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CORONA "J" FLIGHT DATA BOOK

SYSTEM NO. J-20

VEHICLE NO. 1613

MISSION NO. 1020

CAMERA NOS. 136/137

Prepared by: [REDACTED]

Checked by: [REDACTED]

Approved by: [REDACTED]

Approved by: [REDACTED]

*Jo*

, Manager

Declassified and Released by the N R O

In Accordance with E. O. 12958

on NOV 26 1997

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21 JUN 1965

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SYSTEM NO. NG-20  
VEHICLE NO. 1613  
MISSION NO. 1020  
CAMERA NOS. 136/137

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SYSTEM NO. J-20  
VEHICLE NO. 1613  
MISSION NO. 1020  
CAMERA NOS. 136/137

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GENERAL FLIGHT DATA:

Master Camera Serial No. 136

Slave Camera Serial No. 137

Stellar Index "A" Serial No. D67/85/80

Stellar Index "B" Serial No. D62/65/65

Launch Date 6-9-65

Reactivation Date N.A.

Reactivation Orbit No. N.A.

Orbital Parameters: (Rev. 105)

Period 89.661 Min.

Eccentricity 0.01357

Perigee 96.580 NM

Perigee Latitude 49.589 Deg. N

Apogee 193.80 NM

Inclination Angle 75.07 Deg.

Recovery Orbit No. 113

Recovery Date 6-16-65

REMARKS:

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SYSTEM NO. I-20  
VEHICLE NO. 1613  
MISSION NO. 1020  
CAMERA NOS. 136/137

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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	
R5	A4	3.423	3.431	545

IN-FLIGHT CYCLE PERIODS

V/H Ramp Level	V/H Ramp Amplitude	Cycle Period Seconds		Orbit No.	Time Up Ramp Sec
		Master	Slave		
R5	A4	3.477	3.460	104	545

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A. 1020-2 LAUNCH 2158Z 6-9-65  
OPERATIONS SUMMARY

FWC PAN CAMERA NUMBER		136													
OPN	NO	FRA	Q	LAT	LONG	HEIGHT	RANGE	DA	H	M	S	LTIM	S-TI		
CUT/WRAP		4													
98	4	1	32	ON	2 65 50	155 54E	624776	647512	16	00	32	09	1055	0192	
				OFF	2 61 38	162 28E	613383	635692	16	00	33	25	1123	0200	
98	4	2	24	ON	2 55 54	168 27E	601293	623149	16	00	35	01	1148	0210	
				OFF	2 52 30	171 05E	595725	617373	16	00	35	56	1200	0215	
99	4	1	25	ON	2 46 57	151 51E	588294	609664	16	02	07	06	1214	0762	
				OFF	2 43 25	153 35E	585705	606978	16	02	08	01	1222	0768	
101	4	1	30	ON	2 74 19	053 25E	660266	684336	16	04	57	42	0831	1786	
				OFF	2 72 07	069 19E	645305	668812	16	04	58	58	0936	1793	
101	4	2	65	ON	2 30 56	112 58E	585604	606873	16	05	10	36	1242	1863	
				OFF	2 21 23	115 33E	597749	619472	16	05	13	01	1255	1878	
103	9	1	20	ON	2 70 07	032 07E	634028	657112	16	07	59	06	1007	2874	
				OFF	2 67 46	038 43E	625469	648232	16	07	59	56	1034	2879	
103	9	2	74	ON	2 64 43	044 49E	616246	638663	16	08	00	54	1100	2885	
				OFF	2 54 50	056 15E	594893	616510	16	08	03	43	1148	2902	
103	9	3	99	ON	2 48 45	060 23E	586817	608132	16	08	05	20	1206	2912	
				OFF	2 34 46	066 30E	582248	603391	16	08	08	57	1235	2933	
104	5	0	13	UN	1 38 28	106 46W	860699	892383	16	09	13	11	0206	3319	
				OFF	1 41 24	105 36W	847616	878798	16	09	13	58	0211	3323	
104	5	1	54	UN	2 55 43	032 55E	595590	617233	16	09	33	08	1144	3438	
				OFF	2 48 14	038 03E	585686	606959	16	09	35	08	1207	3450	
104	5	2	66	ON	2 32 46	044 33E	582853	604019	16	09	39	08	1237	3474	
				OFF	2 23 09	047 16E	593621	615190	16	09	41	34	1250	3489	
105	1	1	55	ON	2 54 40	011 09E	593155	614707	16	11	03	05	1147	3978	
				OFF	2 47 05	016 04E	584051	605263	16	11	05	06	1209	3990	
105	1	2	24	ON	2 42 37	018 15E	581343	602453	16	11	06	16	1219	3997	
				OFF	2 39 06	019 42E	580609	601691	16	11	07	10	1226	4003	
106	1	1	69	ON	2 73 18	050 37W	646290	669834	16	12	26	42	0904	4480	
				OFF	2 66 27	026 13W	616381	640878	16	12	29	21	1044	4496	
107	1	1	43	ON	2 67 03	050 07W	619262	641792	16	13	58	48	1038	5032	
				OFF	2 61 52	041 23W	605457	627469	16	14	00	23	1114	5042	
108	1	1	90	ON	1 75 03	122 15W	665987	690273	16	15	24	11	0715	5549	
				OFF	2 69 08	077 55W	625134	647884	16	15	27	46	1016	5566	
109	1	1	93	ON	2 74 30	129 42W	652521	676300	16	16	54	49	0815	6088	
				OFF	2 66 08	093 26W	614606	636962	16	16	58	24	1044	6110	
110	1	1	69	ON	2 70 16	126 41W	627301	650132	16	18	26	37	0959	6639	
				OFF	2 62 17	109 46W	603820	625771	16	18	29	12	1110	6659	
111	1	1	69	ON	2 70 27	149 56W	626984	649803	16	19	56	10	0956	7177	
				OFF	2 62 30	132 40W	603437	625374	16	19	58	45	1108	7192	
112	1	1	58	ON	2 66 15	161 25W	612099	634361	16	21	27	14	1041	7721	
				OFF	2 58 58	151 02W	595243	616873	16	21	29	23	1125	7736	

OPERATIONS SUMMARY

AFT PAN CAMERA NUMBER		137													
OPN	NO	FRA	Q	LAT	LONG	HEIGHT	RANGE	DA	H	M	S	LTIM	S-TI		
CUT/WRAP		4													
98	4	1	32	ON	2 66 32	154 27E	624776	647512	16	00	32	09	1049	0192	
				OFF	2 62 23	161 24E	613383	635692	16	00	33	25	1119	0200	

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							NO										
98	4	2	24	ON	2	56	41	167	43E	601293	625149	16	00	35	01	1145	0210
				OFF	2	53	18	170	28E	595725	617373	16	00	35	56	1157	0215
99	4	1	25	ON	2	47	45	151	22E	588294	609664	16	02	07	06	1212	0762
				OFF	2	44	13	153	1CE	585705	606978	16	02	08	01	1220	0768
101	4	1	30	ON	2	74	35	049	55E	660266	684336	16	04	57	42	0817	1786
				OFF	2	72	37	066	39E	645305	668812	16	04	58	58	0925	1793
101	4	2	65	ON	2	31	45	112	39E	585604	606873	16	05	10	36	1241	1863
				OFF	2	22	14	115	17E	597749	619472	16	05	13	01	1254	1878
103	9	1	20	ON	2	70	43	029	58E	634028	657112	16	07	59	06	0959	2874
				OFF	2	68	25	037	01E	625469	648232	16	07	59	56	1028	2879
103	9	2	74	ON	2	65	26	043	30E	616246	638663	16	08	00	54	1054	2885
				OFF	2	55	37	055	33E	594893	616510	16	08	03	43	1145	2902
103	9	3	99	ON	2	49	32	059	52E	586817	608132	16	08	05	20	1204	2912
				OFF	2	35	35	066	11E	582248	603391	16	08	08	57	1233	2933
104	5	0	13	CN	1	37	16	107	18W	860699	892383	16	09	13	11	0203	3319
				OFF	1	40	13	106	10W	847616	878798	16	09	13	58	0209	3323
104	5	1	54	ON	2	56	29	032	11E	595590	617233	16	09	33	08	1141	3438
				OFF	2	49	02	037	33E	585686	606959	16	09	35	08	1205	3450
104	5	2	66	CN	2	33	35	044	14E	582853	604019	16	09	39	08	1236	3474
				OFF	2	23	59	047	00E	593621	615190	16	09	41	34	1249	3480
105	1	1	55	ON	2	55	27	010	27E	593155	614707	16	11	03	05	1144	3978
				OFF	2	47	53	015	35E	584051	605263	16	11	05	06	1207	3990
105	1	2	24	ON	2	43	25	017	50E	581343	602453	16	11	06	16	1217	3997
				OFF	2	39	54	019	20E	580609	601691	16	11	07	10	1224	4003
106	1	1	69	UN	2	73	42	053	40W	646290	669834	16	12	26	42	0851	4480
				OFF	2	67	08	027	44W	618381	640878	16	12	29	21	1038	4496
107	1	1	43	UN	2	67	44	051	43W	619262	641792	16	13	58	48	1031	5032
				OFF	2	62	37	042	27W	605457	627469	16	14	00	23	1110	5042
108	1	1	90	ON	1	75	02	126	04W	665987	690273	16	15	24	11	0659	5545
				OFF	2	69	45	079	50W	625134	647884	16	15	27	46	1008	5566
109	1	1	93	ON	2	74	44	133	14W	652521	676300	16	16	54	49	0801	6088
				OFF	2	66	49	094	54W	614606	636962	16	16	58	24	1038	6110
110	1	1	69	ON	2	70	51	128	50W	627301	650132	16	18	26	37	0951	6639
				OFF	2	63	01	110	52W	603820	625771	16	18	29	12	1105	6659
111	1	1	69	CN	2	71	02	152	08W	626984	649803	16	19	56	10	0947	7177
				OFF	2	63	13	133	46W	603437	625374	16	19	58	45	1103	7192
112	1	1	58	ON	2	66	56	162	57W	612099	634361	16	21	27	14	1035	7721
				OFF	2	59	43	151	54W	595243	616873	16	21	29	23	1121	7736

PHOTOGRAPHIC SUMMARY

FWD	PAN	CAMERA	NC	136	0.2500	SLIT	W/25	FILTER	3404	FILM		
CPN	NC	FKA	FEET		ET	S-EL	S-DIR	EV	FULL	INT	PRI	
CLT/WRAP												
98	4	1	32	84.6	CN	258	46.3	18.1	11.87	12.10	11.50	10.90
					CFF	264	51.2	19.8	11.90	12.10	11.50	10.90
98	4	2	24	63.5	CN	271	57.4	22.9	11.94	12.10	11.50	10.90
					CFF	274	60.8	25.4	11.95	12.10	11.50	10.90
99	4	1	25	66.1	CN	277	66.2	30.5	11.97	12.10	11.50	10.90
					LFF	278	69.4	35.6	11.97	12.10	11.50	10.90
101	4	1	30	79.3	CN	237	32.2	15.3	11.74	12.00	11.40	10.80
					CFF	245	37.2	15.7	11.79	12.05	11.45	10.85
101	4	2	65	171.9	CN	276	77.9	71.1	11.96	12.10	11.50	10.90
					LFF	269	77.1	117.4	11.93	12.10	11.50	10.90
103	9	1	20	52.9	CN	251	40.4	15.7	11.82	12.07	11.47	10.87
					LFF	255	43.7	16.2	11.85	12.09	11.49	10.89

				NO.						
103	9 2	74	195.7	CN 261	47.5	17.1	11.88	12.10	11.50	10.90
				CFF 272	58.4	21.8	11.94	12.10	11.50	10.90
103	9 3	99	261.9	CN 277	64.6	26.8	11.96	12.10	11.50	10.90
				CFF 278	76.3	54.2	11.97	12.10	11.50	10.90
104	5 0	13	34.4	CN 163	-21.5	12.0	11.21	0.	0.	0.
				LFF 166	-18.5	11.8	11.23	0.	0.	0.
104	5 1	54	142.8	CN 281	57.5	20.9	11.99	12.10	11.50	10.90
				CFF 286	65.1	26.8	12.01	12.10	11.50	10.90
104	5 2	66	174.6	CN 286	77.5	61.2	12.01	12.10	11.50	10.90
				CFF 280	78.4	109.8	11.98	12.10	11.50	10.90
105	1 1	55	145.5	CN 282	58.6	21.2	11.99	12.10	11.50	10.90
				CFF 287	66.2	27.6	12.02	12.10	11.50	10.90
105	1 2	24	63.5	CN 288	70.3	33.7	12.02	12.10	11.50	10.90
				CFF 288	73.3	40.5	12.02	12.10	11.50	10.90
106	1 1	69	182.5	CN 250	34.7	14.4	11.82	12.03	11.43	10.83
				CFF 267	45.3	15.8	11.91	12.09	11.49	10.89
107	1 1	43	113.7	CN 266	44.4	15.4	11.91	12.09	11.49	10.89
				CFF 274	50.7	17.0	11.95	12.10	11.50	10.90
108	1 1	90	238.0	CN 239	27.3	13.4	11.75	11.93	11.33	10.73
				LFF 263	41.6	14.6	11.89	12.08	11.48	10.88
109	1 1	93	246.0	CN 247	31.3	13.5	11.80	11.99	11.39	10.79
				CFF 269	45.6	15.1	11.92	12.09	11.49	10.89
110	1 1	69	182.5	CN 262	39.9	13.9	11.88	12.07	11.47	10.87
				CFF 275	50.1	16.0	11.96	12.10	11.50	10.90
111	1 1	69	182.5	CN 262	39.6	13.7	11.88	12.06	11.46	10.86
				CFF 275	49.9	15.6	11.96	12.10	11.50	10.90
112	1 1	58	153.4	CN 270	45.3	14.3	11.93	12.09	11.49	10.89
				CFF 279	53.9	16.6	11.98	12.10	11.50	10.90

PHOTOGRAPHIC SUMMARY

AFT PAN CAMERA	NC	137	C.175C	SLIT	W/21	FILTER	3404	FILM		
CPN NU	FRA	FEET	ET	S-EL	S-DIR	EV	FULL	INT	PRI	
CUT/WRAP	4	10.6								
98 4 1	32	84.6	CN 369	45.4	16.4	12.38	12.74	12.14	11.54	
			LFF 378	50.3	18.4	12.41	12.75	12.15	11.55	
98 4 2	24	63.5	CN 387	56.5	21.7	12.45	12.75	12.15	11.55	
			CFF 391	60.0	24.1	12.46	12.75	12.15	11.55	
99 4 1	25	66.1	CN 396	65.5	29.1	12.48	12.75	12.15	11.55	
			LFF 397	69.7	33.9	12.49	12.75	12.15	11.55	
101 4 1	30	79.3	CN 339	31.3	11.7	12.26	12.64	12.04	11.44	
			CFF 350	36.3	12.9	12.30	12.69	12.09	11.49	
101 4 2	65	171.9	CN 395	77.7	67.1	12.48	12.75	12.15	11.55	
			LFF 385	77.6	113.8	12.44	12.75	12.15	11.55	
103 9 1	20	52.9	CN 359	39.5	13.4	12.34	12.71	12.11	11.51	
			LFF 365	42.8	14.3	12.36	12.73	12.13	11.53	
103 9 2	74	195.7	CN 373	46.6	15.6	12.39	12.75	12.15	11.55	
			CFF 389	57.6	20.7	12.46	12.75	12.15	11.55	
103 9 3	99	261.9	CN 395	63.8	25.5	12.48	12.75	12.15	11.55	
			CFF 397	75.8	51.1	12.48	12.75	12.15	11.55	
104 5 0	13	34.4	CN 235	-22.8	11.7	11.73	0.	0.	0.	
			LFF 238	-19.7	11.4	11.75	0.	0.	0.	
104 5 1	54	142.8	CN 401	56.7	19.8	12.50	12.75	12.15	11.55	
			LFF 409	64.3	25.6	12.53	12.75	12.15	11.55	
104 5 2	66	174.6	CN 409	77.1	57.6	12.53	12.75	12.15	11.55	
			CFF 400	78.7	105.5	12.49	12.75	12.15	11.55	

NO.

105	1	1	55	145.5	CN 403	57.8	20.1	12.51	12.75	12.15	11.55
					CFF 409	65.4	26.3	12.53	12.75	12.15	11.55
105	1	2	24	63.5	CN 411	69.6	32.0	12.54	12.75	12.15	11.55
					CFF 411	72.7	38.4	12.54	12.75	12.15	11.55
106	1	1	69	182.5	CN 358	33.8	11.2	12.33	12.67	12.07	11.47
					CFF 381	44.4	14.1	12.43	12.74	12.14	11.54
107	1	1	43	113.7	CN 380	43.6	13.6	12.42	12.74	12.14	11.54
					CFF 391	45.8	15.7	12.46	12.75	12.15	11.55
108	1	1	90	238.0	CN 342	26.3	9.6	12.27	12.57	11.97	11.37
					CFF 376	40.7	12.6	12.41	12.72	12.12	11.52
109	1	1	93	246.0	CN 353	30.3	9.9	12.31	12.63	12.03	11.43
					CFF 384	44.7	13.5	12.44	12.74	12.14	11.54
110	1	1	69	182.5	CN 374	39.0	11.7	12.40	12.71	12.11	11.51
					CFF 393	49.3	14.7	12.47	12.75	12.15	11.55
111	1	1	69	182.5	CN 374	38.6	11.4	12.40	12.71	12.11	11.51
					CFF 393	49.0	14.3	12.47	12.75	12.15	11.55
112	1	1	58	153.4	CN 386	44.4	12.7	12.44	12.74	12.14	11.54
					CFF 399	53.0	15.5	12.49	12.75	12.15	11.55

STELLAR-INDEX SUMMARY

CAMERA DATA	ET	FILM	FILTER	GRID	ASSEMBLY	NO D62
STELLAR	2.C	3401	NLNE	65		
INDEX	1/500	3400	w/21	65		

PERFORMANCE SUMMARY

CPN	NO	FR	STEL FEET	INDX FEET	H	M	S	Q	ON LAT	ON LONG	Q	OFF LAT	OFF LONG	SEC DUR	
98	4	1	5	0.50	0.99	00	32	09	2	65	155E	2	61	162E	76
98	4	2	3	0.30	0.59	00	35	01	2	55	168E	2	52	171E	55
99	4	1	4	0.40	0.79	02	07	06	2	46	151E	2	43	153E	55
101	4	1	4	0.40	0.79	04	57	42	2	74	053E	2	72	069E	76
101	4	2	9	0.89	1.78	05	10	36	2	30	112E	2	21	115E	145
103	9	1	3	0.30	0.59	07	59	06	2	70	032E	2	67	038E	50
103	9	2	11	1.09	2.18	08	00	54	2	64	044E	2	54	056E	169
103	9	3	14	1.39	2.77	08	05	20	2	48	060E	2	34	066E	217
104	5	0	2	0.20	0.40	09	13	11	1	38	106W	1	41	105W	47
104	5	1	7	0.69	1.39	09	33	08	2	55	032E	2	48	038E	120
104	5	2	10	0.99	1.98	09	39	08	2	32	044E	2	23	047E	146
105	1	1	8	0.79	1.58	11	03	05	2	54	011E	2	47	016E	121
105	1	2	3	0.30	0.59	11	06	16	2	42	018E	2	39	019E	54
106	1	1	10	0.99	1.98	12	26	42	2	73	050W	2	66	026W	159
107	1	1	6	0.59	1.19	13	58	48	2	67	050W	2	61	041W	95
108	1	1	13	1.29	2.57	15	24	11	1	75	122W	2	69	077W	215
109	1	1	13	1.29	2.57	16	54	49	2	74	129W	2	66	093W	215
110	1	1	10	0.99	1.98	18	26	37	2	70	126W	2	62	109W	155
111	1	1	10	0.99	1.98	19	56	10	2	70	149W	2	62	132W	155
112	1	1	8	0.79	1.58	21	27	14	2	66	161W	2	58	151W	129

NOTES

- 1) TM DATA INDICATE NORMAL CAMERA SYSTEM PERFORMANCE -
  - A) THE SLAVE CAMERA CYCLE COUNTER IS UNRELIABLE, THEREFORE CYCLE COUNTS FROM THE MASTER ARE USED FOR BOTH INSTRUMENTS.
  - B) THE CAMERAS ARE CONSISTANTLY OPERATING APPROX 2 PERCENT SLOW RELATIVE TO PREFLIGHT CALIBRATION.
- 2) THE LAST 5 FRAMES OF THE FIRST MISSION ARE CONTAINED IN THIS RECOVERY SYSTEM.



NO. [REDACTED]

3) TM DATA INDICATE MARGINAL VEHICLE ATTITUDE PERFORMANCE.

[REDACTED]

NO. [REDACTED]

A. 1020-2 LAUNCH 2158Z 6-9-65  
RATE ESTIMATE  
FWD PAN CAMERA NUMBER 136

OPN NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN R/SEC	RATE I/SEC	PCT CALIB	RATE REQD
98 4 1	32	5	4 CN	1495	0.4292	0.03622	2.697	64.73	-5.3	-1.1
			CFF	76	0.4393	0.03707	2.760	66.25	-5.3	-0.7
98 4 2	24	5	4 CN	1667	0.4505	0.03801	2.830	67.93	-5.3	-0.3
			CFF	55	0.4550	0.03839	2.859	68.61	-5.3	-0.3
99 4 1	25	5	4 CN	1813	0.4605	0.03886	2.894	69.45	-5.3	-0.4
			CFF	55	0.4622	0.03900	2.904	69.69	-5.3	-0.5
101 4 1	30	5	4 CN	1289	0.3936	0.03321	2.473	59.36	-5.3	-3.9
			CFF	76	0.4071	0.03435	2.558	61.39	-5.3	-3.0
101 4 2	65	5	4 CN	2063	0.4587	0.03871	2.882	69.18	-5.3	-1.2
			CFF	145	0.4471	0.03773	2.809	67.43	-5.3	-1.6
103 9 1	20	5	4 CN	1416	0.4167	0.03516	2.618	62.84	-5.3	-2.5
			CFF	50	0.4243	0.03580	2.666	63.98	-5.3	-2.1
103 9 2	74	5	4 CN	1524	0.4334	0.03657	2.723	65.36	-5.3	-1.6
			CFF	169	0.4525	0.03818	2.843	68.24	-5.3	-1.0
103 9 3	99	5	4 CN	1790	0.4595	0.03877	2.887	69.29	-5.3	-0.8
			CFF	217	0.4614	0.03893	2.899	69.57	-5.3	-1.2
104 5 0	13	5	4 CN	482	0.2717	0.02293	1.707	40.97	-5.3	-13.1
			CFF	47	0.2762	0.02330	1.735	41.64	-5.3	-13.2
104 5 1	54	5	4 CN	1679	0.4667	0.03938	2.932	70.37	-2.1	2.2
			CFF	120	0.4751	0.04009	2.985	71.65	-2.1	2.3
104 5 2	66	5	4 CN	2039	0.4753	0.04011	2.987	71.68	-2.1	1.9
			CFF	146	0.4645	0.03920	2.919	70.05	-2.1	1.5
105 1 1	55	5	4 CN	1697	0.4683	0.03951	2.942	70.61	-2.1	2.1
			CFF	121	0.4760	0.04016	2.991	71.78	-2.1	2.2
105 1 2	24	5	4 CN	1898	0.4780	0.04033	3.003	72.08	-2.1	2.1
			CFF	54	0.4781	0.04034	3.004	72.10	-2.1	2.0
106 1 1	69	5	4 CN	1334	0.4154	0.03505	2.610	62.65	-2.1	-0.7
			CFF	159	0.4427	0.03736	2.782	66.76	-2.1	0.9
107 1 1	43	5	4 CN	1482	0.4416	0.03726	2.774	66.58	-2.1	0.8
			CFF	95	0.4548	0.03837	2.857	68.58	-2.1	1.4
108 1 1	90	5	4 CN	1240	0.3969	0.03349	2.494	59.86	-2.1	-2.1
			CFF	215	0.4367	0.03684	2.744	65.85	-2.1	0.7
109 1 1	93	5	4 CN	1303	0.4096	0.03456	2.574	61.77	-2.1	-1.1
			CFF	215	0.4466	0.03768	2.806	67.34	-2.1	1.2
110 1 1	69	5	4 CN	1439	0.4344	0.03666	2.730	65.51	-2.1	0.6
			CFF	155	0.4569	0.03855	2.871	68.89	-2.1	1.6
111 1 1	69	5	4 CN	1440	0.4347	0.03668	2.731	65.55	-2.1	0.6
			CFF	155	0.4571	0.03857	2.872	68.93	-2.1	1.6
112 1 1	58	5	4 CN	1526	0.4482	0.03782	2.816	67.59	-2.1	1.1
			CFF	129	0.4640	0.03915	2.915	69.96	-2.1	1.6

RATE ESTIMATE  
AFT PAN CAMERA NUMBER 137

OPN NO	FR	R	A	TUR/ DUR	INST CPS	INST ANG VEL	SCAN R/SEC	RATE I/SEC	PCT CALIB	RATE REQD
98 4 1	32	5	4 CN	1495	0.4291	0.03621	2.696	64.71	-4.7	-1.1
			CFF	76	0.4391	0.03705	2.759	66.22	-4.7	-0.7

						NO.							
98	4	2	24	5	4	CN	1667	0.4502	0.03799	2.829	67.89	-4.7	-0.3
						CFF	55	0.4547	0.03836	2.857	68.56	-4.7	-0.3
99	4	1	25	5	4	CN	1813	0.4602	0.03883	2.892	69.40	-4.7	-0.4
						CFF	55	0.4618	0.03897	2.902	69.64	-4.7	-0.5
101	4	1	30	5	4	CN	1289	0.3938	0.03323	2.474	59.38	-4.7	-3.9
						CFF	76	0.4072	0.03436	2.558	61.40	-4.7	-3.0
101	4	2	65	5	4	CN	2063	0.4584	0.03868	2.880	69.13	-4.7	-1.3
						CFF	145	0.4469	0.03771	2.808	67.39	-4.7	-1.6
103	9	1	20	5	4	CN	1416	0.4167	0.03516	2.618	62.84	-4.7	-2.5
						CFF	50	0.4242	0.03580	2.666	63.97	-4.7	-2.1
103	9	2	74	5	4	CN	1524	0.4333	0.03656	2.723	65.34	-4.7	-1.6
						CFF	169	0.4523	0.03816	2.842	68.20	-4.7	-1.0
103	9	3	99	5	4	CN	1790	0.4592	0.03875	2.885	69.24	-4.7	-0.9
						CFF	217	0.4610	0.03890	2.897	69.52	-4.7	-1.3
104	5	0	13	5	4	CN	482	0.2727	0.02301	1.714	41.13	-4.7	-12.7
						CFF	47	0.2772	0.02339	1.741	41.79	-4.7	-12.8
104	5	1	54	5	4	CN	1679	0.4665	0.03936	2.931	70.34	-1.5	2.2
						CFF	120	0.4749	0.04007	2.984	71.61	-1.5	2.2
104	5	2	66	5	4	CN	2039	0.4751	0.04009	2.985	71.64	-1.5	1.8
						CFF	146	0.4643	0.03918	2.918	70.02	-1.5	1.5
105	1	1	55	5	4	CN	1697	0.4681	0.03949	2.941	70.58	-1.5	2.1
						CFF	121	0.4757	0.04014	2.989	71.74	-1.5	2.1
105	1	2	24	5	4	CN	1888	0.4777	0.04031	3.002	72.04	-1.5	2.1
						CFF	54	0.4778	0.04032	3.002	72.06	-1.5	2.0
106	1	1	69	5	4	CN	1334	0.4156	0.03507	2.611	62.67	-1.5	-0.7
						CFF	159	0.4427	0.03735	2.781	66.75	-1.5	0.9
107	1	1	43	5	4	CN	1482	0.4415	0.03725	2.774	66.58	-1.5	0.8
						CFF	95	0.4547	0.03836	2.857	68.56	-1.5	1.4
108	1	1	90	5	4	CN	1240	0.3972	0.03352	2.496	59.90	-1.5	-2.0
						CFF	215	0.4367	0.03684	2.744	65.85	-1.5	0.7
109	1	1	93	5	4	CN	1303	0.4098	0.03458	2.575	61.80	-1.5	-1.1
						CFF	215	0.4465	0.03768	2.806	67.33	-1.5	1.1
110	1	1	69	5	4	CN	1439	0.4345	0.03666	2.730	65.51	-1.5	0.6
						CFF	155	0.4567	0.03854	2.870	68.87	-1.5	1.5
111	1	1	69	5	4	CN	1440	0.4347	0.03668	2.731	65.55	-1.5	0.6
						CFF	155	0.4570	0.03856	2.871	68.91	-1.5	1.5
112	1	1	58	5	4	CN	1526	0.4481	0.03781	2.816	67.58	-1.5	1.1
						CFF	129	0.4638	0.03913	2.914	69.93	-1.5	1.6

RAMP PROFILE

R= 5 A= 4 PERIOD= 3840

R= C.3746 A= C.1139

TUR	PER	LPS	ANG V
-C	3.836	C.2607	C.02358
100	3.819	C.2619	C.02368
200	3.769	C.2653	C.02400
300	3.689	C.2710	C.02451
400	3.586	C.2789	C.02522
500	3.464	C.2887	C.02611
600	3.331	C.3002	C.02715
700	3.192	C.3133	C.02833
800	3.053	C.3276	C.02963
900	2.917	C.3429	C.03101
1000	2.787	C.3588	C.03245
1100	2.665	C.3752	C.03394

~~TOP SECRET~~

NO. [REDACTED]

1200	2.520	0.3968	C.03589
1300	2.395	0.4176	C.03777
1400	2.289	0.4368	C.03951
1500	2.204	0.4538	C.04104
1600	2.137	0.4679	C.04232
1700	2.089	0.4786	C.04329
1800	2.060	0.4855	C.04391
1900	2.047	0.4884	C.04417
2000	2.053	0.4872	C.04406
2100	2.075	0.4818	C.04358
2200	2.116	0.4726	C.04275
2300	2.175	0.4598	C.04159
2400	2.253	0.4439	C.04015
2500	2.350	0.4255	C.03849
2600	2.467	0.4053	C.03666
2700	2.605	0.3839	C.03472
2800	2.738	0.3653	C.03304
2900	2.864	0.3492	C.03158
3000	2.998	0.3336	C.03017
3100	3.136	0.3189	C.02884
3200	3.276	0.3053	C.02761
3300	3.412	0.2931	C.02651
3400	3.539	0.2826	C.02556
3500	3.651	0.2739	C.02478
3600	3.740	0.2674	C.02418
3700	3.803	0.2630	C.02379
3800	3.833	0.2609	C.02360

CLOCK SUMMARY

SYS TIME I/P	CL TIME I/P	CCMP SYS TM	DELTA ST	REV	STA
60023.058	77883.51090	60023.06380	-0.00487	0	1
39989.467	144249.92990	39989.46790	0.00005	9	1
79186.582	183447.05790	79186.58710	-0.00413	16	1
39811.258	230471.74090	39811.25950	-0.00056	25	1
79019.317	265679.80890	79019.31870	-0.00074	32	1
39634.097	316694.59490	39634.09410	0.00383	41	1
78825.148	355885.65690	78825.14730	0.00164	48	1
39423.947	402884.46890	39423.94870	-0.00079	57	1
73309.930	436770.45290	73309.92510	0.00582	63	1
33615.817	483476.35090	33615.81260	0.00533	72	1
72882.594	522743.13890	72882.59180	0.00315	79	1
33544.997	32934.63590	33544.99020	0.00774	88	1
72687.902	72077.55990	72687.90540	-0.00246	95	1
33257.067	119046.73390	33257.06890	-0.00090	104	1
72451.257	158240.94490	72451.27100	-0.01309	111	1

AO=-0.17860429620 05 A1= C.9999997751570 00  
 SIGMA=C.00481 AC. POINTS= 15  
 RATIO OF CLOCK TIME TO SYS TIME= 0.1000000224840 01

SYS TIME I/P	CL TIME I/P	CCMP SYS TM	DELTA ST	REV	STA
60023.058	77883.51090	60023.05670	0.00228	0	1
39989.467	144249.92990	39989.46490	0.00306	9	1
79186.582	183447.05790	79186.58610	-0.00311	16	1
39811.258	230471.74090	39811.26040	-0.00148	25	1

~~TOP SECRET~~

NO [REDACTED]

NO.

79019.317	269679.80890	79019.32090	-0.00290	32	1
39634.097	316694.59490	39634.09730	0.00063	41	1
78825.148	355885.65690	78825.15100	-0.00204	48	1
39423.947	402884.46890	39423.95260	-0.00462	57	1
73309.930	436770.45290	73309.92870	0.00221	63	1
33615.817	483476.35090	33615.81550	0.00240	72	1
72882.594	522743.13890	72882.59380	0.00119	79	1
33544.997	32934.63590	33544.99060	0.00737	88	1
72687.902	72077.55990	72687.90410	-0.00112	95	1
33257.067	119046.73390	33257.06500	0.00293	104	1
72451.257	15E240.94490	72451.26480	-0.00680	111	1

A0=-0.17860442870 05 A1= 0.9999998621400 00

A2=-0.11072809706040-12

SIGMA=0.0033E AC. POINTS= 15

CLOCK OPERATIONS

CPN	NO	FR		F	M	S	DEC	BINARY	
98	4	1	32	ON	CC	32	09	87719	00101001110100111110001011000
				OFF	CC	33	25	87795	00101001110111010010100111000
98	4	2	24	ON	CC	35	01	87891	00101001111010001110000111000
				OFF	CC	35	56	87946	00101001111011111001100010000
99	4	1	25	ON	C2	07	06	93416	00101100100010110101001000000
				OFF	C2	09	01	93471	00101100100100100000100011000
101	4	1	30	ON	C4	57	42	103651	0011000101101100101010111000
				OFF	C4	58	58	103727	00110001011101011111110011000
101	4	2	65	ON	C5	10	36	104425	00110001110010110011000101000
				OFF	C5	13	01	104570	00110001110111001110010010000
103	9	1	20	ON	C7	59	06	114536	00110110100111010111001000000
				OFF	C7	59	56	114586	00110110101000111000110010000
103	9	2	74	ON	C8	00	54	114643	0011011010101010101000000111000
				OFF	C8	03	43	114812	00110110101111110010001100000
103	9	3	99	ON	C8	05	20	114910	00110110110010110001100110000
				OFF	C8	08	57	115127	00110110111001011001011011000
104	5	0	13	ON	C9	13	11	118981	00111000101111000000110001000
				OFF	C9	13	58	119028	00111000110000011100100100000
104	5	1	54	ON	C9	33	08	120178	00111001010011100010101010000
				OFF	C9	35	08	120298	00111001010111001101000010000
104	5	2	66	ON	C9	39	08	120538	00111001011110100001110010000
				OFF	C9	41	34	120684	00111001100010111110111100000
105	1	1	55	ON	11	03	05	125575	00111011111000001111101011000
				OFF	11	05	06	125696	00111011111011111100000000000
105	1	2	24	ON	11	06	16	125766	00111011111110000100101110000
				OFF	11	07	10	125820	00111011111111100111000110000
106	1	1	69	ON	12	26	42	130592	00111110010001010110100000000
				OFF	12	29	21	130751	00111110010110001101000011000
107	1	1	43	ON	13	56	40	136118	01000000111001111111011110000
				OFF	14	00	23	136213	01000000111100111001000001000
108	1	1	90	ON	15	24	11	141240	01000011010110010011011000000
				OFF	15	27	46	141455	01000011011100110111010011000
109	1	1	93	ON	16	54	45	146678	01000101111100100001111000
				OFF	16	58	24	146893	01000110000010110100011001000
110	1	1	69	ON	18	26	37	152186	010010001001000101100100100
				OFF	18	29	12	152341	01001000101001000101000001
111	1	1	69	ON	19	56	10	157560	010010110010000101100110000
				OFF	19	58	45	157715	0100101100110100010100011
112	1	1	58	ON	21	27	14	163024	0100110110111100011001000

~~TOP SECRET~~ [REDACTED]

NO. [REDACTED]  
OFF 21 29 23 163153 01C01101110011000  
10001101000

~~TOP SECRET~~ [REDACTED]  
NO. [REDACTED]