DATA SET CATALOG #158

68-100A-07D 4 tapes

PIONEER 9, E FIELD DATA

Table of Contents

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1. INTRODUCTION:

The documentation for this data set was originally on paper, kept in NSSDC's Data Set Catalogs (DSCs). The paper documentation in the Data Set Catalogs have been made into digital images, and then collected into a single PDF file for each Data Set Catalog. The inventory information in these DSCs is current as of July 1, 2004. This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system. The information existing in the DSCs is now not needed for locating the data files, but we did not remove that inventory information.

The offline tape datasets have now been migrated from the original magnetic tape to Archival Information Packages (AIP's).

A prior restoration may have been done on data sets, if a requestor of this data set has questions; they should send an inquiry to the request office to see if additional information exists.

2. ERRATA/CHANGE LOG:

NOTE: Changes are made in a text box, and will show up that way when displayed on screen with a PDF reader.

When printing, special settings may be required to make the text box appear on the printed output.

Version	Date	Person	Page	Description of Change
01				
02				

3 LINKS TO RELEVANT INFORMATION IN THE ONLINE NSSDC INFORMATION SYSTEM:

http://nssdc.gsfc.nasa.gov/nmc/

[NOTE: This link will take you to the main page of the NSSDC Master Catalog. There you will be able to perform searches to find additional information]

4. CATALOG MATERIALS:

a. Associated Documents To find associated documents you will need to know the document ID number and then click here. http://nssdcftp.gsfc.nasa.gov/miscellaneous/documents/

b. Core Catalog Materials

SPHE 00371

PIONEER 9

E-FIELD (100,00,3.E4, HZ) ON TAPE

68-100A-07D

THIS DATA SET HAS BEEN RESTORED. THERE WAS ORIGINALLY ONE 7-TRACK, 556 BPI TAPE AND FOUR 7-TRACK, 800 BPI TAPES, WRITTEN IN BINARY. THERE IS ONE RESTORED TAPE. THE TIME SPANS ARE NOT IN SEQUENTIAL ORDER. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE TAPES WERE CREATED ON AN IBM 360 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS.

DR#	DS#	DD#	FILES	TIME SPAN
DR03894	DS03894	D07118	1	11/11/68 - 11/11/68
		D09864	2-85	11/08/68 - 12/11/68
		D09865	86-316	03/21/69 - 07/03/69
		D09866	317-545	01/01/68 - 03/21/69
		D09974*	546	11/29/69 - 03/11/70

*THIS TAPE CONTAINED ALL THE RECORDS WHICH WERE DELETED WHILE CREATING THE FINAL 3 TAPES, (D09864, D09865, D09866).

[illegible] 9

[illegible] ([illegible], 3.E5 HZ)

68-100A-07D

January [illegible], 1972

[illegible] catalog consists of one 556 BPI, 7-track, [illegible] with one file of [illegible]. The tape contains a 648 [illegible] BCD header record [illegible] 700 [illegible] character data record [illegible] physical record contains one logical record.

[illegible] tapes will be added to this data set at a later time.

[illegible] spans for the data is as follows:

D	C#	TIME SPAN
0[illegible]	C-05597	11/11/68 - 11/11/68

PIONEER 9

E FIELD DATA

68-100A-07D

Three (3) tapes have been added to this data set. They are 800 BPI Binary tapes with numerous files on them. The tapes contain a 648 character BCD header record and 2700 character data records. Each physical record contains one logical record.

D#	C#	TIME SPAN
D-09864	C-07068	11/08/68 - 12/11/68
D-09865	C-07069	3/21/69 - 7/03/69
D-09866	C-07070	1/01/68 - 3/21/69
*D-09974	C-07166	Deleted records tape

* An additional tape has also been added which contains all records which were deleted while creating the final 3 tapes.

FORMAT

[illegible] records of each file is a header record in the following [illegible]mat.

D	ID	TYPE
	Julian day	Floating point
2 & 3	Month, Day, Year	BCD
[illegible]	Year	Floating point
[illegible]	Pass number	Floating point
6 & 7	Deep Space station	BCD
[illegible]	DSS number	Floating point
[illegible]-108	Spacecraft command status	Floating point

[illegible] data record format is as follows:

RA[illegible]	ID	TYPE
1-[illegible]	8x8 Count Rates	Packed Integer
9-[illegible]	64 F400-400HZ	Packed Integer
[illegible]7-	64 F30K-50 KHZ	Packed Integer
5-	8x8 Step Number array	Packed Integer
3-	Fill words	Packed Integer
1-	Radius earth to probe	Floating Point
7-	Radius earth to sun	Floating Point
3-	X comp of S/C	Floating Point
9-	Y comp of S/C	Floating Point
5-	Z comp of S/C	Floating Point
1-	Radius sun to probe	Floating Point
7- 2	Earth-sun Probe angle	Floating Point
3- [illegible]6	Longitude of S/C	Floating Point
9-[illegible]	Earth-solar Eclip (R)	Floating Point
5-[illegible]	Earth-solar Eclip (latitude)	Floating Point
1-[illegible]	Earth-solar [illegible] (longitude)	Floating Point
7-[illegible]	Sun-solar Eclip (R)	Floating Point
3-[illegible]	Sun-solar Eclaip (latitude)	Floating Point
[illegible]9-[illegible]	Sun-solar Eclip (longitude)	Floating Point
[illegible]5-678	Experiment Cycle [illegible] Errors	Fixed Point
[illegible]79-	Data quality Indicator	[illegible] Point
[illegible]3-	ESW20 - averag[illegible]	[illegible]ing Point
[illegible]9-7	ESW20 - Root [illegible] square-Dev.	[illegible]ing Point
5-	ESW20 - Maximum value	Floating Point
1-	ESW20 - Minimum value	Floating Point
7-	ESW21 -Average	Floating Point
3-	ESW21 - Root [illegible] square Dev.	Floating Point

CHARACTERS	ID	TYPE
769-774	ESW21 - Maximum value	Floating Point
775-780	ESW21 - Minimum value	Floating Point
781-786	ESW35 - Average	Floating Point
787-792	ESW35 - Root Mean Square Dev.	Floating Point
793-798	ESW35 - Maximum value	Floating Point
799-804	ESW35 - Minimum value	Floating Point
805-810	ESW44 - Average	Floating Point
811-816	ESW44 - Root mean Square Dev.	Floating Point
817-822	ESW44 - Maximum value	Floating Point
823-828	ESW44 - Minimum value	Floating Point
829-834	ESW45 - Average	Floating Point
835-840	ESW45 - Root Mean Square Dev.	Floating Point
841-846	ESW45 - Maximum value	Floating Point
847-852	ESW45 - Minimum value	Floating Point
853-858	ESW22 - Average	Floating Point
859-864	ESW22 - Root Mean Square Dev.	Floating Point
865-870	ESW22 - Maximum value	Floating Point
871-876	ESW22 - Minimum value	Floating Point
877-884	Telemetry Bit Rate	Fixed Point
985 1032	Time for Step 1	Fixed Point
1033 1080	Time for Step 2	Fixed Point
1081 1128	Time for Step 3	Fixed Point
1129 1176	Time for Step 4	Fixed Point
1177-1224	Time for Step 5	Fixed Point
1225-1272	Time for Step 6	Fixed Point
1273-1320	Time for Step 7	Fixed Point
1321-1368	Time for Step 8	Fixed Point
1369-1752	64 [illegible] calibrated	Floating Point
1753-2136	54-[illegible] calibrated	Floating Point
2137-2328	Ave, RMS, MAX & MIN for F400A	Floating Point
2329-2520	Ave, RMS, MAX & MIN for F30KA	Floating Point
2521-2568	F100A data per plot Frame	Floating Point
2569-2576	F100A Plot frame Ave	Floating Point
2577-2584	F100A Plot Frame RMS	Floating Point
2585-2592	F100A Plot Frame Max	Floating Point
2593-2600	F100A Plot Frame Min	Floating Point
2601-2608	F400A Plot Frame Ave	Floating Point
2609-2616	F400A Plot Frame RMS	Floating Point
2617-2624	F400A Plot Frame Max	Floating Point
2625-2632	F400A Plot Frame Min	Floating Point
2633-2640	F30KA Plot Frame Ave	Floating Point
2641-2648	F30KA Plot Frame RMS	Floating Point
2649-2656	F30KA Plot Frame Max	Floating Point
2657-2664	F30KA Plot Frame Min	Floating Point
2665-2672	Time Gap	Fixed Point
2673-2680	Blank Fill Words	

DATA DOCUMENTATION NOTE

Pioneer 9 (68-100A-07D)

Starting with the second physical record of the data tapes, missing data points will be indicated by minus one (-1) inserted in the corresponding time words. This means that when using data from these tapes, if one finds a minus one (-1) time word, disregard the corresponding data word, as it is meant as fill. These tapes were generated on an IBM 7094 at Ames Research Center.

Donald J. Hei, Jr.

July 19, 1972

Mr. James S. Burgess
Space Sciences Department
TRW Systems Group
One Space Park
Redondo Beach, California 90278

Subject: Your letter and shipment of February 3, 1972, containing 211 Pioneer 9 data tapes.

Dear Mr. Burgess:

We are returning, under separate cover, three Pioneer 9 final merged tapes. These tapes were created from the 211 tapes you sent us on February 3, 1972. We are also returning 1 tape, your number P22945, which we were unable to process. Please let us know when you are satisfied with the 3 merged tapes so that we may send the original 211 EFE tapes to NASA Ames Research Center as you requested.

Yours truly,

Joseph R. Johns,
Manager, ADP Services

Under Separate Cover:
Magnetic tapes containing
Pioneer 9 data (4)
Partial listings of tapes

TRW

8141-72-200
Bldg R-1, Rm 1070
1 November 1972

Mr. Donald J. Hei, Code 601.1
NASA Goddard Space Flight Center
NSSDC
Greenbelt, Maryland 20771

Dear Don:

As you requested, I have completed the catalog listing of the NSSDC merged Pioneer 9 Tape #1. I have enclosed with this letter a listing for this tape from File 39 on, and also the remainder of the File-by-File check list. The first time I ran this tape a double End-of-File was detected after File 38 (Pass 18, DSS 42); but it was not detected this time, so the continued listing begins with File 39 (Pass 18, DSS 62).

It is not clear to me why the double End-of-File was not detected during the second run; but I hope that you can, in your copying process, eliminate the possibility of copying or writing a double End-of-File in the middle of the tape.

When you have completed your work with the catalog listings I have sent I would appreciate their return. If there are any questions, please contact me. Thank you very much for your continuing effort on this project.

Respectfully yours,

James S. Burgess

James S. Burgess
Space Sciences Department
TRW Systems Group

JSB:jg

enc: as indicated

NSSDC TAPE # 1 CONTINUED

FROM FILE 39 ON

84 TOTAL DATA FILES

FILE #	PASS	DSS
39	18	62
40	18	12
41	19	42
42	19	62
43	19	12
44	20	42
45	20	62
46	20	12
47	21	42
48	21	62
49	21	12
50	22	42
51	22	62
52	22	12
53	23	42
54	23	62
55	23	12
56	24	42
57	24	62
58	24	12
59	25	42
60	25	62
61	25	12
62	26	42
63	26	62
64	26	12
65	27	42
66	(27) 0	(12) 0
67	28	42
68	28	51
69	28	12
70	29	42
71	29	62
72	29	12
73	30	42

(REC 2 L=65)

FILE #	PASS	DSS	
74	30	12	
75	48	41	X
76	48	62	X
77	49	41	X
78	49	62	XNDR
79	50	41	X
80	50	62	X
81	50	12	X
82	0	0	X
83	34	62	X
84	34	12	X

OUT OF ORDER

NSSDC TAPE # 1 (85) PIONEER 9 38 FILES

CONTENT

FILE #	PASS	DSS	
1	1	42	
2	1	51	
3	1	12	
4	2	42	
5	2	62	
6	2	12	
7	3	42	
8	3	62	
9	3	12	
10	4	42	
11	4	62	
12	4	12	
13	5	62	
14	5	12	
15	6	42	
16	6	62	
17	6	12	
18	11	42	
19	11	62	
20	11	12	
21	12	42	
22	12	62	
23	12	12	
24	13	42	
25	13	62	
26	13	12	
27	14	42	
28	14	62	
29	14	12	
* 30	118	42 X	
* 31	118	62 X	NO DATA RECORDS (NDR) } out of order NDR
32	16	42	
33	16	62	
34	16	12	
35	17	42	
36	17	62	
37	17	12	
38	18	42	

DEOF HERE

COMMENT

DOUBLE END OF FILE DETECTED AFTER FILE# 38

TAPE SHOULD HAVE 85 FILES

Files which have out of order pass numbers have an "X"

NDR means the file contains no data records.

Info in parentheses appear when file had parity errors or incorrect record lengths.

NSSDC TAPE # 2

FILE #	PASS	DSS	COMMENT
1	0	0	NDR
2	55	41	
3	55	62	
4	55	12	
5	63	41	out of order
6	63	61	
7	63	12	
8	56	41	
9	56	62	NDR
10	38	41	
11	38	62	NDR AMES FAULT FOR NDR in most cases probably
12	38	12	NDR
13	39	41	
14	39	62	
15	40	41	
16	40	62	
17	41	41	
18	41	62	
19	42	41	
20	42	62	
21	43	41	
22	43	62	NDR
23	44	41	
24	44	62	
25	45	41	
26	45	62	(REC 41, 42, 43 L=234)
27	46	41	
28	46	62	
29	47	41	
30	47	62	
31	49	41	
32	49	62	NDR
33	50	41	
34	50	62	← ~~LAGEOS~~ PASS 51 HERE
35	52	41	
36	52	62	
37	52	12	
38	53	41	

TAPE 2 cont

FILE #	PASS	DSS	COMMENT
39	53	62	NDR
40	53	12	NDR
41	56	41	
42	56	62	NDR
43	56	12	NDR
44	57	41	
45	57	62	NDR
46	57	12	NDR
47	58	41	
48	58	61	
49	58	12	NDR
50	59	41	
51	59	61	
52	59	12	
53	60	41	
54	60	61	
55	60	12	
56	61	41	
57	61	61	
58	61	12	
59	62	41	
60	62	61	
61	62	12	
62	63	41	
63	63	61	
64	63	12	
65	64	41	
66	64	61	
67	64	12	
68	65	41	
69	65	61	
70	65	12	
71	66	41	
72	66	62	
73	66	12	
74	67	41	
75	67	62	
76	67	12	

TAPE 2 CONT

FILE #	PASS	DSS	COMMENT
77	68	41	
78	68	67	
79	68	12	
80	69	41	
81	69	67	
82	69	12	
83	71	41	
84	71	67	
85	71	12	
86	72	41	
87	72	67	
X 88	72	12	WHOLE FILE IS OVERLAP
89	73	41	
90	73	67	
91	73	12	
92	74	41	
93	74	62	
94	74	12	
95	75	41	
96	75	62	
97	75	12	
98	76	41	
99	76	51	
100	76	12	NDR
101	77	41	
102	77	51	NDR
103	77	12	NDR
104	78	41	
105	78	51	
106	78	12	
107	79	41	
108	79	61	
109	80	42	
110	80	61	WHOLE FILE IS OVERLAP
111	80	12	NDR
112	81	42	
113	81	61	
114	81	12	NDR

File #	PASS	DSS	COMMENT
115	82	42	
116	82	61	
117	82	12	NDR
118	83	42	
119	83	61	
120	83	12	NDR
121	84	42	
122	84	61	
123	84	12	NDR
124	86	42	REC 3: ALL TIMES BAD
125	86	61	
126	86	12	
127	87	42	
128	87	61	REC 3: ALL TIMES BAD
129	87	12	
130	89	42	
131	89	61	
132	89	12	
133	90	42	
134	90	62	
135	91	41	
136	91	51	
137	91	12	
138	92	41	
139	92	51	
140	92	12	
141	93	41	
142	93	51	
143	93	12	
144	94	41	
145	94	51	NDR
146	94	12	NDR
147	95	41	
148	95	61	
149	95	12	
150	96	41	
151	96	61	
152	96	12	

TAPE 2 CONT

FILE #	PASS #	DSS	COMMENT
153	97	61	
154	97	12	
155	98	42	
156	98	61	NDR
157	98	12	NDR
158	99	42	
159	99	61	
160	99	12	
161	100	41	
162	100	51	NDR
163	100	12	NDR
164	101	41	
165	101	51	
166	101	12	
167	102	41	
168	102	61	
169	102	12	
170	104	41	
171	104	61	
172	104	67	
173	105	42	
174	105	61	
175	106	42	
176	106	61	
177	107	42	
178	107	67	
179	108	42	
180	108	67	
181	109	42	
182	109	67	
183	110	42	
184	0	0	TIMES APPEAR OK HERE (BAD HEADER)
185	111	67	
186	111	12	
187	112	42	
188	112	67	(REC 2 L=65)
189	112	12	
190	113	42	

TAPE 2 CONT

FILE #	PASS	DSS	COMMENT
			REC 10: ALL TIMES BAD
191	113	67	
192	113	14	NDR
193	114	42	
194	114	62	
195	114	14	NDR
196	115	42	
197	115	62	
198	0	0	(REC 2 L = 65) also TIMES APPEAR OK BAD HEADER
199	116	62	
200	117	42	
201	117	62	REC 5 TIMES BAD
202	119	42	
203	119	62	
204	120	42	
205	120	62	
206	121	42	
207	121	62	
208	122	42	
209	122	62	
210	123	42	
211	123	12	NDR
212	124	42	
213	124	62	
214	125	41	
215	125	61	
216	125	12	
217	126	42	
218	126	61	
219	126	12	
220	118	42	← } X
221	118	62	NDR } X
222	130	42	
223	130	61	
224	130	12	
225	132	42	
226	132	61	DOUBLE EOF AFTER FILE 229
227	133	42	
228	133	61	FILE 230 MISSING
229	134	61	

NSS DC TAPE #3

FILE #	PASS	DSS	COMMENT
1	135	42	
2	135	61	
3	136	42	
4	136	61	
5	137	42	
6	138	61	
7	139	42	
8	139	61	NDR
9	140	42	
10	140	61	
11	141	42	
12	141	61	
13	142	42	NDR
14	142	61	(REC 2,3 L=270)
15			(REC 1,2,3 L(REC1)=65, rest=270)
16			(REC 1,2 L(REC1)=65, L(2)=270)
17			same as 16
18			SAME AS 15
19	144	61	
20	144	14	
21	144	12	NDR
22	145	42	
23	145	61	
24	145	12	
25	146	42	
26	146	61	
27	146	12	
28	147	42	
29	147	61	
30	147	12	
31	148	42	
32	148	61	
33	150	42	
34	150	61	NDR
35	151	42	
36	151	61	NDR
37	151	12	NDR
38	152	42	

TAPE 3 CONT

FILE #	PASS	DSS	COMMENT
39	152	61	
40	0	0	NDR
41	0	0	NDR
42	0	0	NDR
43	0	0	NDR
44	0	0	NDR
45	0	0	NDR
46	154	61	} SAME TAPE TWICE ← X
47	154	61	
48	155	42	NDR
49	155	61	
50	155	12	(REC 2 L=65)
51	156	42	NDR
52	156	61	
53	157	42	
54	157	12	
55	158	42	
56	158	61	
57	159	42	
58	159	61	
59	159	12	
60	160	42	
61	160	61	
62	160	12	
63	161	61	
64	162	42	
65	162	61	
66	162	12	
67	163	42	
68	163	61	NDR
69	163	12	NDR
70	164	42	
71	164	12	
72	165	42	
73	165	61	NDR
74	166	42	
75	166	61	NDR
76	166	12	NDR

TAPE 3 CONT

FILE #	PASS	DSS	COMMENT
77	167	42	
78	167	61	
79	167	12	
80	168	61	NDR
CHECK→ 81	168	42	NDR
82	169	61	
83	169	12	
84	170	42	
85	170	61	NDR
86	170	12	
87	171	42	NDR
88	171	12	NDR
89	172	42	NDR
90	172	61	NDR
91	172	12	
92	173	42	
93	173	61	NDR
94	173	12	
95	174	12	NDR
96	175	42	
97	175	61	
98	176	42	
99	176	61	
100	176	12	
101	177	42	
102	177	61	NDR
103	177	12	
104	178	42	NDR
105	178	61	NDR
106	179	51	
107	179	12	
108	180	51	
109	180	12	NDR
110	181	51	NDR
111	182	51	NDR
112	182	12	NDR
113	183	42	
114	183	62	

TAPE 3 CONT

FILE #	PASS	DSS	COMMENT
115	183	14	
116	184	12	
117	185	42	
118	185	61	NDR
119	185	14	
120	186	51	
121	187	42	
122	187	51	
123	187	12	
124	188	42	
125	188	61	NDR
126	188	12	
127	189	41	
128	189	61	
129	190	41	
130	191	14	
131	193	61	
132	193	12	
133	194	61	NDR
134	194	12	
135	195	61	NDR
136	195	12	
137	196	61	
138	196	12	
139	197	61	
140	197	12	
141	199	12	
142	201	14	NDR
143	202	61	NDR
144	205	42	NDR
145	205	14	
146	206	42	NDR
147	208	42	
148	208	61	
149	211	42	
150	211	61	
151	213	42	
152	213	61	

TAPE 3 CONT

FILE #	PASS	DSS		COMMENT
153	213	12		
154	215	12		
155	217	14		
156	218	42	NDR	
157	218	61		
158	219	42	NDR	
159	219	14	NDR	
160	220	61	NDR	
161	221	42	NDR	⊃ same header
162	221	42		
163	221	14		
164	51	41	X	
165	51	62	X	
166	51	12	X	
167	229	42	NDR	
168	229	14		
169	230	14		
170	231	42	NDR	
171	231	61		
172	231	14		
173	233	42	NDR	
174	233	61	NDR	
175	234	61	NDR	
176	234	14		
177	236	14		
178	237	14		
179	238	14		
180	244	14		
181	248	14	NDR	
182	250	14	NDR	
183	251	14	NDR	
184	47	41	X	
185	47	62	X	
186	284	42		
187	285	42		
188	285	14		
189	289	42		
190	290	42		

TAPE 3 CONT

FILE #	PASS	DSS		
191	290	14	(REC 2 ALL TIMES BAD)	
192	291	42		
193	291	14		
194	301	14		
195	302	42	NDR	
196	302	14	NDR	
197	303	42	NDR	
198	303	14	REC 2 ALL TIMES BAD	
199	304	42	NDR	
200	304	14		
201	305	42		
202	4	42	X	
203	4	62	X	
204	4	12	X	
205	60	41	X	
206	60	61	X	
207	60	12	X	
208	94	41	X	
209	94	51	NDR	X
210	94	12	NDR	X
211	104	41	X	
212	104	61	X	
213	104	67	X	
214	153	42	X	
215	153	61	X	
216	153	12	X	
217	154	61	X	
218	160	42	X	
219	160	61	X	
220	160	12	X	
221	215	12	X	
222	217	14	X	
223	219	42	NDR	X
224	219	14	NDR	X
225	220	61	NDR	X
226	229	42	NDR	X
227	229	14	X	
228	230	14	X	

these were all "spare" tapes

TAPE 3 CONT

FILE #	PASS	DSS	
229	236	14	X
230	237	14	X
231	238	14	X

COMMENT

SPARES CONT

August 18, 1972

Mr. James S. Burgess
Space Sciences Department
T. R. W. Systems Group
One Space Park
Redondo Beach, California 90278

Reference: Our letter dated July 19, 1972, subject shipment of three (3) final Pioneer 9 tapes.

Dear Mr. Burgess:

We are sending, under separate cover, one tape containing out of sequence records from the 211 Pioneer 9 data tapes you sent to us on February 3, 1972. Also enclosed in the shipment is a full printout of the tape. If you have any questions please contact us.

Yours truly,

Joseph R. Johns
Manager, ADP Services

Under Separate Cover:
Magnetic tapes containing
Pioneer 9 data (1)
Full printout of tape

5741-72-197
Bldg R-1, Rm 1070
27 October 1972

Mr. Donald J. Hei, Code 601.1
NASA Goddard Space Flight Center
NSSDC
Greenbelt, Maryland 20771

Dear Don:

Please make a list of the "P" numbers on all the Pioneer tapes that you now have. A copy of this list should be sent to us and also to Larry Van der Veen at the Pioneer Project Office, NASA Ames Research Center, M.S. 244-8. After this has been done you may send all these tapes to the Rehabilitation Center at Goddard Space Flight Center, care of Fred Ellis. Larry Van der Veen and I have estimated that your effort in this matter will have saved the government about $1200 in postage. Thank you very much.

Yours truly,

Ira Green

Ira M. Green
Space Sciences Department
TRW Systems Group

IMG:jg
cc: L. Van der Veen

8301-72-168
Bldg R-1, Rm 1070
8 September 1972

Mr. Donald J. Hei, Code 601.1
National Space Science Data Center
NASA Goddard Space Flight Center
Greenbelt, Maryland 20771

Dear Don:

As mentioned in our telephone conversation of 9-7-72, I am sending, under separate cover, catalog listings of the three Pioneer 9 merged tapes you sent 7-19-72, and also a file-by-file check list of their contents. The listings and the check list can be used to determine the required corrections to finalize the merged tapes. I would appreciate the return of the listings when you are through with them. If you have any questions regarding this information, please feel free to contact me.

Regarding the tape containing the out-of-sequence records, I would appreciate knowing any information you find about those records which contained unrecognizable data (records I informed you about in our telephone conversation). As I stated, most of those records had 2760 characters whereas a normal record should have 2700.

I thank you for being patient while I checked the merged tapes and hope that the information sent will aid you to finalize them. Ira and I both realize the problems that can arise in such a copying process and we are very pleased with the progress you have made.

Yours truly,

J. S. Burgess

J. S. Burgess
Space Sciences Department
TRW Systems Group

JSB:jg

P.S. Please send more mailing slips. Thank you.

TRW

8301-72-168
Bldg R-1, Rm 1070
8 September 1972

Mr. Donald J. Hei, Code 601.1
National Space Science Data Center
NASA Goddard Space Flight Center
Greenbelt, Maryland 20771

Dear Don:

As mentioned in our telephone conversation of 9-7-72, I am sending, under separate cover, catalog listings of the three Pioneer 9 merged tapes you sent 7-19-72, and also a file-by-file check list of their contents. The listings and the check list can be used to determine the required corrections to finalize the merged tapes. I would appreciate the return of the listings when you are through with them. If you have any questions regarding this information, please feel free to contact me.

Regarding the tape containing the out-of-sequence records, I would appreciate knowing any information you find about those records which contained unrecognizable data (records I informed you about in our telephone conversation). As I stated, most of those records had 2760 characters whereas a normal record should have 2700.

I thank you for being patient while I checked the merged tapes and hope that the information sent will aid you to finalize them. Ira and I both realize the problems that can arise in such a copying process and we are very pleased with the progress you have made.

Yours truly,

J. S. Burgess

J. S. Burgess
Space Sciences Department
TRW Systems Group

JSB:jg

P.S. Please send more mailing slips. Thank you.

68-100A-07D

211 tapes

PIONEER 9

MAR 10 1972

Box #1 10 Tapes

Pass	Tape No.	DSS	Tape Number
1	1092	42,51,12	P 22108
2	1093	42,62,12	P 24926
3	1094	42, 62, 12	P 25461
← Insert Pass 4 when copying			
5	1095	62, 12	P 26908
6	1096	42,62,12	P 25073
11	1097	42,62,12	P 26907
12	1098	42,62,12	P 26906
13	1099	42,62,12	P 26909
14	1100	42,62,12	P 22065
15	1101	42,62,12	P 26931

Box #2 10 Tapes

16	1102	42,62,12	P 24931
17	1103	42,62,12	P 22205
18	1104	42,62,12	P 26927
19	1105	42,62	P 22285
19	1106	12	P 22361
20	1107	42,62,12	P 22109
21	1108	42,62,12	P 26926
22	1109	42,62,12	P 23393
23	1110	42,62,12	P 22938
24	1111	42,62,12	P 23399

MAR 10 1972

Box #3 10 Tapes

Pass	Trn.	DSS	Tape Number
25	1112	42,62,12	P 26925
26	1113	42,62,12	P 23278
27	1114	42,12	P 23400
28	1115	42,51,12	P 23649
29	1116	42,62,12	P 24863
30	1117	42,12	P 22372
31	1118	41,62,12	P 23133
32	1119	41,62,12	P 23650
33	1120	41,62,12	P 23776
34	1121	41,62,12	P 23652

Box #4 10 Tapes

35	1122	41,62,12	P 23402
36	1123	41,62,12	P 23648
37	1124	41,62	P 23651
37	1125	12	P 23046
38	1126	41,62,12	P 22110
39	1127	41,62	P 25675
40	1128	41,62	P 26924
41	1129	41,62	P 26923
42	1130	41,62	P 22373
43	1131	41,62	P 26922

Box #5 10 Tapes

MAR 10 1972

Pass	Trc.	DSS	Tape Number
44	1132	41,62	P 26921
45	1133	41,62	P 25418
46	1134	41,62	P 24655
47	1135	41,62	P 25465
49	1136	41,62	P 25402
50	1137	41,62	P 25464
52	1138	41,62,12	P 22191
53	1139	41,62,12	P 24463
56	1140	41,62,12	P 24650
57	1141	41,62,12	P 22111

Box #6 10 Tapes

58	1142	41,61,12	P 22112
59	1143	41,61,12	P 22113
60	1144	41,61,12	P 20644
61	1145	41,61,12	P 22115
62	1146	41,61,12	P 19791
63	1147	41,61,12	P 25462
64	1148	41,61,12	P 24501
65	1149	41,61,12	P 24502
66	1150	41,61,12	P 23073
67	1151	41,62,12	P 24503

MAR 10 1972

Box #7 10 Tapes

Pass	Tape No.	DSS	Tape Number
68	1152	41,67,12	P 24504
69	1153	41,67,12	P 22415
71	1154	41,67,12	P 24505
72	1155	41,67,12	P 24506
73	1156	41,67,12	P 24508
74	1157	41,67,12	P 24460
75	1158	41,62,12	P 24461
76	1159	41	P 23066
76	1160	51,12	P 22268
77	1161	41,51,12	P 26993

Box #8 10 Tapes

78	1162	41	P 24465
78	1163	51,12	P 24466
79	1164	41,61	P 24654
80	1165	42,61,12	P 22413
81	1166	41,62,12	P 24728
82	1167	42,61,12	P 24653
83	1168	42,61,12	P 24652
84	1169	42,61,12	P 24651
86	1170	42,61,12	P 25417
87	1171	42,61,12	P 24649

MAR 1 0 1972

Box #9 10 Tapes

Pass	Tape No.	DSS	Tape Number
89	1172	42,61,12	P 26994
90	1173	42,62,12	P 24507
91	1174	41,51,12	P 24647
92	1175	41,51,12	P 24646
93	1176	41,51,12	P 24645
94	1177	41,51,12	P 25072
95	1178	41,61,12	P 24866
96	1179	41,61,12	P 25679
97	1180	61,12	P 24644
98	1181	42,61,12	P 24462

Box #10 10 Tapes

99	1182	42,61,12	P 24576
100	1183	41,51,12	P 24577
101	1184	41.51.12	P 22075
102	1185	41,61,12	P 24643
104	1186	41,61,67	P 25677
105	1187	42,61	P 24727
106	1188	[illegible]	P 24726
107	1189	42,67	P 24725
108	1190	42,67	P 24724
109	1191	42,67	P 24723

MAR 10 1972

Box #11 10 Tapes

Pass	T no.	DSS	Tape Number
110	1192	42,67	P 24722
111	1193	42,67,12	P 26996
112	1194	42,67,12	P 24721
113	1195	42,67,14	P 24923
114	1196	42,62,14	P 26995
115	1197	42,62	P 24720
116	1198	42,62	P 24718
117	1199	42,62	P 24719
119	1200	42,62	P 24913
120	1201	42,62	P 24911

Box #12 10 Tapes

121	1202	42,62	P 24910
122	1203	42,62	P 24908
123	1204	42,12	P 24907
124	1205	42,62	P 24717
125	1206	41,61,12	P 24906
126	1207	42,61,12	P 24909
127	1208	42,61,12	P 24912
130	1209	42,61,12	P 25044
132	1210	42,61	P 24928
133,134	1211	42,61	P 23037

MAR 10 1972

Box #13 10 Tapes

Pass	T no.	DSS	Tape Number
135	1212	42,61	P 25070
136	1213	42,61	P 25058
137, 138	1214	42,61	P 25071
139	1215	42,61	P 25404
140	1216	42,61	P 25410
141	1217	42,61	P 25469
142	1218	42,61,12	P 25397
143	1219	42,61	P 25442
144	1220	42,61,14,12	P 25398
145	1221	42,61,12	P 22776

Box #14 10 Tapes

146	1222	42,61,12	P 25468
147	1223	42,61,12	P 22374
148	1224	42,61	P 22375
150	1225	42,61	P 25467
151	1226	42,61,12	P 22351
152	1227	42,61	P 20745
153	1228	42,61,12	P 20092
154	1229	61	P 25466
155	1230	42,61,12	P 22610
156	1231	42,61	P 22780

MAR 10 1972

Box #15 10 Tapes

Pass	T no.	DSS	Tape Number
157	1232	42,12	P 22779
158	1233	42,61	P 22778
159	1234	42,61,12	P 22777
160	1235	42,61,12	P 26978
161	1236	61	P 22573
162	1237	42,61,12	P 22572
163	1238	42,61,12	P 22571
164	1239	42,12	P 22569
165	1240	42,61	P 22575
166	1241	42,61,12	P 22574

Box #16 10 Tapes

167	1242	42,61,12	P 22929
168	1243	61	P 22928
169	1244	42,61,12	P 22927
170	1245	42,61,12	P 22079
171	1246	42,12	P 23713
172	1247	42,61,12	P 22926
173	1248	42,61,12	P 22925
174	1249	12	P 22924
175		42,61	
176	1250	42,61,12	P 25450
177	1251	42,61,12	P 25425

MAR 1 0 1972

Box #17 10 Tapes

Pass	T no.	DSS	Tape Number
178	1252	42,61	P 25444
179	1253	51,12	P 25443
180	1254	51,12	P 25446
181,182	1255	51,12	P 25445
183	1256	42,62,14	P 25074
184	1257	12	P 25448
185	1258	42,61,14	P 25399
186	1259	51	P 25447
187	1260	42,51,12	P 25441
188	1261	42,61,12	P 25454

Box #18 10 Tapes

189,190	1262	41,61	P 25405
191,193	1263	14,61,12	P 25043
194	1264	61,14	P 25455
195	1265	61,12	P 25456
196	1266	61,12	P 25457
197	1267	61,12	P 25458
199,201,202	1268	12,14,61	P 25451
205	1269	42,14	P 24927
206,208	1270	42,61	P 23397
211	1271	42,61	P 22863

MAR 10 1972

Box #19 10 Tapes

Pass	T no.	DSS	Tape Number
213	1272	42,61,12	P 22414
215,217	1273	12,14	P 25401
218	1274	42,61	P 22101
219,220	1275	42,14,61	P 25408
221	1276	42,61,14	P 26980
224	1277	61,14	P 23060
225,226	1278	61,42	P 22945
229,230	1279	42,14	P 25406
231	1280	42,61,14	P 25409
233	1281	42,61	P 23401

Box #20 10 Tapes

234	1282	61,14	P 22941
236,237,238	1283	14	P 25407
244,248,250,251	1284	14	P 25403
276,278,280,281	1285	14	P 22942
284,285	1286	42,14	P 23079
289,290	1287	42,14	P 25460
291	1288	42,14	P 25419
301,302	1289	14,42	P 25416
303	1290	42,14	P 25415
304,305	1291	42,14	P 25414

MAR 10 1972

PIONEER 9 *SPARES

Box #21 11 Tapes

Pass	T no.	DSS	Tape Number
4	1292	42,62,12	P 25685
60	1293	41,61,12	P 22114
94	1294	41,51,12	P 24925
104	1295	41,61,67	P 24924
153	1296	42,61,12	P 20368
154	1297	61	P 22107
160	1298	42,61,12	P 22570
215,217	1299	12,14	P 23045
219,220	1300	42,14,61	P 23043
229,230	1301	42,14	P 22864
236,237,238	1302	14	P 22830

*Two tapes were sent for each of the above. The latest versions are included in the previous lists of tapes. The above have been included as spares in case any troubles are encountered on the other copies.

PLEASE ACKNOWLEDGE RECEIPT OF THESE 21 BOXES OF TAPES

68-100A-07D

TRW

8301-71-198
Bldg R-1, Rm 1070
18 October 1971

OCT 26 1971

Mr. Donald J. Hei, Code 601.1
National Space Science Data Center
NASA Goddard Space Flight Center
Greenbelt, Maryland 20771

Dear Don:

We are sending you a Data Tape of Pioneer 9 Pass 4 for a test of your ability to read the tape. Jim Burgess is also including a listing and a copy of the Bendix write-up of the program which produced the tape. I have asked Jim to make a few comments in the following paragraphs of this letter regarding these tapes. I assume that when you are satisfied that you can read them you will let me know and we will send you the remaining tapes for Pioneer 9, which I hope you will copy onto a very few number of tapes and return us the original and a copy of your copy.

Data specifications and output format information are presented on pages 5 thru 10 in the "Data Reduction Program Specification for Pioneer 9 TRW Electric Field Detector Experiment" (I. Green and J. S. Burgess). Maps of the Header and data records are provided in the Bendix notebook in Section 5, pages 29-30. Note that for the Header record, words 2 and 3, and also words 6 and 7, are binary code decimal (BCD). The remainder of the words are floating point. For the data record, words 1-90 are packed integer data in the form of DCI and raw data value (6 bits each) in the following order: 64 count rates, 64 F400 readings, 64 F30K readings, and the 8 x 8 step number array. Words 105-122, 147-228, and 441 are fixed point, and all remaining words are floating point.

An example of the data from the enclosed tape (Pass 4) is included with this letter in the form of output from a specialized dump program written here at TRW.

In reference to data quality, because of an apparently wide variety of data problems encountered by Bendix in the original raw data tapes, the following items should be noted:

1. Experiment Cycle Errors (ECE) and Data Quality Indicator (DQI, defined on page 20 of the TRW specification) are not always correct. The best indicator for data quality is the raw data DCI.

OCT 8 1971

2. Although the 64 times in a data record should be monotomically increasing, this is not always true. A qualitative check on the time order of a data record should probably be a part of any program using these tapes. Rejection of any disorganized records is recommended.

3. Although time overlap between acquisitions should have been eliminated, this is not always the case. A check should be made for redundant times when using the data.

4. In the trajectory parameters all solar ecliptic longitudes are incorrect.

5. Some of the tapes may begin with an end of file marker.

6. Some files may have a Header record and no data records following (Pass 38, DSS 62, and 12).

7. Some Header records may contain all or part zeros (Pass 27, DSS 12; Pass 60, DSS 41).

If you have any questions about these tapes please feel free to contact Jim Burgess at (213) 536-2015.

Yours truly,

Ira Green

Ira Green
Space Sciences Department
TRW Systems Group

IG:jg

7. Bookkeeping Data - This information is described in Section III, Numbers 1, 2, and 3. It will appear on each microfilm FDP frame as well as the header record for each file on the magnetic tape.

8. Beginning and End Time for Each Acquisition - This information must be input by the programmer before the run at Ames, and will be used for the elimination of overlapping data between acquisitions.,

III. OUTPUT DATA FORMAT

The data reduction program will output 2 of the 3 media mentioned in Section I -- the magnetic tape and the SC 4020 plots. Under ideal conditions (no time gaps or Experiment Cycle Errors; see Section IV), the basic data division for the tape and Full Data Plot will include the experiment data accumulated from 8 consecutive experiment cycles, regardless of bit rate. This will be merged with trajectory parameters and other pertinent information to form one data record on the magnetic tape and a corresponding plot frame on the microfilm FDP. In general, the complete division will be referred to as an FDP frame. Each data record on the output tape will contain all the data necessary to make one microfilm FDP frame and will also include additional information for the 8 experiment cycles. Since the information necessary for the Summary Plot is included in this data, the magnetic tape will contain all the output data required from the data reduction program. This data is listed below. Definitions, programming, and plotting procedures involving parameters in the list are discussed in Section IV.

A. Data Specifications

1. Julian Calendar Data
   - a. Day of year
   - b. Month, day, year
2. Pass Number
3. Deep Space Station (DSS)
   - a. Name
   - b. Number

4. Spacecraft Command Status, including all commands sent and their transmission time plus 2 times the propagation time.

NOTE: Time time attached to the data is the DSS time, which is the time of measurement plus the propagation time.

5. JPL Trajectory Parameters

a. Radius Earth to Probe	GEOR	009	(KM)
b. Radius Earth to Sun	RS	015	(KM)
c. X Comp of S/C in Sun-Earth Line	XSE	028	(KM)
d. Y Comp of S/C in Sun-Earth Line	YSE	029	(KM)
e. Z Comp of S/C in Sun-Earth line	ZSE	030	(KM)
f. Radius Sun to Probe	SUNR	031	(KM)
g. Earth-Sun Probe Angle	ESP	032	(DEG)
h. Longitude of S/C in Sun-Earth System	PHI	033	(DEG)

6. Computed Trajectory Parameters

a. Earth-Solar Ecliptic Coordinates	R (earth radii) Latitude (degrees) Longitude (degrees)
b. Sun-Solar Ecliptic Coordinates	R (AU) Latitude (degrees) Longitude (degrees)

7. Data Reliability Information

The number for each experiment cycle and the total for the eight experiment cycles in the FDP frame for each of the following:

a. Experiment Cycle Errors (ECE) 9 words
b. Data Quality Indicator (DQI) 9 words

8. Selected Spacecraft Engineering Data

The average of the 16 values taken during the 8 experiment cycles in the FDP frame, the root mean square deviation corresponding to the average, the maximum value, and the minimum value for each of the following:

a. ESW 20 - Receiver 1 signal strength in dbm (RS1)
b. ESW 21 - Receiver 2 signal strength in dbm (RS2)
c. ~~ESW 22~~ ESW 25 - Platform temperature in °F

d. ESW ~~36~~ 40 - Standard 49 MC signal amplitude and/or noise in telemetry units (A 49 MC)

e. ESW ~~44~~ 45 - Primary Bus Voltage in Volts

f. ESW 45 ~~46~~ - Primary Bus Current in Amps

9. Spacecraft Telemetry Bit Rate Data

a. Bit Rate (bits/sec)

b. The position in total main frames of the FDP frame through which the Bit Rate holds (a number from 1 to 1024).

10. Time

The times corresponding to the engineering subcom word for Steps 1 through 8 for each of the 8 experiment cycles in the FDP frame (the actual time of main frame word 19 when the engineering subcom word is read out).

11. Raw TRW EFD Data

Raw data values and corresponding DCI taken during the 8 experiment cycles in the FDP frame:

a. 8 x 8 CR - Broadband peak frequency count rate channel values

b. 64-F400-400 Hz output channel values

c. 64-F30K-30 kHz output channel values

d. 8 x 8 raw step number array - SN - step number channel (amplitude threshold for count rate). The actual step number output value and its DCI should be in the same array location as the corresponding count rate channel output (ESW 49). The DCI location for all dummy step number output data should be flagged by filling the 6 bits with binary 1's. (63_{10})

All the above raw data should be packed, DCI and data value, 3 to a 36-bit word.

12. Processed TRW EFD Data from the 8 Experiment Cycles in the FDP Frame

a. 64-F400A - Calibrated 400 Hz channel output yielding the amplitude in millivolts of an equivalent sine wave at 400 Hz.

b. 64-F30KA - Calibrated 30 kHz channel output yielding the amplitude in millivolts of an equivalent sine wave at 30 kHz.

c. 8-F100A - The calibrated Step 5 count rate channel output yielding the amplitude in millivolts of an equivalent sine wave at 100 Hz.

d. The average, root mean square deviation, maximum and minimum values for each of the following sets of data:

8 - F400A - 400 Hz calibrated values in each of the 8 experiment cycles in the FDP frame

8 - F30KA - 30 kHz calibrated values in each of the 8 experiment cycles in the FDP frame

8 - F100A - 100 Hz step count rate calibrated values for the FDP frame

64 - F400A - 400 Hz calibrated values in the FDP frame

64 - F30KA - 30 kHz calibrated values in the FDP frame.

13. Time Gap Flag

This will indicate that a time gap of greater than 2 FDP frames (2048 main frames) will occur before the next set of data.

B. Calibration Tables

1. Table A1 - RMS amplitude calibration for the 400 Hz channel - 64 values - F400 (telemetry units) to F400A (millivolts).

2. Table A2 - RMS amplitude calibration for the 30 kHz channel - 64 values - F30K (telemetry units) to F30KA (millivolts).

3. Table A3 - RMS amplitude calibration for the count rate channel - 100 Hz at Step 5 - 64 values - CR (telemetry units) to F100A (millivolts).

4. Table AT - step number calibration for the step number channel - 8 continuous ranges of telemetry units vs step number SN (telemetry units) to step number.

C. Format Requirements

The output format requirements for the list of data specifications are outlined below for each output medium.

1. Magnetic Tape

As mentioned in Section I, the output tape will have one file for each acquisition. There are usually 2 or 3 acquisitions per pass. Overlapping

data in acquisitions from the same pass should be removed. The first record of each file will be a header record and will include Items 1 through 4 from the above list. Item 4 will actually be the same for the header record of any acquisition in a given pass because the list of commands given will be for the entire pass and need not be separated into acquisitions. Each of the succeeding records will be a data record corresponding to one FDP frame and will include Items 5 through 13 from the above list.

The first portion of each data record will contain packed raw data values and DCI (Item 11). In the FDP frame there are 256 sets of raw data values and their DCI for a total of 512 numbers. Since all of these are integers in the range 0 to 63 inclusive, each number will consist of a 6-bit segment (3 sets of raw data and DCI to a 36-bit word). This will require a total of 512 x 6 bits = 3072 bits, which is equivalent to 86 36-bit words (3096 bits) where the last 24 bits of word 86 are filled with zeros. Four 36-bit fill words should be added to make the raw data block compatible to a whole number of CDC words. This will make a total of 90-36 bit words, which is equivalent to 54 CDC 60-bit words.

The data should be packed in the order presented in Item 11. The DCI value should always precede its corresponding raw data value. Note that only actual step number output data in telemetry units from ESW 53 should be used in the raw step number array. The array location of any actual step number output should correspond to the array location of the broadband count rate data from ESW 49 to which it refers. All locations in the step number array which do not contain actual data will be dummy step numbers. These should be flagged by filling the 6 bits for the DCI location with binary 1's. Reasons for the use of this method are discussed in Item B, Section IV under Experiment Cycle Errors.

Items 5 through 10, 12, and 13 will fill out the remainder of each data record, with one 36-bit fixed point word for each data value in Items 7, 9, 10, and 13 and one IBM 36-bit floating point word for each data value in the remaining items. Nine fill words should be added after the last data word to provide compatibility with a whole number of CDC words. This will make a total of 450 36-bit words per data record, which is equivalent in total bits to 270 CDC 60-bit words.

The data should be processed one complete pass at a time. As many consecutive passes as possible should be stacked on one tape. Assuming a pass lasts about 24 hours, is completely recorded at 512 bits/sec, and that the data is written in 450 (36-bit) word records at 556 BPI on a 2400-foot tape, the maximum number of passes the tape can hold is 26. Whenever a pass cannot be processed because of missing data, the present output tape should be removed and a new tape should be started with the next complete pass. This will eliminate any delay in sending good data because of missing passes. Note that a double end of file should follow the last file on every output tape. Further data reduction programs will depend on correct physical organization of these output tapes; consequently, much care should be taken to see that they are written properly.

2. Microfilm Full Data Plot

The microfilm FDP will be essentially a visual copy of the output tape information, with the exception that there will be no distinct separation of acquisitions in a pass since the overlap between them is to be removed. There will be a header printout at the beginning of each pass which will include all commands for all acquisitions in the pass. The only other difference is that the microfilm FDP will not include all of the parameters which are present on the tape.

For any pass, there will be one microfilm FDP frame for each data record on tape. The format for the plot frame is illustrated in Figure 1. The actual dimensions of the frame are given in Section I. The heading of each frame includes the Julian calendar date: Month, day, year, and day of year; the time of day in hours and minutes, and total minutes elapsed from midnight; the pass number, the DSS name and number, and the bit rate. The plots in the frame are from top down: The broadband peak frequency in telemetry units vs time, the time scale in minutes of the hour, and the log of the F400A and F30KA data, respectively, vs time.

The tables below the plots contain the F100A value, and the average, root mean square deviation, maximum and minimum values for the F400A and F30KA data for each experiment cycle in the FDP frame. The frame summary

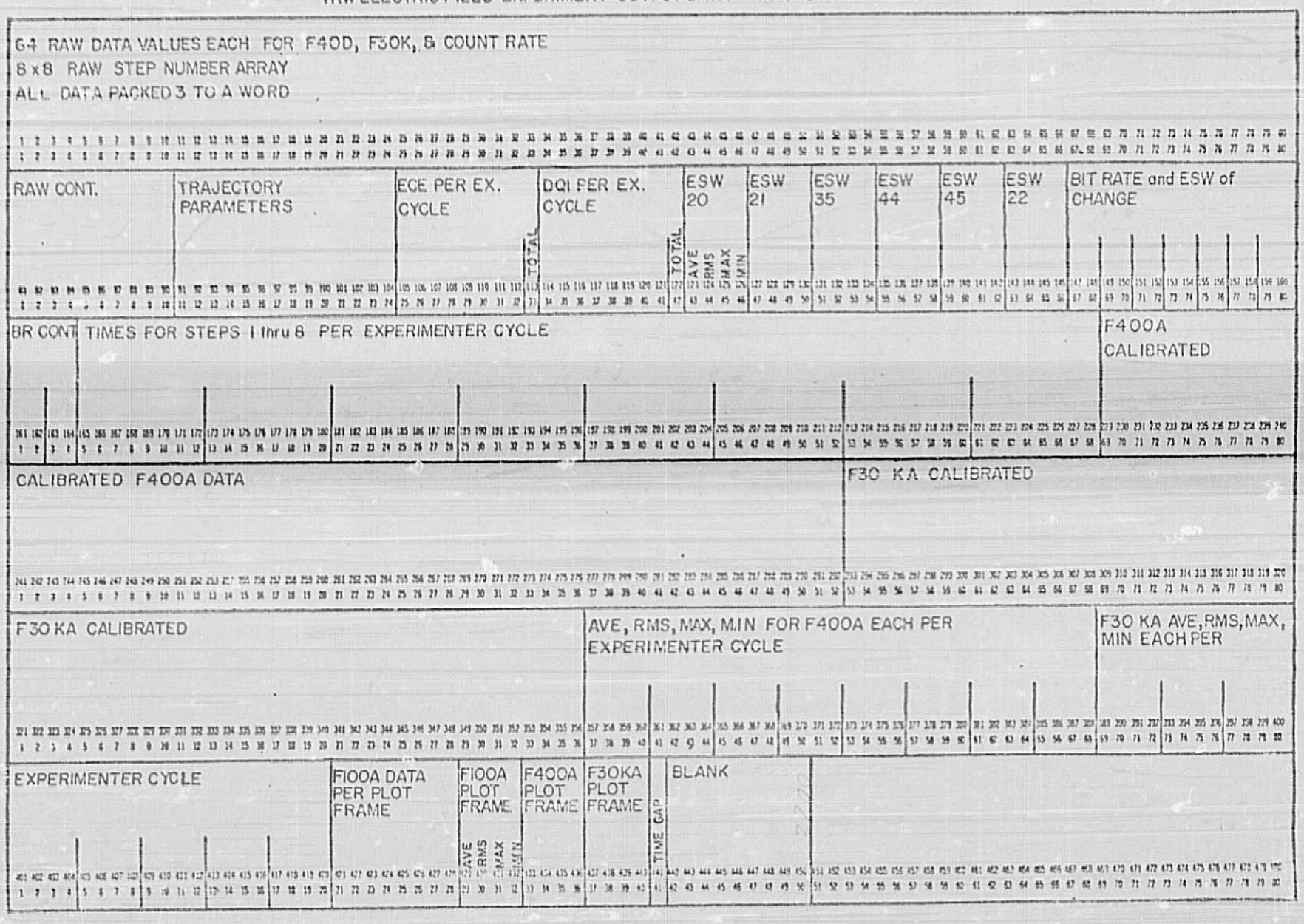

Figure 5-4. TRW Electric Field Experiment Output Data (Magnetic) Tape - Data

TRW ELECTRIC FIELD EXPERIMENTER OUTPUT DATA – MAGNETIC TAPE

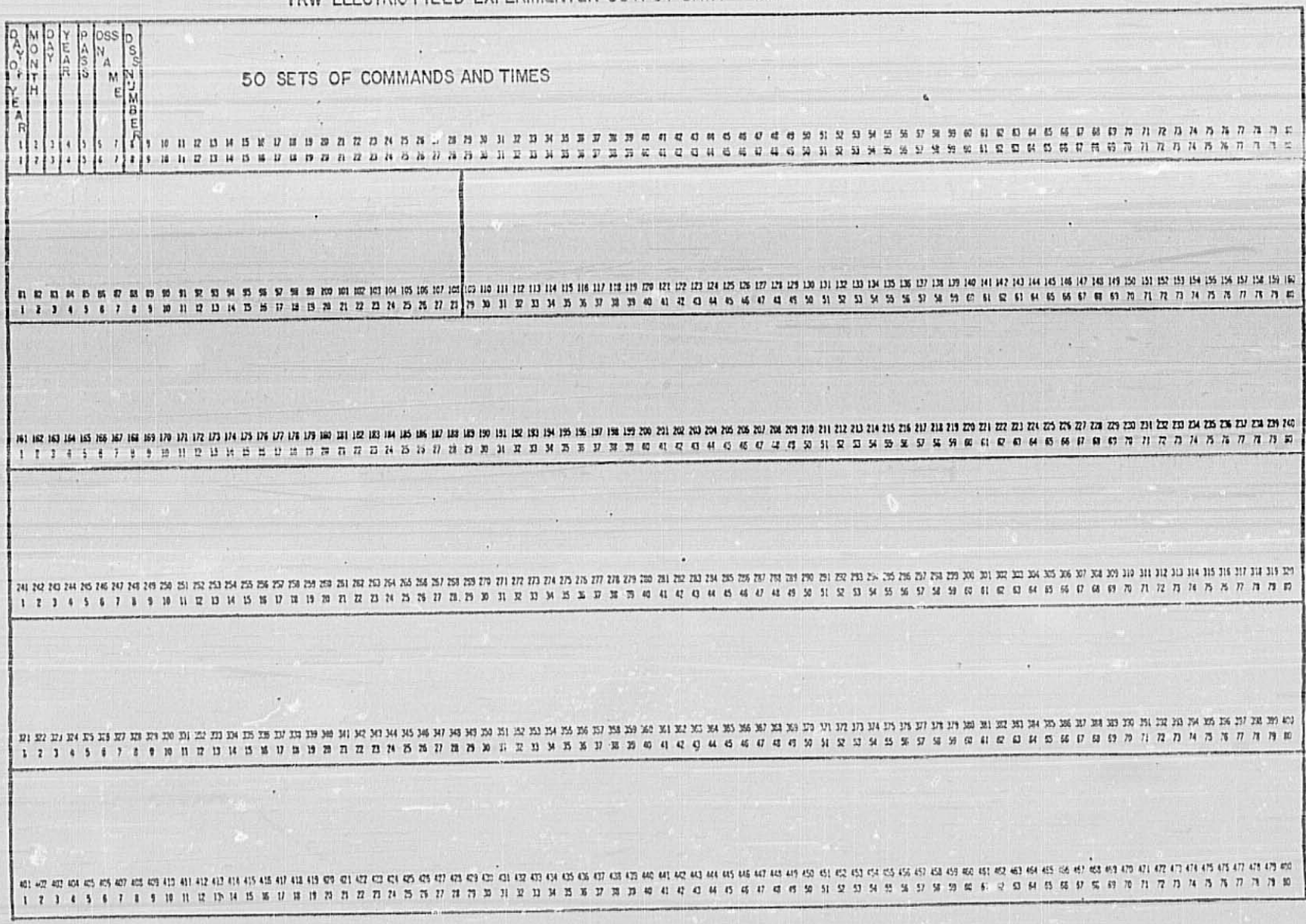

Figure 5-3. TRW Electric Field Experiment Output Data (Magnetic) Tape - Header Record

Dump No. 11/11/68 Year 68 Pass No. 4

Pioneer 9
68-100A-07D
D-7118
C-5547

FILE 0001 REC 0001 CH 0643 216

0001	211474000000	010101010161	061060606060	207420000000	203400000000	633124223145	223143432160	206520000000
0049	207450000000	243626003213	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0097	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0145	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0193	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0241	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0289	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0337	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0385	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0433	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0481	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0529	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0577	000000000000	000000000000	000000000000	000000000000				
0625	000000000000	000000000000	000000000000	000000000000				

FILE 0001 REC 0002 CH 2700

0001	404040404040	404040404040	001200000034	005000500050	004700410011	000000350050	005000470046	004000110000
0049	003400470047	004700450036	001100010033	004700470045	004500360011	000100340047	004700460045	003700120001
0097	003200460046	004500440037	001300000033	004700460046	004500400012	000040404040	404040404001	001300120011
0145	001100110012	001200120011	001100130013	001300140014	001500140015	001400150016	001500160016	001400140014
0193	001600150015	001600160015	001300130013	001200120013	001400150015	001500150017	001500150013	001500130015
0241	001500140015	001300120015	001100140040	404040404040	400100250025	002500250025	002500250025	002500250025
0289	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0337	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0385	777777777777	777777777777	777700427777	777777770022	777777777777	004277777777	777700227777	777777770042
0433	777777777777	002277777777	777700427777	777777770022	777777777777	004277777777	777700227777	777777770042
0481	777777777777	002277777777	777700427777	777777770022	777777777777	004200000000	000000000000	000000000000
0529	000000000000	000000000000	224532816271	234432337725	234432513737	624526021126	617460470146	234432515437
0577	177425331272	211547565252	207674723702	601523106332	207613701172	200773134274	571755777606	211547565252
0625	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0673	000000000000	000000000004	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0721	000000000000	000000000004	607574420756	202716542405	607570631400	607560631400	610451146300	000000000000
0769	610451146300	610451145300	205715573567	202655511137	206430000000	205500000000	205745136114	177455324341
0817	205751341200	205740243600	201770114314	173453767105	201772702400	201760507500	207420000000	000000000000
0865	207420000000	207420000000	000000001000	000000002000	000000000000	000000000000	000000000000	000000000000
0913	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0961	000000000000	000000000000	000000000000	000000000000	000000000001	400000000001	400000000001	400000000001
1009	400000000001	312732232332	312732250052	312732265572	312732303341	312732321061	312732336601	312732354321
1057	312732372101	312732407621	312732425341	312732443061	312732460641	312732476361	312732514101	312732531621
1105	312732547401	312732565121	312732602641	312732620361	312732636141	312732653661	312732671401	312732707121
1153	312732724701	312732742421	312732760141	312732775661	312733011126	312733031146	312733046666	312733064406
1201	312733103166	312733117706	312733135426	312733153146	312733171 6	312733206446	312733224166	312733241706
1249	312733257466	312733275206	312733312726	312733330446	312733346 6	312733363746	312733401466	312733417206
1297	312733434766	312733452506	312733470226	312733505746	312733523526	312733541246	312733556766	312733574506
1345	312733612251	312733627771	312733645511	312733663231	601400000000	601400000000	601400000000	601400000000
1393	601400000000	176712430125	176575254664	176475170330	176475170330	176475170330	176575254664	176575254664
1441	176575254664	176475170330	176475170330	176712430125	176712430125	176712430125	177415237575	177415237575
1489	177461523760	177415237575	177461523760	177415237575	177461523760	177543012515	177461523760	177543012515
1537	177543012515	177415237575	177415237575	177415237575	177461523760	177461523760	177461523760	177543012515
1585	177543012515	177543012515	176712430125	176712430125	176712430125	176575254664	176712430125	176712430125
1633	177415237575	177461523760	177461523760	177461523760	177461523760	177627517033	177461523760	177461523760
1681	176712430125	177461523760	176712430125	177461523760	177461523760	177415237575	177461523760	176712430125
1729	176575254664	177461523760	176475170330	176401506671	601400000000	601400000000	601400000000	601400000000
1777	601400000000	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1825	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1873	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1921	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1969	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2017	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2065	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2113	200503044672	200503044672	200503044672	200503044672	176601551640	174433016647	176712430125	176475170330
2161	176546740031	173631763232	176712430125	176475170330	177414307704	173716170072	177461523760	176712430125
2209	177466424705	176476241555	177543012515	177415237575	177461046400	174640420530	177543012515	176712430125

FILE 0001 REC 0002 CH 2700

2257	176772430125	174617627715	177461523760	176575254664	177453241303	174675741147	177527517033	176712430125
2305	176731327345	175433640607	177461523760	176401506671	200503044672	000000000000	200503044672	200503044672
2353	200503044671	000000000000	200503044672	200503044672	200503044671	000000020000	200503044672	200503044672
2401	200503044671	000000000000	200503044672	200503044672	200503044671	000000000000	200503044672	200503044672
2449	200503044671	000000000000	200503044672	200503044672	200503044671	000000000000	200503044672	200503044672
2497	200503044671	000000000000	200503044672	200503044672	601400000000	203453247737	203517676356	203547676356
2545	203547676356	203547676356	203612477372	203547676356	203546604420	177722201015	203612477372	203453247737
2593	177405017154	174777423006	177627517033	175401506671	200503044643	000000000000	200503044672	200503044672
2641	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
2689	000000000000	000000000000						

FILE 0001 REC 0003 CH 2700

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0049	003300470047	004600450036	001100010033	004700460045	004500400012	000100330046	004600450044	003600130000
0097	003300460045	004500540040	001300000033	004700470046	004600400012	000000110012	001200120012	001200120012
0145	001200120012	001200120014	001300130013	001400140015	001400140015	001500160016	001500150016	001500160015
0193	001600170017	001700150013	001400130015	001400160014	001500160017	001500150014	001500120012	001400160014
0241	001500110012	001300110011	001100130025	002500250025	002500250025	002500250025	002500250025	002500250025
0289	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0337	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0385	777777777777	002277777777	777700427777	777777770022	777777777777	004277777777	777700227777	777777770042
0433	777777777777	002277777777	777700427777	777777770022	777777777777	004277777777	777700227777	777777770042
0481	777777777777	002277777777	777700427777	777777770022	777777777777	004200000000	000000000000	000000000000
0529	000000000000	000000000000	224532727277	234432337603	234432511727	624526427454	617460727344	234432515431
0577	177425654400	211547565100	207675450202	601622745614	207613676243	200773134262	571755402024	211547565100
0625	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0673	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0721	000000000000	000000000000	607570631400	000000000000	607570631400	607570631400	610451146300	000000000000
0769	610451146300	610451146300	205573000000	202423313750	205760000000	205620000000	205746012140	177443657775
0817	205751341200	205740243600	201767534064	173471565352	201772702400	201760507500	207420000000	000000000000
0865	207420000000	207420000000	000000001000	000000002000	000000000000	000000000000	000000000000	000000000000
0913	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0961	000000000000	000000000000	000000000000	000000000000	312733701011	312733716531	312733734251	312733751771
1009	312733767551	312734005271	312734023011	312734040531	312734056311	312734072031	312734111551	312734127271
1057	312734145051	312734162571	312734200311	312734216031	312734233611	312734251331	312734267051	312734304571
1105	312734322351	312734340071	312734355611	312734373331	312734411075	312734426615	312734443335	312734462055
1153	312734477635	312734515355	312734533075	312734550615	312734566375	312734604115	312734621635	312734637355
1201	312734655135	312734672655	312734710375	312734726115	312734743675	312734761415	312734777135	312735014655
1249	312735032435	312735050155	312735065675	312735103415	312735121175	312735136715	312735154435	312735172155
1297	312735207721	312735225441	312735243161	312735260701	312735276461	312735314201	312735331721	312735347441
1345	312735365221	312735402741	312735420461	312735436201	176475170330	176575254664	176575254664	176575254664
1393	176575254664	176575254664	176575254664	176575254664	176575254664	176575254664	176575254664	176575254664
1441	176575254664	177415237575	176712430125	176712430125	176712430125	177415237575	177415237575	177461523760
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1537	177543012515	177461523760	177543012515	177461523760	177543012515	177627517033	177627517033	177627517033
1585	177461523760	176712430125	177415237575	176712430125	177461523760	177415237575	177543012515	177415237575
1633	177461523760	177543012515	177627517033	177461523760	177461523760	177415237575	177461523760	176575254664
1681	176575254664	177415237575	177415237575	177415237575	177461523760	176475170330	176575254664	176712430125
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1873	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1921	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1969	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2017	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2065	200503044672	200503044672	200503044672	200503044672	200503044672	176565246227	172552474305	176575254664
2113	200503044672	200503044672	200503044672	200503044672	176575254664	177425740675	173652327453	177461523760
2161	176644232003	173731344577	177415237575	176575254664	177415237575	177425740675	173652327453	177461523760
2209	177512257236	173646073752	177543012515	177461523760	177461523760	177506340352	175472126223	177627517033
2257	177501523757	174574717751	177627517033	177415237575	177415237575	177402572360	174547216105	177461523760
2305	176615254663	174651374127	177461523760	176475170330	200503044671	000000000000	200503044672	200503044672
2353	200503044671	000000000000	200503044672	200503044672	200503044672	000000000000	200503044672	200503044672
2401	200503044671	000000000000	200503044672	200503044672	200503044671	000000000000	200503044672	200503044672

FILE 0001 REC 0003 CH 2700

2449	200503044671	000000000000	200503044672	200503044672	200503044671	000000000000	200503044672	200503044672
2497	200503044671	000000000000	200503044672	200503044672	203547676356	203453247737	203517676356	203547676356
2545	203547676356	203612477372	203612477372	203517676356	203542773715	177773376256	203612477372	203453247737
2593	177407546535	175430401322	177627517033	175475170330	200503044641	000000000000	200503044672	200503044672
2641	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
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FILE 0001 REC 0004 CH 2700

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0097	003200460047	004600450040	001200000033	005000470047	004600400012	000000130013	001300120012	001200130013
0145	001300130011	001300140014	001300150014	001500150016	001500170017	001700130015	001500140016	001500150017
0193	001600140012	001200120013	001300140014	001400150015	001500130014	001300140014	001300130013	001300130011
0241	001300120011	001100110012	001300110025	002500250025	002500250025	002500250025	002500250025	002500250025
0289	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0337	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0385	777777777777	002277777777	777700427777	777777770022	777777777777	004277777777	777700227777	777777770042
0433	777777777777	002277777777	777700427777	777777770022	777777777777	004200000000	000000000000	000000000000
0481	777777777777	002277777777	777700427777	777777770022	777777777777	624527036002	617461166543	234432515424
0529	000000000000	000000000000	224533340305	234432337461	234432513717	624527036002	571757004242	211547564725
0577	177426177506	211547564725	207676174502	601622605076	207613673314	200773134250	571757004242	211547564725
0625	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0673	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0721	000000000000	000000000000	607525352645	205555054761	000000000000	607570631400	610427557322	206440247034
0769	000000000000	610451146300	205730350741	201566360500	205760000000	205660000000	205710711570	203727233147
0817	205751341200	000000000000	201730175170	177747153070	201772702400	000000000000	207400000000	205407701732
0865	207420000000	000000000000	000000001000	000000002000	000000000000	000000000000	000000000000	000000000000
0913	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
0961	000000000000	000000000000	000000000000	000000000000	312735453761	312735471501	312735507221	312735524741
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1153	313106446377	313106464117	313106501637	313106517357	313106535137	313106552657	313106570377	313106606117
1201	313106623677	313106641417	313106657137	313106674657	313106712423	313106730143	313106745663	313106763403
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1729	177415237575	177461523760	177461523760	177461523760	200503044672	200503044672	200503044672	200503044672
1777	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
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1873	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1921	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
1969	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2017	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2065	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672	200503044672
2113	200503044672	200503044672	200503044672	200503044672	177531651124	174730412763	177736731377	177461523760
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2449	200503044671	000000000000	200503044672	200503044672	200503044671	000000000000	200503044672	200503044672
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2545	203517676356	203517676356	203517676356	203547676356	203543156455	177475654413	203612477372	203517676356
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FILE 0001 REC 0004 CH 2700

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FILE 0001 REC 0004 CH 2700

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1009	313107511247	313107526767	313107544507	313107562227	313107600007	313107615527	313107633247	313107650767
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2449	200503044671	000000000000	200503044672	200503044672	200503044671	000000000000	200503044672	200503044672
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2545	203517676356	203453247737	203517676356	203612477372	203554061114	200520505225	203660550345	203453247737
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FILE 0001 REC 0005 CH 2700

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FILE 0001 REC 0005 CH 2700

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2545	203517676356	203517676356	203517676356	203547676356	203540156455	177515453462	203617477372	203517676356
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FILE 0001 REC 0006 CH 2700

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0337	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
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1441	177461523760	177543012515	177461523760	177415237575	177415237575	176575254664	176475170330	176575254664
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FILE 0001 REC 0009 CH 2700

1537	176575254664	176575254664	176712430125	176575254664	176712430125	176712430125	177461523760	177415237575
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1633	177627517033	177461523760	177543012515	177415237575	177461523760	177461523760	177543012515	177543012515
1681	177543012515	177543012515	177543012515	176712430125	176575254664	176712430125	176712430125	177415237575
1729	177461523760	177415237575	177461523760	177415237575	200503044672	200503044672	200503044672	200503044672
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2545	203517676356	203547676356	203547676355	203547676355	203546156455	177444312522	203612477372	203517676356
2593	177422456203	174735373307	177627517033	176475170330	200503044641	000000000000	200503044672	200503044672
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FILE 0001 REC 0010 CH 2700

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1633	177461523760	177461523760	177461523760	177415237575	177543012515	177627517033	177543012515	177543012515
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FILE 0001 REC 0009 CH 2700

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FILE 0001 REC 0010 CH 2700

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0145	001400160016	001600130013	001400110011	001300130012	001200110011	001300120012	001300120012	001300120014
0193	001400140014	001500140015	001400150016	001700160014	001500150015	001400160017	001600160015	001500120013
0241	001200140013	001300140015	001400160025	002500250025	002500250025	002500250025	002500250025	002500250025
0289	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0337	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025	002500250025
0385	777777777777	002277777777	777700427777	777777770022	777777777777	004277777777	777700227777	777777770042
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FILE 0001 REC 0010 CH 2700

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2257	177501523757	174574717751	177627517033	177415237575	177470777134	175440150245	177627517033	176575254664
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2497	200503044671	000000000000	200503044672	200503044672	203612477372	203547676356	203517676356	203517676356
2545	203517676356	203547676356	203612477372	203612477372	203553716661	177564757551	203612477372	203517676356
2593	177415470655	174766166555	177627517033	176475170330	200503044641	000000000000	200503044672	200503044672
2641	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
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OCT 2 6 1971

PASS 4

***** GROUP-PAGE 6-001 *****

***** PIONEER 9 DATA DUMP *****

A COMPLETE LISTING OF ALL DATA
FOR 3 DATA RECORDS, STARTING
AT FILE 1, RECORD 52.

* FILE 1 RECORD 52 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 FIDBINBILLA

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EC 1	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F40C	DCI	F40CA	F30K	DCI	F30KA	EC TOTALS- EGE 0 DQI 0 F100A 5.623E+00
	1	316	11	51	22	005	27	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F40CA AVE 1.7526E-01
	2	316	11	51	26	997	39	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	STD 2.5023E-02
	3	316	11	51	31	989	39	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	MAX 2.2390E-01
	4	316	11	51	40	981	39	00	18	00	09	00	1.5490E-01	21	00	6.3100E-01	MIN 1.5490E-01
	5	316	11	51	48	005	37	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	11	51	54	997	32	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	STD 0.
	7	316	11	52	01	989	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	11	52	08	981	00	00	34	00	10	00	1.8620E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 2	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F40C	DCI	F40CA	F30K	DCI	F30KA	EC TOTALS- EGE 0 DQI 0 F100A 5.248E+00
	1	316	11	52	16	005	28	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F40CA AVE 2.0976E-01
	2	316	11	52	22	997	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 1.9512E-02
	3	316	11	52	29	989	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 2.2390E-01
	4	316	11	52	36	981	34	00	18	00	10	00	1.8620E-01	21	00	6.3100E-01	MIN 1.8620E-01
	5	316	11	52	44	005	38	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	11	52	50	997	32	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	STD 0.
	7	316	11	52	57	989	10	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	11	53	04	981	00	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 3	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F40C	DCI	F40CA	F30K	DCI	F30KA	EC TOTALS- EGE 0 DQI 0 F100A 5.248E+00
	1	316	11	53	12	005	29	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F40CA AVE 2.8075E-01
	2	316	11	53	18	997	42	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 1.8976E-02
	3	316	11	53	25	989	40	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	MAX 2.9850E-01
	4	316	11	53	32	981	39	00	18	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	11	53	40	005	38	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	11	53	46	997	31	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	STD 0.
	7	316	11	53	53	989	09	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	11	54	00	981	00	00	34	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 4	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F40C	DCI	F40CA	F30K	DCI	F30KA	EC TOTALS- EGE 0 DQI 0 F100A 5.623E+00
	1	316	11	54	07	993	28	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	F40CA AVE 3.3260E-01
	2	316	11	54	14	985	39	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	STD 5.3490E-02
	3	316	11	54	21	977	39	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	MAX 3.9810E-01
	4	316	11	54	28	969	38	00	18	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	11	54	35	993	37	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	11	54	42	985	30	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 0.
	7	316	11	54	49	977	10	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	11	54	56	969	01	00	34	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 6.3100E-01

*** PIONEER 9 DATA DUMP ***

* FILE 1 RECORD 52 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

EC 5	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	11	55	03	944	27	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	2	316	11	55	13	985	39	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	3	316	11	55	17	977	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	4	316	11	55	24	969	38	00	18	00	15	00	3.9810E-01	21	00	6.3100E-01
	5	316	11	55	31	993	36	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01
	6	316	11	55	33	935	35	00	63	63	15	00	3.0810E-01	21	00	6.3100E-01
	7	316	11	55	45	977	09	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01
	8	316	11	55	52	969	01	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01

EC 6	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	11	55	59	993	27	00	63	63	10	00	1.6620E-01	21	00	6.3100E-01
	2	316	11	56	06	985	39	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01
	3	316	11	56	13	977	39	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	4	316	11	56	20	969	38	00	18	00	13	00	2.9850E-01	21	00	6.3100E-01
	5	316	11	56	27	993	36	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	6	316	11	56	33	985	31	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	7	316	11	56	41	977	10	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	8	316	11	56	48	969	01	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01

EC 7	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	11	56	55	993	26	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	2	316	11	57	02	985	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	3	316	11	57	09	977	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	4	316	11	57	16	969	37	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01
	5	316	11	57	23	981	36	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01
	6	316	11	57	30	973	30	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	7	316	11	57	37	965	10	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	8	316	11	57	44	957	00	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01

EC 8	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	11	57	51	981	27	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	2	316	11	57	58	973	32	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01
	3	316	11	58	05	965	38	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01
	4	316	11	58	12	957	38	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01
	5	316	11	58	19	981	37	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01
	6	316	11	58	27	973	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	7	316	11	58	33	965	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01
	8	316	11	58	40	957	00	00	34	00	10	00	1.8620E-01	21	00	6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
F400A AVE 3.4505E-01
STD 5.5953E-02
MAX 3.9810E-01
MIN 2.6300E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
F400A AVE 2.7917E-01
STD 7.0478E-02
MAX 3.4670E-01
MIN 1.8620E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
F400A AVE 2.7370E-01
STD 5.2019E-02
MAX 3.4670E-01
MIN 2.2390E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.3846E-01
STD 4.0174E-02
MAX 2.9850E-01
MIN 1.8620E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

*** PIONEER 9 DATA DUMP ***

* FILE 1 RECORD 52 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TID81N81LLA

FULL DATA PLOT SUMMARY FGE 0 DQI 0

	ESW 20	ESW 21	ESW 35	ESW 44	ESW 45	ESW 22	F100A	F400A	F30KA
AVE	-8.3659E+01	-1.3936E+02	3.3412E+01	3.0322E+01	1.9635E+00	6.8000E+01	5.7329E+00	2.6685E-01	6.3100E-01
STD	2.2847E+01	3.6041E+01	9.3934E-01	2.9327E-01	2.0292E-02	0.	3.9083E-01	6.9327E-02	0.
MAX	0.	0.	3.5000E+01	3.0590E+01	1.9800E+00	6.8000E+01	6.1660E+00	3.9810E-01	6.3100E-01
MIN	-9.4200E+01	-1.4860E+02	3.1000E+01	3.0020E+01	1.9400E+00	6.8000E+01	5.2480E+00	1.5490E-01	6.3100E-01

JPL TRAJECTORY PARAMETERS

GEOR	RS	XSE	YSE	ZSE	SUNR	ESP	PHI
7.0576E+05	1.4807E+03	1.4819E+08	-7.3630E+05	-2.0547E+04	1.4819E+08	2.9244E-01	3.5971E+02

CALCULATED TRAJECTORY PARAMETERS

EARTH R-SEC	LAT-SEC	LON-SEC	SUN R-SEC	LAT-SEC	LON-SEC
1.2006E+02	-1.5377E+00	9.8882E+01	9.9058E-01	-7.9448E-03	3.5971E+02

BIT RATE AND LAST MAIN FRAME

512	1024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FILL WORDS

0.	0.	0.	0.	0.	0.	0.	0.	0.

TIME GAP 0

* FILE 1 RECORD 53 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

EC 1	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0	F100A 5.623E+00
	1	316	11	58	47	981	27	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F400A AVE 2.0114E-01		
	2	316	11	58	54	973	39	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	STD 2.6403E-02		
	3	316	11	59	01	965	39	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 2.2390E-01		
	4	316	11	59	08	957	39	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 1.5490E-01		
	5	316	11	59	15	981	37	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01		
	6	316	11	59	22	973	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 0.		
	7	316	11	59	29	965	10	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 6.3100E-01		
	8	316	11	59	36	957	00	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 6.3100E-01		
EC 2	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0	F100A 5.248E+00
	1	316	11	59	43	981	29	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F400A AVE 2.3357E-01		
	2	316	11	59	50	973	42	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	STD 3.9127E-02		
	3	316	11	59	57	965	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 2.9850E-01		
	4	316	12	00	04	957	39	00	18	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 1.8620E-01		
	5	316	12	00	11	981	38	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01		
	6	316	12	00	18	973	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 0.		
	7	316	12	00	25	965	09	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 6.3100E-01		
	8	316	12	00	32	957	00	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 6.3100E-01		
EC 3	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0	F100A 5.248E+00
	1	316	12	00	39	970	28	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F400A AVE 3.2459E-01		
	2	316	12	00	46	962	39	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 4.2604E-02		
	3	316	12	00	53	954	40	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 3.9810E-01		
	4	316	12	01	00	946	39	00	18	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 2.6300E-01		
	5	316	12	01	07	970	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01		
	6	316	12	01	14	962	31	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 0.		
	7	316	12	01	21	954	09	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 6.3100E-01		
	8	316	12	01	28	946	00	00	34	00	13	00	2.9810E-01	21	00	6.3100E-01	MIN 6.3100E-01		
EC 4	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0	F100A 6.166E+00
	1	316	12	01	35	970	27	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	F400A AVE 3.2174E-01		
	2	316	12	01	42	962	39	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 5.1650E-02		
	3	316	12	01	49	954	39	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	MAX 3.9810E-01		
	4	316	12	01	56	946	38	00	18	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 2.6300E-01		
	5	316	12	02	03	970	36	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01		
	6	316	12	02	10	962	30	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 0.		
	7	316	12	02	17	954	09	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 6.3100E-01		
	8	316	12	02	24	946	01	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 6.3100E-01		

*** PIONEER 9 DATA DUMP ***

* FILE 1 RECORD 53 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

	ST	DAY	HR	MN	SC	MIL	GR	DQI	SN	DQI	F400	DQI	F400A	F30K	DQI	F30KA
EC 5	ST	DAY	HR	MN	SC	MIL	GR	DQI	SN	DQI	F400	DQI	F400A	F30K	DQI	F30KA
	1	316	12	02	31	970	27	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	2	316	12	02	38	962	25	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	3	316	12	02	45	954	38	00	63	63	15	00	3.5810E-01	21	00	6.3100E-01
	4	316	12	02	52	946	37	00	18	00	14	00	3.4670E-01	21	00	6.3100E-01
	5	316	12	02	59	970	37	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	6	316	12	03	06	954	31	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	7	316	12	03	13	946	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01
	8	316	12	03	20	938	01	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01
EC 6	ST	DAY	HR	MN	SC	MIL	GR	DQI	SN	DQI	F400	DQI	F400A	F30K	DQI	F30KA
	1	316	12	03	27	961	27	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	2	316	12	03	34	953	39	00	63	63	12	00	2.6360E-01	21	00	6.3100E-01
	3	316	12	03	41	945	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	4	316	12	03	48	937	37	00	18	00	13	00	2.9850E-01	21	00	6.3100E-01
	5	316	12	03	55	961	36	00	63	63	12	00	2.6360E-01	21	00	6.3100E-01
	6	316	12	04	02	953	31	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	7	316	12	04	09	945	10	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	8	316	12	04	16	937	01	00	34	00	12	00	2.6360E-01	21	00	6.3100E-01
EC 7	ST	DAY	HR	MN	SC	MIL	GR	DQI	SN	DQI	F400	DQI	F400A	F30K	DQI	F30KA
	1	316	12	04	23	961	26	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	2	316	12	04	30	953	34	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	3	316	12	04	37	945	37	00	63	63	12	00	2.6360E-01	21	00	6.3100E-01
	4	316	12	04	44	937	37	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01
	5	316	12	04	51	961	37	00	63	63	12	00	2.6360E-01	21	00	6.3100E-01
	6	316	12	04	58	953	32	00	63	63	12	00	2.6360E-01	21	00	6.3100E-01
	7	316	12	05	05	945	10	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	8	316	12	05	12	937	00	00	34	00	12	00	2.6360E-01	21	00	6.3100E-01
EC 8	ST	DAY	HR	MN	SC	MIL	GR	DQI	SN	DQI	F400	DQI	F400A	F30K	DQI	F30KA
	1	316	12	05	19	961	26	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	2	316	12	05	26	953	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	3	316	12	05	33	945	38	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	4	316	12	05	40	937	38	00	18	00	10	00	1.8620E-01	21	00	6.3100E-01
	5	316	12	05	47	961	38	00	63	63	08	00	1.2580E-01	21	00	6.3100E-01
	6	316	12	05	54	953	32	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01
	7	316	12	06	01	945	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01
	8	316	12	06	08	937	00	00	34	00	10	00	1.8620E-01	21	00	6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.8701E-01
STD 8.0304E-02
MAX 3.9810E-01
MIN 1.8620E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
F400A AVE 2.8791E-01
STD 4.3253E-02
MAX 3.4670E-01
MIN 2.2390E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.6210E-01
STD 2.8213E-02
MAX 2.9850E-01
MIN 2.2390E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00
F400A AVE 1.8887E-01
STD 3.5526E-02
MAX 2.2390E-01
MIN 1.2580E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

* FILE 1 RECORD 53 DAY 315 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

FULL DATA PLOT SUMMARY ECE 0 DQI 0

	ESW 20	ESW 21	ESW 35	ESW 44	ESW 45	ESW 22	F100A	F400A	F30KA
AVE	-9.4200E+01	-1.4860E+02	3.2059E+01	3.0389E+01	1.9635E+00	6.8000E+01	5.6181E+00	2.6337E-01	6.3100E-01
STD	0.	0.	1.4976E+00	2.8078E-01	2.0292E-02	0.	3.8011E-01	6.5300E-02	0.
MAX	-9.4200E+01	-1.4860E+02	3.4000E+01	3.0590E+01	1.9800E+00	6.8000E+01	6.1660E+00	3.9810E-01	6.3100E-01
MIN	-9.4200E+01	-1.4860E+02	2.8000E+01	3.0220E+01	1.9400E+00	6.8000E+01	5.2480E+00	1.2580E-01	6.3100E-01

JPL TRAJECTORY PARAMETERS

GEOR	RS	XSE	YSE	ZSE	SUNR	ESP	PHI
7.6681E+03	1.4807E+08	1.4819E+08	-7.5734E+05	-2.0557E+04	1.4819E+08	2.9244E-01	3.5971E+02

CALCULATED TRAJECTORY PARAMETERS

EARTH R-SEC	LAT-SEC	LON-SEC	SUN R-SEC	LAT-SEC	LON-SEC
1.2622E+02	-1.5370E+00	9.6830E+01	9.9058E-01	-7.9524E-03	3.5971E+02

BIT RATE AND LAST MAIN FRAME

512	1024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FILL WORDS

0.	0.	0.	0.	0.	0.	0.	0.	0.

TIME DAP 0

FILE 1 RECORD 54 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

EC 1	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400A	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00
	1	316	12	06	15	949	28	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F400A AVE 1.9562E-01
	2	316	12	06	22	941	40	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	STD 1.7452E-02
	3	316	12	06	29	933	39	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 2.2390E-01
	4	316	12	06	36	925	39	00	18	00	10	00	1.8620E-01	21	00	6.3100E-01	MIN 1.8620E-01
	5	316	12	06	43	949	38	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	12	06	50	941	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 0.
	7	316	12	06	57	933	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	12	07	04	925	00	00	34	00	10	00	1.8620E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 2	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400A	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00
	1	316	12	07	11	949	29	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F400A AVE 2.5232E-01
	2	316	12	07	18	941	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 3.3218E-02
	3	316	12	07	25	933	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 2.9850E-01
	4	316	12	07	32	925	39	00	18	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 2.2390E-01
	5	316	12	07	39	949	38	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	12	07	46	941	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 0.
	7	316	12	07	53	933	09	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	12	08	00	925	00	00	34	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 3	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400A	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
	1	316	12	08	07	949	27	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F400A AVE 3.4147E-01
	2	316	12	08	14	941	40	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	STD 4.1465E-02
	3	316	12	08	21	933	39	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	MAX 3.9810E-01
	4	316	12	08	28	925	39	00	18	00	14	00	3.4570E-01	21	00	6.3100E-01	MIN 2.9850E-01
	5	316	12	08	35	949	37	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	12	08	42	941	31	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 0.
	7	316	12	08	49	933	10	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	12	08	56	925	00	00	34	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 4	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400A	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
	1	316	12	09	03	949	27	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F400A AVE 3.1856E-01
	2	316	12	09	10	941	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	STD 4.2438E-02
	3	316	12	09	17	933	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 3.9810E-01
	4	316	12	09	24	925	38	00	18	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	12	09	31	949	37	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	12	09	38	941	31	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	STD 0.
	7	316	12	09	45	933	10	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	12	09	52	925	01	00	34	00	15	00	3.9810E-01	21	00	6.3100E-01	MIN 6.3100E-01

* FILE 1 RECORD 54 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

	ST	DAY	HR	MN	SC	MIL	GR DQI	SN DQI	F400 DQI	F400A	F30K DQI	F30KA
EC 5												
	1	316	12	09	59	938	27 00	63 63	15 00	3.9810E-01	21 00	6.3100E-01
	2	316	12	10	06	930	38 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	3	316	12	10	14	922	39 00	63 63	11 00	2.2390E-01	21 00	6.3100E-01
	4	316	12	10	22	914	39 00	18 00	12 00	2.6300E-01	21 00	6.3100E-01
	5	316	12	10	27	938	37 00	63 63	10 00	1.8620E-01	21 00	6.3100E-01
	6	316	12	10	34	930	31 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	7	316	12	10	41	922	10 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	8	316	12	10	48	914	01 00	34 00	13 00	2.9850E-01	21 00	6.3100E-01
EC 6	ST	DAY	HR	MN	SC	MIL	GR DQI	SN DQI	F400 DQI	F400A	F30K DQI	F30KA
	1	316	12	10	55	938	27 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	2	316	12	11	02	930	38 00	63 63	13 00	2.9850E-01	21 00	6.3100E-01
	3	316	12	11	09	922	37 00	63 63	11 00	2.2390E-01	21 00	6.3100E-01
	4	316	12	11	15	914	37 00	18 00	13 00	2.9850E-01	21 00	6.3100E-01
	5	316	12	11	23	938	37 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	6	316	12	11	30	930	31 00	63 63	11 00	2.2390E-01	21 00	6.3100E-01
	7	316	12	11	37	922	11 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	8	316	12	11	44	914	01 00	34 00	11 00	2.2390E-01	21 00	6.3100E-01
EC 7	ST	DAY	HR	MN	SC	MIL	GR DQI	SN DQI	F400 DQI	F400A	F30K DQI	F30KA
	1	316	12	11	51	938	26 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	2	316	12	11	58	930	37 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	3	316	12	12	06	922	39 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	4	316	12	12	12	914	38 00	18 00	13 00	2.9850E-01	21 00	6.3100E-01
	5	316	12	12	17	938	37 00	63 63	12 00	2.6300E-01	21 00	6.3100E-01
	6	316	12	12	26	930	31 00	63 63	13 00	2.9850E-01	21 00	6.3100E-01
	7	316	12	12	33	922	11 00	63 63	11 00	2.2390E-01	21 00	6.3100E-01
	8	316	12	12	40	914	00 00	34 00	11 00	2.2390E-01	21 00	6.3100E-01
EC 8	ST	DAY	HR	MN	SC	MIL	GR DQI	SN DQI	F400 DQI	F400A	F30K DQI	F30KA
	1	316	12	12	47	926	26 00	63 63	11 00	2.2390E-01	21 00	6.3100E-01
	2	316	12	12	54	918	39 00	63 63	10 00	1.8620E-01	21 00	6.3100E-01
	3	316	12	13	01	910	39 00	63 63	10 00	1.8620E-01	21 00	6.3100E-01
	4	316	12	13	08	902	39 00	18 00	10 00	1.8620E-01	21 00	6.3100E-01
	5	316	12	13	15	926	37 00	63 63	10 00	1.8620E-01	21 00	6.3100E-01
	6	316	12	13	22	918	32 00	63 63	10 00	1.8620E-01	21 00	6.3100E-01
	7	316	12	13	29	910	10 00	63 63	11 00	2.2390E-01	21 00	6.3100E-01
	8	316	12	13	36	902	00 00	34 00	09 00	1.5490E-01	21 00	6.4100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.6984E-01
STD 6.1604E-02
MAX 3.9810E-01
MIN 1.8620E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.5721E-01
STD 3.1257E-02
MAX 2.9850E-01
MIN 2.2390E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.6210E-01
STD 3.8213E-02
MAX 2.9850E-01
MIN 2.2390E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 1.9171E-01
STD 2.2612E-02
MAX 2.2390E-01
MIN 1.5490E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

* FILE 1 RECORD 54 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

FULL DATA PLOT SUMMARY ECR 0 DQI 0

	ESW 23	ESW 21	ESW 35	ESW 44	ESW 45	ESW 22	F100A	F400A	F30KA
AVE	-8.8659E-01	-1.1985E+02	3.2176E+01	3.0355E+01	1.9612E+00	6.8000E+01	5.5292E+00	2.6111E-01	6.3100E-01
STD	2.2847E+01	3.0041E+01	1.0744E+00	2.8916E-01	2.0583E-02	0.	1.7359E-01	6.0332E-02	0.
MAX	0.	0.	3.4000E+01	3.0590E+01	1.9800E+00	6.8000E+01	5.6230E+00	3.9310E-01	6.3100E-01
MIN	-9.4200E+01	-1.4865E+02	3.0000E+01	3.0020E+01	1.9400E+00	6.8000E+01	5.2480E+00	1.5490E-01	6.3100E-01

JPL TRAJECTORY PARAMETERS

GEOR	RS	XSE	YSE	ZSE	SUNR	ESP	PHI
7.8802E+05	1.4807E+08	1.4819E+08	-7.9853E+05	-2.0589E+04	1.4819E+08	2.9331E-01	3.5971E+02

CALCULATED TRAJECTORY PARAMETERS

EARTH R-SEC	LAT-SEC	LON-SEC	SUN R-SEC	LAT-SEC	LON-SEC
1.2041E+02	-1.9383E+00	9.8877E+01	9.9058E-01	-7.9610E-03	3.5971E+02

BIT RATE AND LAST MAIN FRAME

512	1024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FILL WORDS

0.	0.	0.	0.	0.	0.	0.	0.	0.

TIME GAP 0

***** GROUP-PAGE 7-001 ******

***** PIONEER 9 DATA DUMP *****

A COMPLETE LISTING OF ALL DATA
FOR 3 DATA RECORDS, STARTING
AT FILE 1, RECORD 61.

*** PIONEER 9 DATA DUMP ***

* FILE 1 RECORD 51 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
EC 1	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	12	58	31	760	29	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	2	316	12	58	38	752	40	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01
	3	316	12	58	45	744	39	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	4	316	12	58	52	736	39	00	18	00	14	00	3.4670E-01	21	00	6.3100E-01
	5	316	12	58	59	760	37	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01
	6	316	12	59	06	752	31	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	7	316	12	59	13	744	10	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01
	8	316	12	59	20	736	00	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01
EC 2	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	12	59	27	760	27	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	2	316	12	59	34	752	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	3	316	12	59	41	744	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	4	316	12	59	48	736	38	00	18	00	12	00	2.6300E-01	21	00	6.3100E-01
	5	316	12	59	55	760	37	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	6	316	13	00	02	752	31	00	63	63	16	00	4.6770E-01	21	00	6.3100E-01
	7	316	13	00	09	744	10	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	8	316	13	00	16	736	01	00	34	00	13	00	2.9850E-01	21	00	6.3100E-01
EC 3	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	13	00	23	760	27	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01
	2	316	13	00	30	752	39	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	3	316	13	00	37	744	39	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01
	4	316	13	00	44	736	38	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01
	5	316	13	00	51	760	37	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01
	6	316	13	00	58	752	21	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	7	316	13	01	05	744	10	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	8	316	13	01	12	736	01	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01
EC 4	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA
	1	316	13	01	19	760	27	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	2	316	13	01	26	752	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	3	316	13	01	33	744	37	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	4	316	13	01	40	736	37	00	18	00	15	00	3.9810E-01	21	00	6.3100E-01
	5	316	13	01	47	748	36	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	6	316	13	01	54	740	31	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01
	7	316	13	02	01	732	10	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01
	8	316	13	02	08	724	01	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 3.4949E-01
STD 4.9559E-02
MAX 3.9810E-01
MIN 2.6300E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 3.2124E-01
STD 6.3332E-02
MAX 4.6770E-01
MIN 2.6300E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
F400A AVE 2.8342E-01
STD 5.5746E-02
MAX 3.9810E-01
MIN 2.2390E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
F400A AVE 3.1254E-01
STD 4.1278E-02
MAX 3.9810E-01
MIN 2.6300E-01
F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

* FILE 1 RECORD 61 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
EC 5	1	316	13	02	15	748	26	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F400A AVE 3.3902E-01
	2	316	13	02	22	740	38	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 5.8296E-02
	3	316	13	02	29	732	49	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 3.9810E-01
	4	316	13	02	36	724	33	00	18	00	15	00	3.9810E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	13	02	43	748	37	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	02	50	740	32	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	STD 0.
	7	316	13	02	57	732	11	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	03	04	724	00	00	34	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 6	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
	1	316	13	03	11	748	27	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F400A AVE 1.9251E-01
	2	316	13	03	18	740	39	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 2.9043E-02
	3	316	13	03	25	732	38	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	MAX 2.2390E-01
	4	316	13	03	32	724	38	00	18	00	10	00	1.8620E-01	21	00	6.3100E-01	MIN 1.5490E-01
	5	316	13	03	39	748	37	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	03	46	740	32	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	STD 0.
	7	316	13	03	53	732	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	04	00	724	00	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 7	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00
	1	316	13	04	07	748	25	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F400A AVE 2.2425E-01
	2	316	13	04	14	740	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 2.9030E-02
	3	316	13	04	21	732	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 2.6300E-01
	4	316	13	04	28	724	40	00	18	00	10	00	1.8620E-01	21	00	6.3100E-01	MIN 1.8620E-01
	5	316	13	04	35	748	33	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	04	42	740	32	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 0.
	7	316	13	04	49	732	09	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	04	56	724	00	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 8	ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00
	1	316	13	09	03	736	29	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F400A AVE 3.0281E-01
	2	316	13	05	10	728	40	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 4.4153E-02
	3	316	13	05	17	720	40	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 3.4670E-01
	4	316	13	05	24	712	39	00	18	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 2.2390E-01
	5	316	13	05	31	736	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	05	38	728	32	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 0.
	7	316	13	05	45	720	09	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	05	52	712	00	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 6.3100E-01

* FILE 1 RECORD 61 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

FULL DATA PLOT SUMMARY ECE 0 DQI 0

	ESW 20	ESW 21	ESW 35	ESW 44	ESW 45	ESW 22	F100A	F400A	F30KA
AVE	-9.4200E+01	-1.4860E+02	3.2588E+01	4.0455E+01	1.9835E+00	6.8000E+01	5.5971E+00	2.9346E-01	6.3100E-01
STD	0.	0.	7.9521E-01	2.8916E-01	2.0292E-02	0.	2.8554E-01	6.8988E-02	0.
MAX	-9.4200E+01	-1.4860E+02	3.4000E+01	4.0990E+01	1.9800E+00	6.8000E+01	6.1660E+00	4.6770E-01	6.3100E-01
MIN	-9.4200E+01	-1.4860E+02	3.1000E+01	3.9020E+01	1.9400E+00	6.8000E+01	5.2480E+00	1.5490E-01	6.3100E-01

JPL TRAJECTORY PARAMETERS

GEOR	RS	XSE	YSE	ZSE	SUNR	ESP	PHI
7.7584E+05	1.4907E+08	1.4819E+08	-7.6529E+05	-2.0735E+04	1.4819E+08	2.9635E-01	3.5970E+02

CALCULATED TRAJECTORY PARAMETERS

EARTH R-SEC	LAT-SEC	LON-SEC	SUN R-SEC	LAT-SEC	LON-SEC
1.2164E+02	-1.9216E+00	7.8863E+01	9.9058E-01	-8.0174E-03	3.5970E+02

BIT RATE AND LAST MIN FRAME

512 1024 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

FILL WORDS

0. 0. 0. 0. 0. 0. 0. 0. 0.

TIME GAP 0

* FILE 1 RECORD 62 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA		
EC 1																	EC TOTALS- ECE 0	DQI 0 F100A 5.623E+00
	1	316	13	05	59	736	28	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		F400A AVE	3.2300E-01
	2	316	13	06	06	728	39	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		STD	3.7349E-02
	3	316	13	06	13	720	39	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		MAX	3.9810E-01
	4	316	13	06	20	712	38	00	18	00	15 00	3.9810E-01		21 00	6.3100E-01		MIN	2.9850E-01
	5	316	13	06	27	736	37	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		F30KA AVE	6.3100E-01
	6	316	13	06	34	728	30	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		STD	0.
	7	316	13	06	41	720	09	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		MAX	6.3100E-01
	8	316	13	06	48	712	01	00	34	00	13 00	2.9850E-01		21 00	6.3100E-01		MIN	6.3100E-01
EC 2	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0 F100A 5.166E+00
	1	316	13	06	55	736	27	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		F400A AVE	3.1486E-01
	2	316	13	07	02	728	39	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		STD	4.8255E-02
	3	316	13	07	09	720	38	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		MAX	3.4670E-01
	4	316	13	07	16	712	38	00	18	00	14 00	3.4670E-01		21 00	6.3100E-01		MIN	2.2390E-01
	5	316	13	07	23	736	36	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		F30KA AVE	6.3100E-01
	6	316	13	07	30	728	30	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		STD	0.
	7	316	13	07	37	720	09	00	63	63	12 00	2.6300E-01		21 00	6.3100E-01		MAX	6.3100E-01
	8	316	13	07	44	712	01	00	34	00	11 00	2.2390E-01		21 00	6.3100E-01		MIN	6.3100E-01
EC 3	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0 F100A 5.623E+00
	1	316	13	07	51	736	27	00	63	63	11 00	2.2390E-01		21 00	6.3100E-01		F400A AVE	2.7256E-01
	2	316	13	07	58	728	39	00	63	63	12 00	2.6300E-01		21 00	6.3100E-01		STD	4.1143E-02
	3	316	13	08	05	720	39	00	63	63	11 00	2.2390E-01		21 00	6.3100E-01		MAX	3.4670E-01
	4	316	13	08	12	712	38	00	18	00	13 00	2.9850E-01		21 00	6.3100E-01		MIN	2.2390E-01
	5	316	13	08	19	724	37	00	63	63	12 00	2.6300E-01		21 00	6.3100E-01		F30KA AVE	6.3100E-01
	6	316	13	08	26	716	31	00	63	63	12 00	2.6300E-01		21 00	6.3100E-01		STD	0.
	7	316	13	08	33	708	10	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		MAX	6.3100E-01
	8	316	13	08	40	700	01	00	34	00	14 00	3.4670E-01		21 00	6.3100E-01		MIN	6.3100E-01
EC 4	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0	DQI 0 F100A 6.761E+00
	1	316	13	08	47	724	26	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		F400A AVE	3.2902E-01
	2	316	13	08	54	716	33	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		STD	3.6714E-02
	3	316	13	09	01	708	38	00	63	63	14 00	3.4670E-01		21 00	6.3100E-01		MAX	3.9810E-01
	4	316	13	09	08	700	37	00	18	00	13 00	2.9850E-01		21 00	6.3100E-01		MIN	2.9850E-01
	5	316	13	09	15	724	35	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		F30KA AVE	6.3100E-01
	6	316	13	09	22	716	30	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		STD	0.
	7	316	13	09	29	708	10	00	63	63	13 00	2.9850E-01		21 00	6.3100E-01		MAX	6.3100E-01
	8	316	13	09	36	700	01	00	34	00	15 00	3.9810E-01		21 00	6.3100E-01		MIN	6.3100E-01

* FILE 1 RECORD 62 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

EC 5 ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 1 F100A 5.623E+00
1	316	13	09	43	724	27	00	63	63	15	00	3.9810E-01	21	00	6.3100E-01	F400A AVE 3.1680E-01
2	316	13	09	50	716	39	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 6.8596E-02
3	316	13	09	57	708	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 3.9810E-01
4	316	13	10	04	700	38	00	18	00	15	00	3.9810E-01	21	00	6.3100E-01	MIN 2.2390E-01
5	316	13	10	11	724	37	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
6	316	13	10	18	716	31	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	STD 0.
7	316	13	10	25	708	11	00	63	63	11	00	2.2390E-01	00	32	-1.0000E+00	MAX 6.3100E-01
8	316	13	10	32	715	00	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 6.3100E-01

EC 6 ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
1	316	13	10	39	717	27	00	63	63	09	00	1.5490E-01	21	00	6.3100E-01	F400A AVE 1.9642E-01
2	316	13	10	46	709	39	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	STD 2.5092E-02
3	316	13	10	53	701	39	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 2.2390E-01
4	316	13	11	00	693	39	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 1.5490E-01
5	316	13	11	07	717	37	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
6	316	13	11	14	709	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 0.
7	316	13	11	21	701	10	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 6.3100E-01
8	316	13	11	28	693	00	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 6.3100E-01

EC 7 ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 4.677E+00
1	316	13	11	35	717	28	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F400A AVE 2.1447E-01
2	316	13	11	42	709	40	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	STD 1.7452E-02
3	316	13	11	49	701	40	00	63	63	10	00	1.8620E-01	21	00	6.3100E-01	MAX 2.2390E-01
4	316	13	11	56	693	39	00	18	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 1.8620E-01
5	316	13	12	03	717	39	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
6	316	13	12	10	709	32	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	STD 0.
7	316	13	12	17	701	10	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 6.3100E-01
8	316	13	12	24	693	00	00	34	00	11	00	2.2390E-01	21	00	6.3100E-01	MIN 6.3100E-01

EC 8 ST	DAY	HR	MN	SC	MIL	CR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00
1	316	13	12	31	717	28	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F400A AVE 2.9280E-01
2	316	13	12	38	709	40	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 3.6699E-02
3	316	13	12	45	701	40	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 3.4670E-01
4	316	13	12	52	693	39	00	18	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 2.6300E-01
5	316	13	12	59	717	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
6	316	13	13	06	709	32	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 0.
7	316	13	13	13	701	09	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	MAX 6.3100E-01
8	316	13	13	22	693	00	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 6.3100E-01

* FILE 1 RECORD 62 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

FULL DATA PLOT SUMMARY ECE 0 DQI 1

	ESW 20	ESW 21	ESW 35	ESW 44	ESW 45	ESW 22	F100A	F400A	F30KA
AVE	-6.8659E+01	-1.3986E+02	3.3059E+01	3.0305E+01	1.9659E+00	6.9000E+01	5.6080E+00	2.8249E-01	6.3100E-01
STD	2.2847E+01	3.6041E+01	8.2694E-01	2.9435E-01	1.9704E-02	0.	9.1053E-01	6.2031E-02	0.
MAX	0.	0.	3.4000E+01	3.0590E+01	1.9800E+00	6.8000E+01	6.7610E+00	3.9810E-01	6.3100E-01
MIN	-9.4200E+01	-1.4860E+02	3.1000E+01	3.0020E+01	1.9400E+00	6.8000E+01	4.6770E+00	1.5490E-01	6.3100E-01

JPL TRAJECTORY PARAMETERS

GEOR	RS	XSE	YSE	ZSE	SUNR	ESP	PHI
7.7689E+05	1.4807E+08	1.4819E+08	-7.6733E+05	-2.0755E+04	1.4819E+08	2.9675E-01	3.5970E+02

CALCULATED TRAJECTORY PARAMETERS

EARTH R-SEC	LAT-SEC	LON-SEC	SUN R-SEC	LAT-SEC	LON-SEC
1.2180E+02	-1.5309E+00	9.9861E+01	9.9058E-01	-8.0251E-03	3.5970E+02

BIT RATE AND LAST MAIN FRAME

512	1024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FILL WORDS

0.	0.	0.	0.	0.	0.	0.	0.	0.

TIME CAP 0

* FILE 1 RECORD 63 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	
EC 1	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
	1	316	13	13	27	706	27	00	63	63	15	00	3.981OE-01	21	00	6.3100E-01	F400A AVE 3.3527E-01
	2	316	13	13	34	698	39	00	63	63	16	00	4.6770E-01	21	00	6.3100E-01	STD 7.0606E-02
	3	316	13	13	41	690	38	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	MAX 4.6770E-01
	4	316	13	13	48	682	38	00	18	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	13	13	55	706	36	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	14	02	698	30	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 0.
	7	316	13	14	09	690	09	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	14	16	682	01	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 2	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00
	1	316	13	14	23	706	27	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F400A AVE 2.8905E-01
	2	316	13	14	30	698	39	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 5.3327E-02
	3	316	13	14	37	690	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 3.4670E-01
	4	316	13	14	44	682	37	00	18	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 2.2390E-01
	5	316	13	14	51	706	37	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	14	58	698	32	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 0.
	7	316	13	15	05	690	10	00	63	63	11	00	2.2390E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	15	12	682	01	00	34	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 3	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
	1	316	13	15	19	706	27	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	F400A AVE 3.0326E-01
	2	316	13	15	26	698	39	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 3.8857E-02
	3	316	13	15	33	690	38	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	MAX 3.4670E-01
	4	316	13	15	40	682	38	00	18	00	12	00	2.6300E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	13	15	47	706	36	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	15	54	698	30	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 0.
	7	316	13	16	01	690	11	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	16	08	682	01	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 6.3100E-01
EC 4	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI	F400	DCI	F400A	F30K	DCI	F30KA	EC TOTALS- ECE 0 DQI 0 F100A 6.166E+00
	1	316	13	16	15	706	27	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	F400A AVE 3.1372E-01
	2	316	13	16	22	698	38	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	STD 3.7719E-02
	3	316	13	16	29	690	37	00	63	63	14	00	3.4670E-01	21	00	6.3100E-01	MAX 3.4670E-01
	4	316	13	16	36	682	37	00	18	00	13	00	2.9850E-01	21	00	6.3100E-01	MIN 2.6300E-01
	5	316	13	16	43	694	36	00	63	63	13	00	2.9850E-01	21	00	6.3100E-01	F30KA AVE 6.3100E-01
	6	316	13	16	50	686	32	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	STD 0.
	7	316	13	16	57	678	10	00	63	63	12	00	2.6300E-01	21	00	6.3100E-01	MAX 6.3100E-01
	8	316	13	17	04	670	00	00	34	00	14	00	3.4670E-01	21	00	6.3100E-01	MIN 6.3100E-01

*** PIONEER 9 DATA DUMP ***

* FILE 1 RECORD 63 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

EC 5	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI
	1	316	13	17	11	694	27	00	63	63
	2	316	13	17	18	686	38	00	63	63
	3	316	13	17	25	678	38	00	63	63
	4	316	13	17	32	670	38	00	18	00
	5	316	13	17	39	694	37	00	62	63
	6	316	13	17	46	686	32	00	63	63
	7	316	13	17	53	678	10	00	63	63
	8	316	13	18	00	670	00	00	34	00

EC 6	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI
	1	316	13	18	07	694	27	00	63	63
	2	316	13	18	14	686	42	00	63	63
	3	316	13	18	21	678	39	00	63	63
	4	316	13	18	28	670	39	00	18	00
	5	316	13	18	35	694	37	00	63	63
	6	316	13	18	42	686	32	00	63	63
	7	316	13	18	49	678	10	00	63	63
	8	316	13	18	56	670	00	00	34	00

EC 7	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI
	1	316	13	19	03	694	29	00	63	63
	2	316	13	19	10	686	42	00	63	63
	3	316	13	19	17	678	42	00	63	63
	4	316	13	19	24	670	39	00	18	00
	5	316	13	19	31	694	33	00	63	63
	6	316	13	19	38	686	32	00	63	63
	7	316	13	19	45	678	09	00	63	63
	8	316	13	19	52	670	00	00	34	00

EC 8	ST	DAY	HR	MN	SC	MIL	GR	DCI	SN	DCI
	1	316	13	19	59	682	28	00	63	63
	2	316	13	20	06	674	42	00	63	63
	3	316	13	20	13	666	39	00	63	63
	4	316	13	20	20	658	39	00	18	00
	5	316	13	20	27	682	37	00	63	63
	6	316	13	20	34	674	31	00	63	63
	7	316	13	20	41	666	09	00	63	63
	8	316	13	20	48	658	00	00	34	00

F400	DCI	F400A	F30K	DCI	F30KA
13	00	2.9850E-01	21	00	6.3100E-01
12	00	2.6300E-01	21	00	6.3100E-01
13	00	2.9850E-01	21	00	6.3100E-01
11	00	2.2390E-01	21	00	6.3100E-01
09	00	1.5490E-01	21	00	6.3100E-01
09	00	1.5490E-01	21	00	6.3100E-01
10	00	1.8620E-01	21	00	6.3100E-01
10	00	1.8620E-01	21	00	6.3100E-01

F400	DCI	F400A	F30K	DCI	F30KA
10	00	1.8620E-01	21	00	6.3100E-01
10	00	1.8620E-01	21	00	6.3100E-01
11	00	2.2390E-01	21	00	6.3100E-01
10	00	1.8620E-01	21	00	6.3100E-01
10	00	1.8620E-01	21	00	6.3100E-01
12	00	2.6300E-01	21	00	6.3100E-01
09	00	1.5490E-01	21	00	6.3100E-01
11	00	2.2390E-01	21	00	6.3100E-01

F400	DCI	F400A	F30K	DCI	F30KA
11	00	2.2390E-01	21	00	6.3100E-01
11	00	2.2390E-01	21	00	6.3100E-01
12	00	2.6300E-01	21	00	6.3100E-01
12	00	2.6300E-01	21	00	6.3100E-01
12	00	2.6300E-01	21	00	6.3100E-01
12	00	2.6300E-01	21	00	6.3100E-01
13	00	2.9850E-01	21	00	6.3100E-01

F400	DCI	F400A	F30K	DCI	F30KA
14	00	3.4670E-01	21	00	6.3100E-01
15	00	3.9810E-01	21	00	6.3100E-01
14	00	3.4670E-01	21	00	6.3100E-01
15	00	3.9810E-01	21	00	6.3100E-01
14	00	3.4670E-01	21	00	6.3100E-01
14	00	3.4670E-01	21	00	6.3100E-01
16	00	4.6770E-01	21	00	6.3100E-01
15	00	3.9810E-01	21	00	6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00

F400A AVE 2.2076E-01
STD 5.9696E-02
MAX 2.9850E-01
MIN 1.5490E-01

F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00

F400A AVE 2.0131E-01
STD 3.3580E-02
MAX 2.6300E-01
MIN 1.5490E-01

F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.248E+00

F400A AVE 2.5766E-01
STD 2.4172E-02
MAX 2.9850E-01
MIN 2.2390E-01

F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

EC TOTALS- ECE 0 DQI 0 F100A 5.623E+00

F400A AVE 3.8110E-01
STD 4.3260E-02
MAX 4.6770E-01
MIN 3.4670E-01

F30KA AVE 6.3100E-01
STD 0.
MAX 6.3100E-01
MIN 6.3100E-01

*** PIONEER 9 DATA DUMP ***

FILE 1 RECORD 63 DAY 316 YEAR 68 11/11/68 PASS 4 DSS 42 TIDBINBILLA

FULL DATA PLOT SUMMARY ECE 0 DQI 0

	ESW 20	ESW 21	ESW 35	ESW 44	ESW 45	ESW 22	F100A	F400A	F30KA
AVE	-9.4200E+01	-1.4860E+02	3.2788E+01	2.3550E+01	1.9635E+00	6.8000E+01	5.7797E+00	2.8777E-01	6.3100E-01
STD	0.	0.	8.7026E-01	7.3641E+00	2.0292E-02	0.	3.4465E-01	7.1646E-02	0.
MAX	-9.4200E+01	-1.4860E+02	3.4000E+01	3.0590E+01	1.9800E+00	6.8000E+01	5.1650E+00	4.6770E-01	6.3100E-01
MIN	-9.4200E+01	-1.4860E+02	3.1300E+01	0.	1.9400E+00	6.8000E+01	5.2480E+00	1.5490E-01	6.3100E-01

JPL TRAJECTORY PARAMETERS

GEOR	XS	XSE	YSE	ZSE	SUNR	ESP	PHI
7.7809E+05	1.4807E+08	1.4819E+08	-7.8863E+05	-2.0777E+04	1.4819E+08	2.9721E-01	3.5970E+02

CALCULATED TRAJECTORY PARAMETERS

EARTH R-SEC	LAT-SEC	LON-SEC	SUN R-SEC	LAT-SEC	LON-SEC
1.2199E+02	-1.5362E+00	9.8859E+01	9.9098E-01	-8.0338E-03	3.5970E+02

BIT RATE AND LAST MAIN FRAME

512	1024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FILL WORDS

0.	0.	0.	0.	0.	0.	0.	0.	0.

TIME GAP 0.