11	1	2333	161	49	54	2.9	2.9
53	5	1	149	74		260	249	0824940	11	1	2333	161	48	53	3.0	3.0
53	5	2	148	135	19	244	224	0825166	11	1	2559	306	55	54	2.9	3.2
53	5	2	149	133		245	224	0825166	11	1	2559	306	55	54	3.0	3.2
54	10	1	148	138	2C	246	226	C830564	11	1	2535	306	54	55	2.9	3.1
54	10	1	149	136		247	226	C830564	11	1	2535	306	54	55	2.9	3.1
55	6	1	148	124	18	261	244	0835765	11	1	2312	267	48	55	2.9	2.9
55	6	1	149	122		262	244	0835765	11	1	2312	267	47	55	2.9	2.9
56	3	0	148	12	01	138	141	C84C038	11	1	1161	46	-11	-9	5.5	5.4
56	3	0	149	12		136	139	084C038	11	1	1161	46	-12	-10	5.5	5.4
*56	3	1	148	73	11	262	252	0841176	11	1	2299	161	47	53	3.0	3.0
*56	3	1	149	72		263	252	0841176	11	1	2299	161	47	52	3.0	3.0

* LAST 5 FRAMES TC BE RETURNED AT SECOND RECOVERY.

AAA BB C DDC 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

[redacted]

[redacted]

G QUADRANT
H EST. LATITUDE CF FIRST FCRMAT CENTER IN PASS
I EST. LATITUDE CF LAST FORMAT CENTER IN PASS
J ZULU DATE
K SYSTEM TIME IN SECONCS (GMT)
L FMC PROGRAMMER REFERENCE LEVEL
M FMC PROGRAMMER AMPLITUDE LEVEL
N EST. TIME UP RAMP IN SECONDS TO CPERATE COMMAND
O EST. SECONDS CURATION OF CPERATICN, BETWEEN ON AND OFF
P SOLAR ELEVATICN AT ITEM H
Q SOLAR ELEVATICN AT ITEM I
R EST. MILLISECCNDS EXPOSURE TIME AT ITEM H
S EST. MILLISECCNDS EXPOSURE TIME AT ITEM I

NOTE - DATA INDICATE NEGATIVE ENDLAP FOR NURTHERN OPERATIONS

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

PRELIMINARY CLOCK CORRELATION

REV	SYSTEM TIME - Z	CLOCK TIME	SYSTEM DELTA TIME	CLOCK DELTA TIME	ERROR
9	43933.015	356859.525			
25	44487.140	443813.564	86954.125	86954.039	0.086
31	78697.275	478023.709	34210.135	34210.145	0.010
40	39538.555	525264.982	47241.280	47241.273	0.007
47	79180.918	28036.462	39642.363	39642.391	0.028
56	39997.471	75252.967	47216.553	47216.505	0.048
63	79595.975	114851.473	39598.504	39598.506	0.002

J- 9 RAMP R-11 A- 4
R= 0.3274 A= 0.1229 RAMP PERIOD= 4800

TIME	PERIOD	CPS	GAV
0	4.890	C.2045	0.01850
100	4.871	C.2053	0.01857
200	4.814	C.2077	0.01879
300	4.724	C.2117	0.01915
400	4.604	C.2172	0.01964
500	4.462	C.2241	0.02027
600	4.303	C.2324	0.02102
700	4.133	C.2419	0.02188
800	3.959	C.2526	0.02285
900	3.784	C.2642	0.02390
1000	3.614	C.2767	0.02503
1100	3.450	C.2898	0.02621
1200	3.295	C.3035	0.02745
1300	3.151	C.3174	0.02871
1400	3.005	C.3328	0.03010
1500	2.845	C.3514	0.03179
1600	2.706	0.3695	0.03342

[redacted]

[redacted]

TOP SECRET

1700	2.587	C.3866	0.C3496
1800	2.486	C.4023	0.03639
1900	2.402	C.4163	0.C3765
2000	2.336	C.4282	0.03873
2100	2.285	C.4377	0.03959
2200	2.249	C.4447	0.04C22
2300	2.227	C.449C	0.C4C61
2400	2.220	C.45C4	0.04074
2500	2.227	C.4490	0.04061
2600	2.249	C.4447	0.04022
2700	2.285	C.4377	0.C3959
2800	2.336	0.4282	0.C3873
2900	2.402	C.4163	0.C3765
3000	2.486	C.4023	0.C3639
3100	2.587	C.3866	0.C3496
3200	2.706	C.3695	0.03342
3300	2.845	C.3514	0.C3179
3400	3.005	C.3328	0.C3010
3500	3.151	C.3174	0.C2871
3600	3.295	C.3035	0.C2745
3700	3.450	C.2898	0.C2621
3800	3.614	C.2767	0.C2503
3900	3.784	C.2642	0.C2390
4000	3.959	C.2526	0.02285
4100	4.133	C.2419	0.C2188
4200	4.303	C.2324	0.C2102
4300	4.462	0.2241	0.02027
4400	4.604	C.2172	0.01964
4500	4.724	C.2117	0.C1915
4600	4.814	C.2077	0.C1879
4700	4.871	C.2053	0.01857
4800	4.890	C.2045	0.C1850

J- 9 RAMP R- 1 A- 5

R= 0.3637 A= 0.1139 RAMP PERIOD= 48C0

TIME	PERIOD	CPS	GAV
0	4.002	C.2499	0.C226C
100	3.990	C.25C6	0.C2267
200	3.955	C.2529	0.C2287
300	3.898	C.25c6	0.02320
400	3.822	C.2616	0.C2366
500	3.730	C.2681	0.C2425
600	3.627	C.2757	0.02494
700	3.514	C.2846	0.02574
800	3.396	C.2944	0.C2663
9C0	3.276	C.3052	0.C2761
1000	3.157	C.3168	0.02865
1100	3.040	C.3289	0.C2975
1200	2.928	C.3415	0.C3089
1300	2.821	C.3544	0.C32C6
1400	2.712	C.3687	0.03335
1500	2.591	C.3860	0.03491
1600	2.483	C.4027	0.03642
1700	2.389	C.4185	0.C3785
1800	2.309	0.4331	0.03917

[redacted]

TOP SECRET

[redacted]

1900	2.242	C.4460	0.C4C34
2000	2.188	C.4570	0.04133
2100	2.179	C.4589	0.04151
2200	2.179	C.4589	0.04151
2300	2.179	C.4589	0.04151
2400	2.179	C.4589	0.C4151
2500	2.179	C.4589	0.04151
2600	2.179	C.4589	0.C4151
2700	2.179	C.4589	0.04151
2800	2.188	C.4570	0.C4133
2900	2.242	C.4460	0.04034
3000	2.309	C.4331	0.03917
3100	2.389	C.4185	0.03785
3200	2.483	C.4027	0.C3642
3300	2.591	C.3860	0.C3491
3400	2.712	C.3687	0.03335
3500	2.821	C.3544	0.C3206
3600	2.928	C.3415	0.C3C89
3700	3.040	C.3289	0.C2975
3800	3.157	C.3168	0.02865
3900	3.276	C.3052	0.C2761
4000	3.396	C.2944	0.C2663
4100	3.514	C.2846	0.C2574
4200	3.627	C.2757	0.02494
4300	3.730	C.2681	0.C2425
4400	3.822	C.2616	0.C2366
4500	3.898	C.2566	0.C2320
4600	3.955	C.2529	0.02287
4700	3.990	C.2506	0.02267
4800	4.002	C.2499	0.02260

J- 9 RAMP R-11 A- 1

R= C.3289 A= C.1614 RAMP PERIOD= 4800

TIME	PERIOD	CPS	GAV
0	5.970	C.1675	0.01515
100	5.933	C.1686	0.01525
200	5.824	C.1717	0.01553
300	5.652	C.1769	0.01600
400	5.431	C.1841	0.01665
500	5.175	C.1932	0.01748
600	4.899	C.2041	0.01846
700	4.616	C.2166	0.01959
800	4.336	C.2306	0.02086
900	4.067	C.2459	0.02224
1000	3.813	C.2623	0.02372
1100	3.578	C.2795	0.02528
1200	3.363	C.2974	0.02690
1300	3.168	C.3157	0.02855
1400	2.977	C.3359	0.03038
1500	2.775	C.3603	0.03259
1600	2.604	C.3840	0.03473
1700	2.460	C.4065	0.03676
1800	2.342	C.4271	0.03863
1900	2.245	C.4454	0.04028
2000	2.179	C.4589	0.04151

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[redacted] SECRET

2100	2.179	C.4589	0.C4151
2200	2.179	C.4589	0.C4151
2300	2.179	C.4589	0.C4151
2400	2.179	C.4589	0.C4151
2500	2.179	C.4589	0.04151
2600	2.179	C.4589	0.C4151
2700	2.179	C.4589	0.C4151
2800	2.179	C.4589	0.C4151
2900	2.245	C.4454	0.04028
3000	2.342	C.4271	0.03863
3100	2.460	C.4065	0.C3676
3200	2.604	C.3840	0.C3473
3300	2.775	C.3603	0.03259
3400	2.977	C.3359	0.03038
3500	3.168	C.3157	0.02855
3600	3.363	C.2974	0.C2690
3700	3.578	C.2795	0.C2528
3800	3.813	C.2623	0.C2372
3900	4.067	C.2459	0.C2224
4000	4.336	C.2306	0.C2086
4100	4.616	C.2166	0.01959
4200	4.899	C.2041	0.C1846
4300	5.175	C.1932	0.C1748
4400	5.431	C.1841	0.01665
4500	5.652	C.1769	0.C1600
4600	5.824	C.1717	0.01553
4700	5.933	C.1686	0.01525
4800	5.970	C.1675	0.01515

A. MISSION NO. 1C06
B. DELTA TIME LIFTOFF TC NODE 12.25999999 MIN
C. LONGITUDE OF NODE 115.7830000
D. LAUNCH TIME 2259 6- 4-64 E
E. RIGHT ASCENSION OF OPTICAL AXIS 215.45004845
F. INCLINATION OF ORBIT 79.96
G. DECLINATION OF OPTICAL AXIS 10.04
H. HALF ANGLE OF FIELD 9.C

I. GC NU.	G. MAG.	K. RT. ASC	L. DECL.	M. TAN X	N. X
19777	3.86	219.690	13.94	C.0997	5.6934
19858	4.69	220.727	17.17	C.1545	8.7845
19157	4.90	212.432	2.64	C.1402	7.9804
19769	4.94	219.594	16.63	C.1357	7.7256
19334	4.97	214.346	16.53	0.1154	6.5831
19789	5.03	219.797	8.37	0.0805	4.6027
19428	5.08	215.425	6.05	C.0698	3.9941
19401	5.11	215.229	8.67	0.0242	1.3841
19319	5.31	214.212	13.23	0.0597	3.4162
19226	5.36	213.099	10.34	0.0407	2.3325
19205	5.54	212.920	13.19	0.0701	4.0102
19793	5.63	219.830	11.87	0.0818	4.6753
19417	5.74	215.387	8.47	0.0274	1.5712

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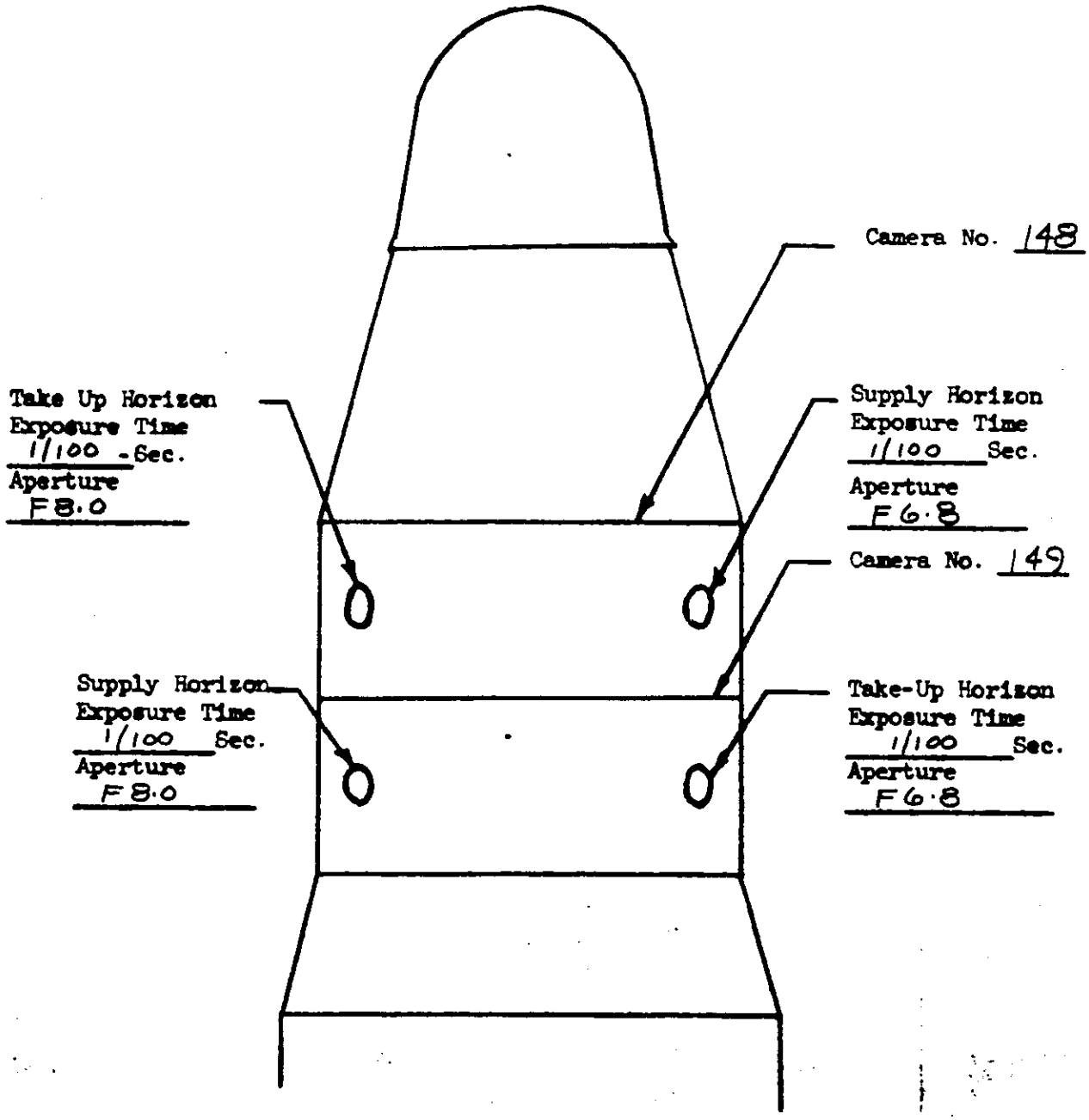
19770	5.81	219.595	16.63	0.1357	7.7260
18941	5.88	209.716	9.14	0.1003	5.7255
19766	5.98	219.578	13.75	0.0960	5.4829
18746	5.99	207.464	12.41	0.1438	8.1836

HORIZON LENS SETTINGS (Viewed from top of vehicle inflight)



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