

DATA SET CATALOG #139

Explorer 18, 21 and 28
Count Rate Data Sets

63-046A-03C, 03D + 03E
64-060A-03D, 03E + 03F
65-042A-03C, 03D + 03F

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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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

EXLPORER 18 (IMP-A)

REDUCED C.R. COUNT ACCUMULATIONS TAPE

63-046A-03C

This data set has been restored. There was originally 1 Binary 7-Track, 800 BPI tape. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The tape was created on a XDS 930 computer. The DR and DS number along with the corresponding D number and the time span is as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03101	DS03101	D06869	48	11/23/63 - 06/06/64

EXPLORER 18 (IMP-A)

C.R. PULSE HEIGHT ANAL. EVENT SUMMARY, TAPE

63-046A-03D

This data set has been restored. There was originally 1 Binary 7-Track, 800 BPI tape. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The tape was created on a XDS 930 computer. The DR and DS number along with the corresponding D number and the time span is as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03102	DS03102	D05881	48	11/26/63 - 06/07/64

IMP-A

5-MINUTE AVERAGE C.R. COUNT RATE SUMMARY TAPE

63-046A-03E

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY THERE WAS ONE 7-TRACK, 900 BPI TAPE WRITTEN IN BCD. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI WRITTEN IN EBCDIC. THE TAPE WAS CREATED ON A XDS 930 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBER AND THE TIME SPAN IS AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR03471	DS03471	D06936	48	11/27/63 - 05/31/64

EXPLORER 21 (IMP-B)

REDUCED C.R. COUNT ACCUMULATION TAPE

64-060A-03D

This data set has been restored. There was originally
1 Binary 7-Track, 800 BPI tapes. There is one restored tape.
The DR tape is a 3480 cartridge and the DS tape is 9-track,
6250 BPI. The tape was created on a XDS 930 computer.
The DR and DS number along with the corresponding D number
and the time span is as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03103	DS03103	D06879	130	10/04/64 - 04/02/65

EXLPORER 21 (IMP-B)

PULSE HEIGHT EVENT SUMMARY

64-060A-03E

This data set has been restored. There was originally 1 Binary 7-Track, 800 BPI tape. There is one restored tape. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The tape was created on a XDS 930 computer. The DR and DS number along with the corresponding D number and the time span is as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03104	DS03104	D06880	130	10/04/64 - 03/27/65

IMP-B

5.46 MIN AVG BLCKD BCD VRSN OF 02A

5-MIN AVG C.R. CNT RATE SUMMARY TAPE

64-060A-02C

64-060A-03F

THESE DATA SETS HAVE BEEN RESTORED. THERE WAS ORIGINALLY ONE 7-TRACK, 556 BPI TAPE AND ONE 7-TRACK, 800 BPI TAPE, WRITTEN IN BCD. THERE IS ONE RESTORED TAPE, WRITTEN IN EBCDIC. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON A 7096 COMPUTER. THE DR AND DS NUMBER ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR003454	DS003454	D006937	1-129	10/04/64 - 04/08/65 (03F)
		D000668	130	10/05/64 - 04/04/65 (02C)

EXPLORER 28 (IMP-C)
REDUCED PHA (PHAEST) DATA, TAPE
65-042A-03C

This data set has been restored. There was originally
1 Binary 7-Track, 800 BPI tape. There is one restored tape.
The DR tape is a 3480 cartridge and the DS tape is 9-track,
6250 BPI. The tape was created on a XDS 930 computer.
The DR and DS number along with the corresponding D number
and the time span is as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03105	DS03105	D05885	120	05/29/65 - 04/28/67

EXPLORER 28 (IMP-D)
COSMIC RAY COUNT DATA
65-042A-03D

This data set has been restored. There was originally
1 Binary 7-Track, 800 BPI tape. There is one restored tape.
The DR tape is a 3480 cartridge and the DS tape is 9-track,
6250 BPI. The tape was created on a XDS 930 computer.
The DR and DS number along with the corresponding D number
and the time span is as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR03106	DS03106	D05884	120	05/29/65 - 04/28/67

Request Agent
PAR

RASH No.
RA6308
RA8610

Acq. Agent
JJB

EXPLORER 18, 21 & 28
COUNT RATES DATA SETS
63-046A-03C, 03D & 03E
64-060A-03D, 03E & 03F
65-042A-03C, 03D & 03E

This data set catalog consists of Rated Packed, Pulse Height Analysis Event, and Rate Summary data for Explorer 18, 21 and 28. Each of the data sets contain one tape (except the Explorer 28 Rate Summary data set which contains two tapes). The tapes were created on an XDS 930 computer and are 800 BPI, 7-track, multifiled with one orbit of data per file. The Rate Summary data sets are BCD. The rest of the data sets are binary.

The record size and the number of files per tape in each of the data sets can be found on page 2 of the supplement from the University of Chicago. This Supplement also contains the formats of these data sets.

The time spans for the tapes are as follows:

Rate Packed data (RAPT)

<u>D#</u>	<u>C#</u>	<u>ID</u>	<u>TIME SPAN</u>
D-06869	C-05600	63-046A-03C	11/29/63 - 6/06/64
D-06879	C-05598	64-060A-03D	10/04/64 - 4/02/65
D-05884	C-05259	65-042A-03D	5/29/65 - 4/28/67

Pulse Height Analysis Event Data (PHAEST)

<u>D#</u>	<u>C#</u>	<u>ID</u>	<u>TIME SPAN</u>
D-05881	C-05260	63-046A-03D	11/29/63 - 6/07/64
D-06880	C-05599	64-060A-03E	10/04/64 - 3/27/65
D-05885	C-05258	65-042A-03C	5/29/65 - 4/28/67

Rate Summary Data (RAST)

<u>D#</u>	<u>C#</u>	<u>ID</u>	<u>TIME SPAN</u>
D-06936	C-08116	63-046A-03E	11/27/63 - 5/31/64
D-06937	C-08117	64-060A-03F	10/05/64 - 4/02/65
D-06938	C-08118	65-042A-03E	5/29/65 - 11/05/66
D-08813	C-08133	65-042A-03E	11/06/66 - 4/29/67

INSTITUTE OF GEOPHYSICS
AND PLANETARY PHYSICS

RIVERSIDE, CALIFORNIA 92502

Dec. 13, 1972

Dear Dr. King:

More than a year ago NSSDC supplied me with two U. of Chicago IMP-III data tapes, a Rate Packed Tape (RAPT) and a Pulse Height Analysis Event Summary Tape (PHAEST). I am returning these tapes to the data center c/o Julius J. Brecht.

Enclosed is a copy of a Fortran program suitable for reading the RAPT on an IBM 360 system. The only non-standard feature is use of the routine SHF2L to move bits within an 8 byte (double precision) word. SHF2L is part of the High Energy Physics (HEP) Fortran compiler at UCR and may be available elsewhere. I think I have annotated the program with enough comments to make it useful to another user.

Sincerely,

E. Scott Claflin

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Sincerely,

E. Scott Claflin

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UNDER A1 FORMAT

LOGICAL*1 NSTR(9)

CALL NUMBER(X,NSTR)

X - NUMBER TO BE CONVERTED INTO ALPH STRING

NSTR - RESULTANT ALPH STRING

OUTI(OUTR)

STORE AND PRINT (IN ROWS) INDIVIDUAL NUMBER
OUTI IS FOR INTEGER, WHEREAS, OUTR IS FOR REAL

CALL OUTI(LV, ID)

LV - STORED NUMBER

ID - 0, DUMP WHATEVER HAS BEEN STORED AND NOT
PREVIOUSLY 'WRITTEN'

- 1, WRITE WHENEVER OUTI HAS STORED 10 NUMBERS

- 2, WRITE AND PUNCH WHENEVER OUTI HAS STORED
8 NUMBERSOUTIC(OUTRC) STORE AND PRINT (IN COLUMNS) INDIVIDUAL NUMBER
OUTIC IS FOR INTEGER, WHEREAS, OUTRC IS FOR REAL

CALL OUTIC(II, JJ)

II - STORED NUMBER, AND WRITE WHENEVER OUTIC
HAS STORED 400 NUMBERS

JJ - 1, STORE II

- 0, WRITE ALL STORED II NOT PREVIOUSLY WRITTEN

READ1

FAST READ FOR RECORDS LIKE N, (A(I), I=1..N)

CALL READ1(ITAPE, ARRAY, LIMIT, NWORD, INDC)

ITAPE - INPUT UNIT

ARRAY - ARRAY IN WHICH INFORMATION READ WILL BE
STORED

LIMIT - DIMENSION OF ARRAY

NWORD - NUMBER OF WORDS TO BE READ INTO ARRAY

INDC - PARAMETER RETURNED

- 1, FOR NORMAL RETURN

- 2, FOR END OF DATA SET

- 3, FOR ERROR

SHF1

PERFORM ARITHMETIC, LOGICAL, AND CIRCULAR SHIFTS OF
ANY NUMBER OF BINARY POSITIONS ON ANY FULLWORD OPERAND

INTEGER*4 ANS, SHF1

ANS=SHF1 (ARG, NBR)

- CAN BE ANY OF THE FOLLOWING PARAMETERS -

RA - ARITHMETIC RIGHT SHIFT

LA - ARITHMETIC LEFT SHIFT

RL - LOGICAL RIGHT SHIFT

LL - LOGICAL LEFT SHIFT

RC - CIRCULAR RIGHT SHIFT

LC - CIRCULAR LEFT SHIFT

ARG - 4-BYTE OPERAND TO BE SHIFTED

NBR - NUMBER OF BINARY POSITIONS TO BE SHIFTED.

IF NBR IS NEGATIVE, THE SHIFT WILL BE IN THE
OPPOSITE DIRECTION FROM THAT SPECIFIED IN
THE CALL.

SHF2

PERFORM LOGICAL SHIFTING OPERATIONS ON DOUBLE-WORD
OPERAND BY AN ARBITRARY NUMBER OF BINARY POSITIONS

REAL*8 ANS, SHF2L, SHF2R

ANS=SHF2 (ARG, NBR)

- CAN BE ONE OF THE FOLLOWING PARAMETERS-

(Should be SHF2L, where the blank must be filled in)

R - RIGHT SHIFT
L - LEFT SHIFT
ARG - 8-BYTE OPERAND TO BE SHIFTED
NBR - SAME AS NBR IN SHF1

* FORTRAN#H UNLISTED PROGRAMS *

* NOTE *

TO INVOKE THE FORTRAN#H*PROGRAMS, ONE MUST TAKE HEED
OF THE FOLLOWINGS -

1. EXEC FORTHEPH OR FORTHCLG (FOR H-COMPILER)
2. XL OPTION IS REQUIRED FOR THE COMPILING STEP.
THAT IS - PARM.FORT=(.,XL,.) MUST BE ADDED
XL SUBPARAMETER IS NOT POSITIONAL

LAND

LOGICAL AND

**=...LAND(A,B)...

- A,B - ANY 1-BYTE, 2-BYTE, OR 4-BYTE LOGICAL OR
INTEGER EXPRESSION
- VALUE OF LAND IS OBTAINED BY ADDING THE
INDIVIDUAL BITS OF THE ARGUMENTS
** - RESULTING VALUE
IT CAN BE CONSIDERED AS LOGICAL*4 OR AN
INTEGER

LOR

LOGICAL OR

**=...LOR(A,B)...

- A,B - SAME AS A,B IN LAND
- VALUE OF LOR IS OBTAINED BY ORING THE
INDIVIDUAL BITS OF THE ARGUMENTS
** - SAME AS ** IN LAND

LXOR

LOGICAL EXCLUSIVE OR

**=...LXOR(A,B)

- A,B - SAME AS A,B IN LAND
- VALUE OF LXOR IS OBTAINED BY EXCLUSIVE
ORING THE INDIVIDUAL BITS OF THE ARGUMENTS
** - SAME AS ** IN LAND

LCOMPL

LOGICAL COMPLIMENT

**=...LCOMPL(A)

- A - SAME AS A IN LAND
- VALUE OF LCOMPL IS OBTAINED BY COMPLEMENTING
THE INDIVIDUAL BITS OF THE ARGUMENTS
** - SAME AS ** IN LAND

SHFTL

FORTAN SHIFT LEFT

**=...SHFTL(J,K)

- J - 4-BYTE VARIABLE
K - ACTUAL NUMBER OF BITS TO BE SHIFTED
- VALUE OF SHFTL IS OBTAINED BY SHIFTING THE

PRELIMINARY VERSION

Supplement To

"University of Chicago Data Formats for Library Magnetic Tapes from
Satellites IMP-I, IMP-II and IMP-III"

C. Y. Fan, G. Gloeckler, L. A. Littleton and J. A. Simpson

Supplement By

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April 1971

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NAS 5-9090 AND NAS 5-2990.

INTRODUCTION TO SUPPLEMENT

This appendicing document describes the revised formats in which the IMP I, II and III data have been written. The new formats present the data more compactly and dispense with many irrelevant and space consuming telemetry and processing data. Essentially, these same formats are used by the University of Chicago for the data from IMP-IV and IMP-V*; the resulting uniformity enables more efficient analysis during the entire period covered by the IMP's with a minimum number of different computer programs.

* The IMP-IV and IMP-V formats are fully described in EFI 71-14.

CONTENTS

INTRODUCTION TO SUPPLEMENT

- 11. General Description
- 12. RAte Packed Tape
- 13. RAte Summary Tape
 - 13.1 Exceptions to the Standard Format
 - 13.2 Description of Corrected Rate Values
- 14. Pulse Height Event Analysis Tape
- 15. Format for the Counting Rate Plots on Microfilm

11. General Description

All magnetic tapes were generated on an XDS 930 computer at a density of 800 BPI on seven track tape. Each tape is labelled with an appropriate mnemonic of the type of data recorded on it: 'RAPT' for RATE Packed Tape, 'RAST' for RATE Summary Tape and 'PHAEST' for Pulse Height Analysis Event Summary Tape.

An end of file mark terminates each orbit and a double end of file terminates the last orbit of each tape. An orbit contains a variable number of physical records. 'RAPT' and 'PHAEST' are written in binary, odd parity, 24 bits per word. The 'RAST' is written in blocked BCD, even parity, 6 bits per character.

Table 6 summarizes the physical and logical segmentation of each type of tape for each satellite.

	RAST	RAPT	PHAEST
Format Type	Blocked BCD	Binary	Binary
Number of logical records per physical record	57	204	200
Number of words per physical record*	1981 [‡]	816	600
Number of words per logical record*	33	4	3
Number of orbits per magnetic tape for: IMP-I IMP-II IMP-III	48 134 90 and 30	48 134 120	48 134 120
Total Number of Magnetic Tape in Submission to NSSDC for IMP-I IMP-II IMP-III	1 1 2	1 1 1	1 1 1

* 'XDS 930 words contain 24 bits.

[‡] The last physical record of a file is usually short.

3

Overlapping data due to simultaneous acquisition by two adjacent telemetry stations has been eliminated, on a quality basis, so that the time and Chicago Sequence Count (CSC) are monotonically increasing. The CSC is described in section 4.6 and a nominal time/sequence is listed in Table 3; however, after data reduction this nominal value has been determined to be not completely accurate. The University of Chicago uses the values presented in Table 7.

TABLE 7

	Time/Sequence in Seconds	Time/Frame in Seconds	Time/Channel in Seconds
IMP-I (Orbits 1 to 49)	81.9169688	5.11981175	.3199882344
IMP-II (Orbits 1 to 90)	81.84859056	5.11553691	.3197210569
IMP-II (Orbits 105 to 138)	81.84356789	5.11522293	.3197014371
IMP-III (Orbits 1 to 121)	81.9169114	5.119806963	.3199879352

Since the RAPT and PHAEST formats include only CSC and not time, to determine the exact time of each CSC Table 7 is used with Table which specifies the first CSC and time of each orbit in the missions of IMP I, II and III.

The following word-bit placement convention is used in the data format descriptions. The lowest word and bit number is located closest to the beginning of the file, and the beginning of the tape. Similarly, 'FILE 1' of a tape is located immediately

TABLE 8

FIRST CHICAGO SEQUENCE COUNT AND TIME OF EACH ORBIT

ORBIT SERIAL	IMP-I					IMP-II					IMP - III			
	GSC	Day	Hour	Min	Year	GSC	Day	Hour	Min	Year	GSC	Day	Hour	Min
1	2005	331	2	0	1963	37	278	3	55	1964	50	149	12	10
	4132	334	23	58		1561	279	14	35		6172	155	7	59
	8233	338	21	16		3086	281	1	15		12350	161	4	35
	12320	342	18	20		4611	282	11	56		18455	166	23	27
	16430	346	15	51		6136	283	22	35		24578	172	18	48
	20531	350	13	8		7660	285	9	15		30712	178	14	25
	24633	354	10	26		9185	286	19	55		36814	184	9	11
	28720	358	7	30		10710	288	6	35		42992	190	5	48
	32833	362	5	4		12235	289	17	15		49133	196	1	34
	36920	1	2	5	1964	13760	291	3	55		55301	201	21	55
	41011	4	23	8		15284	292	14	35		61468	207	18	13
	45109	8	20	26		16813	294	1	20		67602	213	13	49
	49210	12	17	43		18337	295	12	0		73747	219	9	39
	53312	16	15	1		19862	296	22	40		79907	225	5	47
	57392	20	11	51		21387	298	9	20		86085	231	2	25
	61490	24	9	8		22912	299	20	0		92249	236	22	40
	65592	28	6	26		24437	301	6	40		98435	242	19	25
	69668	32	3	16		25961	302	17	20		104536	248	14	13
	73777	36	0	43		27486	304	4	0		110663	254	9	39
	77871	39	21	51		29011	305	14	40		116801	260	5	19
	81969	43	19	8		30536	307	1	20		122909	266	0	20
	86066	47	16	12		32060	308	12	0		129113	271	21	27
	90158	51	13	30		33585	309	22	40		135255	277	17	13
	94252	55	10	40		35110	311	9	20		141426	283	13	37
	98347	59	7	51		36635	312	20	0		147589	289	9	55
	102445	63	5	1		38159	314	6	40		153727	295	5	33
	106532	67	2	4		39684	315	17	20		159902	301	2	5
	110641	70	23	31		41209	317	4	0		166080	306	22	40
	114739	74	20	47		42734	318	14	40		172276	312	19	40
	118830	78	17	51		44259	320	1	20		178451	318	16	10
	122931	82	15	15		45783	321	12	0		184648	324	13	10
	127044	86	12	50		47308	322	22	40		190756	330	8	10

1965

3	131131	90	9	50
4	135247	94	7	28
5	139334	98	4	30
6	143436	102	1	50
7	147542	105	23	15
8	151647	109	20	38
9	155741	113	17	50
0	159847	117	15	13
1	163959	121	12	50
2	168054	125	10	0
3	172156	129	7	20
4	176265	133	4	50
5	180366	137	2	7
6	184464	140	23	25
7	188562	144	20	40
8	192671	148	18	10
9	152	15		
0	156	12		
1				
2				
3				
4				
5				
6				
7				
8				
9				
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
0				

48833	324	9	20
50361	325	20	5
51886	327	6	45
53407	328	17	20
54932	330	4	0
56457	331	14	40
57981	333	1	20
59510	334	12	5
61035	335	22	45
62559	337	9	25
64084	338	20	5
65609	340	6	45
67130	341	17	20
68655	343	4	0
70180	344	14	40
71702	346	1	20
73229	347	12	0
74754	348	22	40
76282	350	9	25
77807	351	20	5
79332	353	6	45
80853	354	17	20
82378	356	4	0
83902	357	14	40
85427	359	1	20
86952	360	12	0
88477	361	22	40
90002	363	9	20
91526	364	20	0
93051	366	6	40
94576	4	17	20
96101	3	4	0
97625	4	14	40
99150	6	1	20
100675	7	12	0
102200	8	22	40
103724	10	9	20
105249	11	20	0

1965

196887	336	3	40
203021	341	23	15
209133	347	18	20
215333	353	15	25
221457	359	10	45
227609	365	6	42
233755	6	2	35
239871	11	21	44
246034	17	18	00
252198	23	14	12
258380	29	10	55
264554	35	7	25
270732	41	3	50
276834	46	22	40
282961	52	18	15
289098	58	13	55
295218	64	9	10
301433	70	6	35
307545	76	1	40
313679	81	21	15
319817	87	16	55
325926	93	11	55
332126	99	9	0
338312	105	5	45
344516	111	2	55
350705	116	23	45
356883	122	20	20
363025	128	16	5
369188	134	12	20
375363	140	8	50
381512	146	4	45
387741	152	2	30
393839	157	21	15
399962	163	16	35
406089	169	12	0
412179	175	16	35
418372	181	3	30
424525	186	23	30

66

71	106774	13	6	40	430724	192	20	30
72	108299	14	17	20	436874	198	16	30
73	109823	16	4	0	443026	204	12	30
74	111348	17	14	40	449157	210	8	0
75	112873	19	1	20	455310	216	4	0
76	114398	20	12	0	461484	222	0	30
77	115923	21	22	40	467637	227	20	30
78	117447	23	9	20	473855	233	18	0
79	118972	24	20	0	479942	239	12	30
80	120497	26	6	40	486050	245	7	30
81	122022	27	17	20	492181	251	3	0
82	123546	29	4	0	498268	256	21	30
83	125071	30	14	40	504508	262	19	30
84	126596	32	1	20	510661	268	15	30
85	128121	33	12	0	516857	274	12	30
86	129645	34	22	40	523032	280	9	0
87	131170	36	9	20	529184	286	5	0
88	132695	37	20	0	535384	292	2	0
89	134220	39	6	40	541577	297	23	0
90	135745	40	17	20	547796	303	20	30
91	137269	42	4	0	553993	309	17	30
92	138798	43	14	40	560211	315	15	0
93	140323	45	1	20	566320	321	10	0
94	141848	46	12	0	572450	327	5	30
95	143373	47	22	40	578581	333	1	0
96	144898	49	9	20	584689	338	20	0
97	146423	50	20	0	590930	344	18	0
98	147951	52	6	45	597061	350	13	30
99	149476	53	17	25	603213	356	9	30
000	151004	55	4	5	609344	362	5	0
01	152526	56	14	45	615474	3	0	30
02	154051	58	1	25	621638	8	20	45
03	155575	59	12	5	627801	14	17	0
04	157100	60	22	45	633987	20	13	45
05	158625	62	9	25	640151	26	10	0
06	160150	63	20	5	646347	32	7	0
07	161675	65	6	45	652434	38	1	30

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163200	66	17	25
164725	68	4	5
166249	69	14	45
167774	71	1	25
169299	72	12	5
170824	73	22	45
172349	75	9	25
173874	76	20	5
175402	78	6	50
176927	79	17	30
178452	81	4	10
179977	82	14	50
181502	84	1	30
183027	85	12	10
184551	86	22	50
186076	88	9	30
187601	89	20	10
189126	91	6	50
190651	92	17	30
192176	94	4	10
193704	95	14	55
195229	97	1	35
196754	98	12	15
198279	99	22	55
199804	101	9	35
201329	102	20	15
202853	104	6	55

658542	43	20	30
661695	49	16	30
670804	55	11	30
677055	61	9	45
683175	67	5	0
689316	73	0	45
695469	78	20	45
701588	84	16	0
707807	90	13	30
714014	96	10	45
720233	102	8	15
726440	108	5	30
732637	114	2	30

after the load point marker at the beginning of that tape. Furthermore, the bit significance increases as the bit position number decreases; e.g., for a value stored completely in bits 9 through 14, 'bit 9' (when it is on) holds its value 2^5 , 'bit 10' holds 2^4 , and so on until bit 14 which represents 2^0 .

12. RAte Packed Tape -- RAPT

The count rate accumulator readouts have been adjusted such that the accumulators appear to have reset to zero immediately after each readout. This adjustment was obtained by subtracting the immediately previous frame's accumulator value from the current frame's accumulator value; this difference is the current frame's adjusted readout. These modified accumulator readouts and various related data are the primary content of the RAte Packed Tape.

As previously mentioned in section 2, every four sequence in the telemetry format scan contains no University of Chicago experiment data; however, a linear interpolation of the accumulator readouts for frame 0 and frame 8 of the absent CSC was performed and the resultant values were recorded on the RAPT. Thus, time discontinuities will occur only where no data were received for 2 or more CSC's.

As displayed in Table 6, all physical records are 26 words in length, divided into 204 logical records of 4 binary packed words. Table 9 specifies the data item to word-and-bit correspondence.

TABLE 1

IMP 1, 2, 3 RAPT LOGICAL RECORD SPECIFICATION

Item Number	Item Name	Location Within Logical Record			Description
		WORD	FIRST BIT	LAST BIT	
1	Data Quality S/C Frame 8	1	0	0	Value = $\begin{cases} 0, \text{ Bad} \\ 1, \text{ Good} \end{cases}$
2	Data Quality S/C Frame 0	1	1	1	
3	End of Orbit Flag	1	2	2	Value = 1, During orbit (the remaining logical records in the last physical record are filled with zeroes.)
4	Chicago Sequence Count	1	3	23	For description of this sequence count, see Sec. 4.6.
5	D1 Accumulator S/C Frame 0	2	0	11	See Section 4.12.1
6	D1 Accumulator S/C Frame 6	2	12	23	
7	D1D2 Accumulator S/C Frame 0	3	0	8	See Section 4.12.2 and Table 4
8	D1D2 Accumulator S/C Frame 8	3	9	17	
9	D1D2D3D4 Accumulator S/C Frame 0	3	18	20	See Section 4.12.4 and Table 4
10	D1D2D3D4 Accumulator S/C Frame 8	3	21	23	
11	D1D2D3 Accumulator S/C Frame 0	4	0	5	See Section 4.12.3 and Table 4
12	D1D2D3 Accumulator S/C Frame 8	4	6	11	
13	A-C/D5 S/C Frame 1	4	12	12	See Section 4.14 and Table 4
14	A-C/D5 S/C Frame 1	4	13	13	
15	Orbit Number	4	14	21	See Table 8
16	Satellite Number	4	22	23	Value = $\begin{cases} 1 \rightarrow \text{IMP-1} \\ 2 \rightarrow \text{IMP-2} \\ 3 \rightarrow \text{IMP-3} \end{cases}$

13. Rate Summary Tape -- RAST

The Rate Summary Tape contains counting rates averaged over consecutive time periods of exactly 4 CSC's (approximately 328 seconds). The physical and logical record size are given in Table 6.

Each logical record is generated with the following Fortran II format:

ITEM:	1	2	3	4	5	6 - 12	13	14	15
FORMAT	(1X, I3, 1X, I2, 1X, F4.1, 1X, I8, 1X, F4.1, 7 (1X, E12.5), 1X, F6.2, 1X, I3, 1H/I3)								

The Item names, units, and other specifications are displayed in Table 10.

13.1 Exceptions to the Standard Format

When reading the data from the tape, the above format statement is used except when reading the header record which is the first logical record of each orbit. The second logical record of each orbit, although read with the above format, is not a data line, but instead contains the following substitutions:

1) ITEMS 1 through 4 contain the time and CSC of the first good data of the orbit.

2) ITEM 5 contains the orbit number.

3) ITEM 15 contains the year (modulo 1900) of the data.

4) All other ITEMS are filled with zeroes.

Similarly, the last logical record of an orbit is written with the above data format statement, but contains instead of experiment data the following substitutions:

1) ITEMS 1 through 3 contain the time of the last good data of the orbit.

2) ITEM 4 = -1, thus acting as a sentinell flag for the orbit.

3) ITEM 12 contains the total number of good frames used in calculating the non-corrected data for the entire orbit.

4) All other ITEMS are filled with zeroes.

TABLE 10
RAST LOGICAL RECORD SPECIFICATION

Item Number	Item Name	Format*	Description
1	Day	I3	This data pertains to the FIRST point of the interval from which the following uncorrected rate averages were computed. (Note: On the IMP 4 and 5 RAST tapes, this data corresponding to the LAST point of the concerned interval.) However, this data corresponds approximately to the middle of the averaging interval for the corrected rates.
2	Hour	I2	
3	Minute	F4.1	
4	Chicago Sequence Count	I8	
5	Satellite Geocentric Distance in Earth Radii	F4.1	
6	Corrected D1 Rate Average	E12.5	All rate averages are in counts/second. For specific anti-coincidences see table 4. The D5 rate average is filled with '-1' on the IMP-1 RAST, since there was no D5 on that satellite.
7	D1 Rate Average	E12.5	
8	D1D2 Rate Average	E12.5	
9	D1D2D3 Rate Average	E12.5	
10	D1D2D3D4 Rate Average	E12.5	
11	D5 Rate Average	E12.5	
12	AE Index	E12.5	
13	KP Index	F6.2	
14	Number of Good Frames	I3	The number of frames used to calculate the rate averages.
15	Total Number of Frames	I3	The magnitude of the averaging interval expressed in frames. The value should always be '8'.

* Each item is preceded by a space 1X.

The CSC and time in each logical record apply to the first point of the interval over which the non-corrected rate averages in that logical record were computed; however, they apply approximately to the mid-point of the interval over which the corrected rate averages were computed.

The corrected rates were done by hand with the assumption that one high readout was caused by telemetry error. Correction of such a noise readout would be by linear interpolation.

14. Pulse Height Analysis Event Summary Tape --PHAEST

These tapes contain, among other pertinent data, the pulse height analyzer accumulator readouts as telemetered by the spacecraft. Only events with an associated data quality of 'good' are recorded on these tapes. If no events are collected during a frame, or if the events collected are of a quality of fair or lower, then no logical record for that frame appears on the PHAEST. Thus, discontinuities in time between consecutive logical records do occur not too infrequently.

As stated in Table 6, all physical records contain 600 words, divided into 200 logical records of 3 binary packed words. Each logical record contains all the data for one and only one event. Table 11 itemizes the data item to word-and-bit correspondence within a logical record.

TABLE 11

IMP 1, 2 and 3 PHAEST Logical Record Specification

Red 309w

Item Number	Item Name	Location Within Logical Record		Description
		Word	Sits	
1	Chicago Sequence Count	1	0 thru 23	See Sec. 4.6
2	D1 Pulse Height	2	0 thru 7	See Sec. 4.13
3	D3 Pulse Height	2	8 thru 15	
4	Chicago Bookkeeping	2	16 thru 23	Value = 0
5	Range ID	3	0 thru 2	Value = 1, if D3 PHA = 0 for IMP 1, 2 or 3 2, if D3 PHA = 0 for IMP-1 and A-C = 0 2, if D3 PHA = 0 for IMP-2 and 3 3, if D3 PHA = 0 and A-C = 1 for IMP-1
6	Chicago Bookkeeping	3	3 thru 5	Value = 0
7	Frame Number	3	6 thru 7	Value = $\begin{cases} 0, & \text{if S/C Frame 1} \\ 1, & \text{if S/C Frame 9} \end{cases}$
8	Chicago Bookkeeping	3	8	Value = 0
9	Orbit Number	3	9 thru 15	See Table 8
10	End of Orbit Flag	3	16 thru 23	Value = $\begin{cases} 1, & \text{during orbit} \\ 0 & \text{or 2, at end of orbit} \end{cases}$ (The remaining logical records in the last physical record are filled with zeroes.)

15. Format for the Counting Rate Plots on Microfilm

The plots were computer generated on a Cal/Comp 563 plotter with the vertical axis representing the rate in counts per second, and the horizontal axis representing a time period of 30 days beginning on the first day of a Bartels Solar Rotation and ending three days into the following solar Rotation. The horizontal scale is one day per division, and the vertical logarithmic scale varies for each range interval. Every horizontal fiducial is labelled with the PSC and the day of year (January 1 = Day No. 1). The year is printed at the origin and whenever it changes. Each plotted point represents a rate averaged over 45 sequences.

The heading of each plot contains the satellite number, the Bartels Solar Rotation number, the range interval expressed as detector coincidence, and the date of generation of the plot.*

Table 22 specifies the time and solar rotation intervals covered.

TABLE 22

Microfilm Data Coverage

IMP-No.	Bartel's Solar Rotation No.	Dates (UT)
1	1783 - 1790	11-27-63 to 5-29-64
2	1795 - 1802	10-4-64 to 4-5-65
3	1804 - 1830	5-29-65 to 5-2-67

* This date has no connection with the data.

First Good Read

\$ 12.38.53 JOB 70 -- RESCO -- BEGINNING EXEC - PART 1 - CLASS A
*12.39.04 JOB 70 RESCO - CLAFLIN 187627 12.39.04 5 5
*12.39.36 JOB 70 IEF905I UNIT REQUIRED
*12.39.36 JOB 70 IEF234I R 192,USER02,RESCO
*12.39.36 JOB 70 IEF504A M 2311,USER01,,RESCO,LKED
*12.42.03 JOB 70 IEF233A M 280,NSSDC,,RESCO,GO
*12.42.39 JOB 70 IEC202E K 280,NSSDC,NL,RESCO,GO
*12.42.43 JOB 70 IEF292I RETAINED VOLUMES RELEASED BY JOB RESCO
*12.42.44 JOB 70 IEF292I RETAINED VOLUMES RELEASED BY JOB RESCO
\$ 12.42.49 JOB 70 END EXECUTION.

COST OF JOB \$1.72 -- 98 CARDS READ -- 522 LINES PRINTED -- 0 CARDS PUNCHED -- 0.38 MINUTES EXECUTION TIME

//RESCO JOB (187627,5,5),CLAFILN,CLASS=A

// EXEC FORTHEP

XX PROC LIB='HEP.LIB.OBJ'

COMPILE THE FORTRAN SOURCE DECK (FORT STEP)

JOB 70

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//FORT.SYSIN DD *

** RESCO 12.39.04 72074

IEF2361 ALLOC. FOR RESCO FORT

IEF2371 082 ALLOCATED TO SYSLIST

IEF2371 092 ALLOCATED TO SYSPT

IEF2371 0A2 ALLOCATED TO SYSPRINT

IEF2371 190 ALLOCATED TO SYSLIN

IEF2371 081 ALLOCATED TO SYSLIN

IEF2851 SYS72074.T093303.RF000.RESCO.R0000397

IEF2851 VOL SER NOS=

IEF2851 SYS72074.T093303.RF000.RESCO.R0000398

IEF2851 VOL SER NOS=

IEF2851 SYS72074.T093303.RF000.RESCO.R0000399

IEF2851 VOL SER NOS=

IEF2851 SYS72074.T093303.RF000.RESCO.LOADSET

IEF2851 VOL SER NOS= LPIC01.

IEF2851 SYS72074.T093303.RF000.RESCO.R0000400

IEF2851 VOL SER NOS=

** RESCO 12.39.31 72074

XXLKED EXEC PGM=IEWL,REGION=105K,PARM=(MAP,LET,LIST),TIME=5,

XX COND=14,LT,FORT)

ADD ANY MISSING SUBROUTINES (LKED STEP)

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//LKED.SYSIN DD *

** RESCO 12.39.32 72074

IEF2361 ALLOC. FOR RESCO LKED

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IEF2371 192 ALLOCATED TO SYSLIB
IEF2371 391 ALLOCATED TO
IEF2371 191 ALLOCATED TO SYSLMOD
IEF2371 391 ALLOCATED TO SYSLMOD
IEF2371 082 ALLOCATED TO SYSPRINT
IEF2371 192 ALLOCATED TO SYSUT1
IEF2371 190 ALLOCATED TO SYSLIN
IEF2371 091 ALLOCATED TO
IEF2851 HEP.LIB.OBJ KEPT
IEF2851 VOL SER NOS= USER01.
IEF2851 SYS1.FORTLIB KEPT
IEF2851 VOL SER NOS= SYS333.
IEF2851 SYS72074.T093303.RF000.RESC0.G0SET PASSED
IEF2851 VOL SER NOS= SYS111,SY5333.
IEF2851 SYS72074.T093303.RF000.RESC0.RC000401 DELETED
IEF2851 VOL SER NOS=
IEF2851 SYS72074.T093303.RF000.RESC0.RC000402 DELETED
IEF2851 VOL SER NOS= USER01.
IEF2851 SYS72074.T093303.RF000.RESC0.LOADSET DELETED
IEF2851 VOL SER NOS= LPT001.
IEF2851 SYS72074.T093303.RF000.RESC0.RC000403 DELETED
IEF2851 VOL SER NOS=
** RESCO 12.41.58 72074
XXGO EXEC PGM=*.LKED,SYSLMOD,COND=((4,LT,FORT),(4,LT,LKED))
*** 00000340
*** 00000350
*** EXECUTE YOUR PROGRAM (GO STEP) ZAP 00000360
*** 00000370
*** 00000380
XXFT01F001 DD DDNAME=IN R 00000390
XXFT02F001 DD SYSOUT=B 00000400
XXFT03F001 DD SYSOUT=A,DCB=(BLKSIZE=1330,LRECL=133,RECFM=FBA) 00000410
XXFT05F001 DD DDNAME=SYSIN 00000420
XXFT06F001 DD SYSOUT=A,DCB=(BLKSIZE=1330,LRECL=133,RECFM=FBA) 00000430
XXFT14F001 DD DSN= SM,UNIT=(2311,2),DISP=(NEW,PASS), 00000440
IEF6531 SUBSTITUTION JCL - DSN= SM,UNIT=(2311,2),DISP=(NEW,PASS),
XX 00000450
*** 00000460
*** 00000470
//GO.FT10F001 DD UNIT=TAPE7,VOL=SER=NSSDC,DSNAME=RAPT,DISP=OLD,
// DCB=(BLKSIZE=2448,LRECL=2448,RECFM=F,TRTCH=C),LABEL=(1,NL,1N)
//
** RESCO 12.41.59 72074
IEF2361 ALLOC. FOR RESCO GO
IEF2371 191 ALLOCATED TO PGM=*.DD
IEF2371 190 ALLOCATED TO PGM=*.DD
IEF2371 0E4 ALLOCATED TO FT02F001
IEF2371 082 ALLOCATED TO FT03F001
IEF2371 092 ALLOCATED TO FT06F001
IEF2371 192 ALLOCATED TO FT14F001
IEF2371 391 ALLOCATED TO FT14F001
IEF2371 280 ALLOCATED TO FT10F001
IEF2851 SYS72074.T093303.RF000.RESC0.G0SET PASSED
IEF2851 VOL SER NOS= SYS111,SY5333.
IEF2851 SYS72074.T093303.RF000.RESC0.RC000406 DELETED
IEF2851 VOL SER NOS=
IEF2851 SYS72074.T093303.RF000.RESC0.SM PASSED
IEF2851 VOL SER NOS= USER01.
IEF2851 RAPT KEPT
IEF2851 VOL SER NOS= NSSDC .

```

** RESCO 12.42.42 72074
IEF2851 SYS72074.T093303.RF000.RESCO.G0SET
IEF2851 VOL SER NOS= SYS111.
IEF2831 SYS72074.T093303.RF000.RESCO.G0SET
IEF2831 VOL SER NOS= SYS333 1.
IEF2851 SYS72074.T093303.RF000.RESCO.SM
IEF2851 VOL SER NOS= USER01.

DELETED

NOT DELETED 8

DELETED

- - TOTAL CENTRAL PROCESSOR TIME THIS JOB 00.00.23, TOTAL I/O REQUESTS 001040 - -

References:

"Uet Chicago Data format for Library Magnetic
from Satellites IMP-I, IMP-II and IMP-III,"
Preprint EFINS-66-02, 1966 and Supplements 1971.
Preprint by G.Y. Fan et al., Supplemented by Eith Murphy
and J.A. Thompson.

"NSDC International Packet for Explorer 28
C.R. Portaro and Rotated Data, 1971, prepared
by Julius J. Brecht.

```

0001 LOGICAL*1 DA(3,4,204), FDA(8)
0002 REAL*8 WHL, SHF2L
0003 INTEGER SW
0004 DIMENSION IN(4), NB(4,4), IO(12,204), AO(12,204), SW(12)
0005 EQUIVALENCE (WHL, FDA(1), NHLF)
0006 IN(1) = 4
0007 IN(2) = 2
0008 IN(3) = 4
0009 IN(4) = 2
0010 NB(1,1) = 1
0011 NB(2,1) = 1
0012 NB(3,1) = 1
0013 NB(4,1) = 21
0014 NB(1,2) = 12
0015 NB(2,2) = 12
0016 NB(1,3) = 9
0017 NB(2,3) = 9
0018 NB(3,3) = 3
0019 NB(4,3) = 3
0020 NB(1,4) = 6
0021 NB(2,4) = 6
0022 AO(2,1) = 149. 239
0023 AO(3,1) = 12. (12)
0024 AO(4,1) = 10. 30
0025 SUTH = AO(2,1)*24.*60. + AO(3,1)*60. + AO(4,1)
0026 SCT = 50. 479942 DO 15 IR=1,8
0027 10 READ(10,4,END=27) DA
0028 4 FORMAT(255A1,255A1,255A1,255A1,255A1,255A1,255A1,255A1,153A1
1)
0029 JIN = 58
0030 DO 12 K=1,204
0031 LS=1
0032 DO 12 J=1,4
0033 DO 11 I=1,3
0034 11 FDA(4+I) = DA(I,J,K)
0035 L = IN(J)
0036 DO 12 M=1,L
0037 NHLF = 0
0038 WHL = SHF2L(WHL,NB(M,J))
0039 IO(LS,K) = NHLF
0040 12 LS = LS + 1
0041 DO 14 K=1,204
0042 DO 13 L=9,12
0043 13 SW(L) = IO(L,K)
0044 IO(9,K) = SW(11)
0045 IO(10,K) = SW(12)
0046 IO(11,K) = SW(9)
0047 14 IO(12,K) = SW(10)

```

```

0048 DO 15 K=1,204
0049   TMIN = 81.91691*(10(4,K) - SCT)/60. + SUMT
0050   IF (TMIN - 60.) 16,17,17
0051 16 ANTH = 0.
0052   ANTD = 0.
0053   GO TO 20
0054 17 TH = TMIN/60.
0055   NTH = TH
0056   ANTH = NTH
0057   TMIN = 60.*(TH-ANTH)
0058   IF (ANTH - 24.) 18,19,19
0059 18 ANTD = 0.
0060   GO TO 20
0061 19 TD = ANTH/24.
0062   NTD = TD
0063   ANTD = NTD
0064   ANTH = 24.*(TD - ANTD)
0065 20 AD(2,K) = ANTD
0066   AD(3,K) = ANTH
0067   AD(4,K) = TMIN
0068   AD(5,K) = 10(5,K)*1.625
0069   AD(6,K) = 10(6,K)*1.625
0070   AD(7,K) = 10(7,K)*.406*.203
0071   AD(8,K) = 10(8,K)*.406*.203
0072   AD(9,K) = 10(9,K)*.203*.102
0073   AD(10,K) = 10(10,K)*.203*.102
0074   AD(11,K) = 10(11,K)*.406*.203
0075   AD(12,K) = 10(12,K)*.406*.203
0076   IF (JIN-58) 29,28,28
0077 28 WRITE (6,1)
0078 1 FORMAT(1H1,'8 0 EQ   CSC      1-0   1-8   2-0   2-8   3-0 3-8 4-0,8
      1 DAY   HR   MN      1-0      1-8      2-0      2-8      3-0      3-8   4-0
      24-8')
0079   JIN = 0
0080 29 JIN = JIN + 1
0081 15 WRITE (6,2) (10(L,K),L=1,12),(AD(L,K),L=2,12)
0082 2 FORMAT(1H ,11,212,18,17,16,215,214,213,6X,F4.0,2F5.0,F9.1,F8.1,
      1 2F7.1,2F6.1,2F5.1)
0083 27 CALL EXIT
0084   END

```

- Computed from equation in Section 6.2
 with BPO, since accumulator has been
 reset according to Section 12 of Supplement.

		SUBPROGRAMS CALLED							
SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION
IBCOM=	FC	SHF2L	100	EXIT	104				
		EQUIVALENCE DATA MAP							
SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION
WHL	110	FDA	110	NHLF	110				
		SCALAR MAP							
SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION
SUTM	118	SCT	11C	JIN	120	K	124	LS	128
J	12C	I	130	L	134	M	138	TMIN	13C
ANTH	140	ANTD	144	TH	148	NTH	14C	TD	150
NTD	154								
		ARRAY MAP							
SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION
DA	158	IN	AE8	N8	AF8	IO	B38	AO	3178
SW	57B8								
		FORMAT STATEMENT MAP							
SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION	SYMBOL	LOCATION
4	57E8	1	5812	2	5895				

OPTIONS IN EFFECT NOID,BCD,SOURCE,LIST,NODECK,LOAD,MAP
 OPTIONS IN EFFECT NAME = MAIN , LINECNT = 50
 STATISTICS SOURCE STATEMENTS = 84,PROGRAM SIZE = 24532
 STATISTICS NO DIAGNOSTICS GENERATED

LOCATION	ISN	LOCATION	ISN	LOCATION	ISN	LOCATION	ISN
0059A8	6	0059B4	7	0059BC	8	0059C4	9
0059D4	11	0059DC	12	0059E4	13	0059EC	14
0059FC	16	005A04	17	005A0C	18	005A14	19
005A24	21	005A2C	22	005A38	23	005A40	24
005A66	26	005A6E	27	005A94	29	005A9C	30
005AC0	32	005AD4	33	005AE4	34	005B0A	35
005B20	37	005B2C	38	005B46	39	005B5A	40
005BEA	42	005BF8	43	005C1C	44	005C24	45
005C34	47	005C5C	48	005C70	49	005CA4	50
005CC0	52	005CC8	53	005CCE	54	005CDE	55
005D1E	57	005D2E	58	005D3E	59	005D4A	60
005D60	62	005D80	63	005DA0	64	005DB0	65
005DC0	67	005DC8	68	005DF0	69	005E14	70
005E5C	72	005E80	73	005EA4	74	005EC8	75
005EFC	77	005F10	79	005F1C	80	005F2C	81
005FC6	84						

F88-LEVEL LINKAGE EDITOR OPTIONS SPECIFIED MAP,LET,LIST
 VARIABLE OPTIONS USED - SIZE=(105472,23552)-
 IEW0000 INCLUDE SYSLIB(SHF2RL)

DEFAULT OPTION(S) USED

MODULE MAP

CONTROL SECTION			ENTRY							
NAME	ORIGIN	LENGTH	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION	NAME	LOCATION
MAIN	00	5FD4								
JRESHF20	5FD8	72	SHF2L	5FD8	SHF2R	6002				
IHCFOXIT*	6050	10	EXIT	6050						
IHCFCOMH*	6070	F49	IBCOM=	6070	FDIOCS=	6120	INTSWTCH	6F9E		
IHCFCOMH2*	6FC0	651	SEQDASD	732C						
IHCFCVTH*	7618	1190	ADCON=	7618	FCVAOUTP	76C2	FCVLOUTP	7752	FCVZOUTP	78A2
			FCVIOUTP	7C50	FCVEOUTP	8152	FCVCOUTP	836C	INT6SWCH	8653
IHCFCFNTH*	87B8	512	ARITH=	87B8	ADJSWTCH	8B24				
IHCFCFIQS*	8CD0	1368	FIOCS=	8CD0	FIOCSBEP	8CD6				
IHCFOPT *	A038	300								
IHCERRM *	A338	58C	ERRMON	A338	IHCERRE	A350				
IHCUTABL*	A9F8	198								
IHCETRCH*	AA90	28E	IHCIRCH	AA90	ERRTRA	AA98				

ENTRY ADDRESS 00
 TOTAL LENGTH AD20

****MAIN DOES NOT EXIST BUT HAS BEEN ADDED TO DATA SET

B	O	E	O	CSC	1-0	1-8	2-0	2-8	3-0	3-8	4-0-8	DAY	HR	MN	1-0	1-8	2-0	2-8	3-0	3-8	4-0	4-8
0	0	1	51	1906	711	83	37	1	2	2	1	149.	12.	11.	3697.3	1155.4	33.7	15.0	0.2	0.4	0.8	0.4
0	0	1	52	3888	3240	505	451	1	1	2	2	149.	12.	13.	6318.0	5265.0	205.0	183.1	0.2	0.2	0.8	0.8
0	0	1	53	4095	4095	511	511	63	63	7	7	149.	12.	14.	6654.4	6654.4	207.5	207.5	12.8	12.8	2.8	2.8
0	0	1	54	4295	1008	511	382	63	1	7	7	149.	12.	15.	6654.4	1638.0	207.5	155.1	12.8	0.2	2.8	0.4
1	0	1	55	2469	53	416	465	2	2	3	3	149.	12.	17.	4012.1	86.1	168.9	188.8	0.4	0.4	1.2	1.2
1	1	1	56	1865	3723	6	96	2	3	3	5	149.	12.	18.	3030.6	6049.9	2.4	39.0	0.4	0.6	1.2	2.0
0	0	1	57	4095	4095	511	511	63	63	7	7	149.	12.	19.	6654.4	6654.4	207.5	207.5	12.8	12.8	2.8	2.8
0	0	1	58	4295	1364	511	436	63	1	7	5	149.	12.	21.	6654.4	2216.5	207.5	177.0	12.8	0.2	2.8	0.0
1	0	1	59	2216	2878	500	43	2	3	7	0	149.	12.	22.	3601.0	4676.8	203.0	17.5	0.4	0.6	2.8	0.4
1	1	1	60	3283	3775	25	36	2	1	7	0	149.	12.	24.	5334.9	6134.4	10.1	14.6	0.2	0.2	2.8	0.0
1	1	1	61	258	258	26	26	2	2	1	3	149.	12.	25.	419.3	419.3	10.6	10.6	0.4	0.4	0.4	0.4
1	1	1	62	268	653	27	488	2	1	1	3	149.	12.	26.	435.5	1061.1	11.0	198.1	0.4	0.2	0.4	1.2
0	0	1	63	839	956	433	351	63	63	0	2	149.	12.	28.	1363.4	1553.5	175.8	142.5	12.8	12.8	0.0	0.8
1	1	1	64	967	948	233	112	2	1	7	7	149.	12.	29.	1571.4	1540.5	94.6	45.5	0.4	0.2	2.8	2.8
0	0	1	65	4095	4095	511	511	2	2	1	5	149.	12.	30.	6654.4	6654.4	207.5	207.5	0.4	0.2	0.4	0.0
1	0	1	66	4095	558	511	133	2	2	1	5	149.	12.	32.	6654.4	906.8	207.5	54.0	0.4	0.4	0.4	2.0
1	1	1	67	351	71	40	438	2	2	0	7	149.	12.	33.	570.4	115.4	16.2	177.8	0.4	0.4	0.0	2.8
1	1	1	68	4006	3704	315	208	2	1	6	7	149.	12.	35.	6509.8	6019.0	127.9	54.4	0.4	0.2	2.4	2.8
1	1	1	69	367	366	21	22	1	2	0	5	149.	12.	36.	596.4	594.8	8.5	8.9	0.2	0.4	0.0	0.0
1	1	1	70	381	2623	22	371	1	2	0	5	149.	12.	37.	619.1	4262.4	8.9	150.6	0.2	0.4	0.0	2.0
1	1	1	71	2289	2102	310	242	2	1	3	4	149.	12.	39.	3719.6	3415.8	125.9	98.3	0.4	0.2	1.2	1.6
1	1	1	72	1826	1598	175	121	1	2	6	5	149.	12.	40.	2967.3	2596.8	71.0	49.1	0.2	0.4	2.4	2.0
1	1	1	73	1052	1052	22	22	2	2	1	0	149.	12.	41.	1709.5	1709.5	8.9	8.9	0.2	0.4	0.4	0.0
1	1	1	74	1093	645	23	462	1	1	1	2	149.	12.	43.	1776.1	1048.1	9.3	179.5	0.2	0.2	0.4	0.8
1	1	1	75	446	113	397	357	1	2	4	3	149.	12.	44.	724.8	183.6	161.2	144.9	0.2	0.4	1.6	1.2
1	1	1	76	4090	3907	325	286	2	1	5	1	149.	12.	45.	6646.3	6348.9	131.9	116.1	0.4	0.2	2.0	0.4
0	0	1	77	743	744	511	511	1	1	1	1	149.	12.	47.	1207.4	1209.0	207.5	207.5	0.2	0.2	0.4	0.4
0	0	1	78	772	3055	511	184	1	63	1	2	149.	12.	48.	1254.5	4964.4	207.5	74.7	0.2	12.8	0.4	0.8
1	0	1	79	2748	2404	165	144	63	1	4	3	149.	12.	50.	4465.5	3906.5	67.0	58.5	12.8	0.2	1.6	1.2
0	0	1	80	2111	1579	123	107	2	1	3	2	149.	12.	51.	3430.4	2565.9	49.9	43.4	0.4	0.2	1.2	0.8
1	0	1	81	4095	4095	77	77	1	2	0	1	149.	12.	52.	6654.4	6654.4	31.3	31.3	0.2	0.4	0.0	0.4
1	0	1	82	4095	3586	80	58	2	2	0	2	149.	12.	54.	6654.4	5827.3	32.5	23.5	0.2	0.4	0.0	0.8
1	1	1	83	2915	2248	52	46	2	1	1	1	149.	12.	55.	4736.9	3653.0	21.1	18.7	0.4	0.2	0.4	0.4
1	1	1	84	1525	774	61	32	0	1	1	2	149.	12.	56.	2478.1	1257.8	16.6	13.0	0.0	0.2	0.4	0.8
0	0	1	85	4095	4095	22	22	1	1	2	2	149.	12.	58.	6654.4	6654.4	8.9	8.9	0.2	0.2	0.8	0.8
1	0	1	86	4095	1457	23	17	1	1	3	0	149.	12.	59.	6654.4	2367.6	9.3	6.9	0.2	0.2	1.2	0.0
1	1	1	87	533	3679	14	11	1	1	1	6	149.	13.	0.	866.1	5978.4	5.7	4.5	0.2	0.2	0.4	2.4
1	1	1	88	2889	2162	10	9	1	1	0	1	149.	13.	2.	4694.6	3513.3	4.1	3.7	0.2	0.2	0.0	0.4
0	0	1	89	4095	4095	8	9	1	0	2	2	149.	13.	3.	6654.4	6654.4	3.2	3.7	0.2	0.0	0.8	0.8
1	0	1	90	4095	3505	8	8	1	0	1	7	149.	13.	5.	6654.4	5695.6	3.2	3.2	0.2	0.2	1.2	2.8
1	1	1	91	2861	2230	5	4	0	1	7	7	149.	13.	6.	4649.1	3623.8	2.0	2.0	0.0	0.2	2.8	2.8
1	1	1	92	1574	942	5	4	0	1	7	4	149.	13.	7.	2557.8	1530.8	2.0	1.6	0.0	0.2	2.8	1.6
1	1	1	93	1050	1051	3	2	0	1	1	0	149.	13.	9.	1706.3	1707.9	1.2	0.8	0.0	0.2	0.4	0.0
1	1	1	94	1041	2648	3	3	0	2	1	5	149.	13.	10.	1772.9	4303.0	1.2	1.2	0.0	0.4	0.4	2.0
1	1	1	95	2338	1907	2	2	1	1	5	5	149.	13.	11.	3799.3	3098.9	0.8	0.8	0.2	0.2	2.0	2.0
1	1	1	96	1511	919	2	2	1	1	0	5	149.	13.	13.	2455.4	1493.4	0.8	0.8	0.2	0.2	2.0	2.4
1	1	1	97	1055	1055	1	2	0	0	0	0	149.	13.	14.	1714.4	1714.4	0.4	0.8	0.0	0.0	0.0	0.0
1	1	1	98	1096	3205	1	2	0	1	0	5	149.	13.	15.	1781.0	5208.1	0.4	0.8	0.0	0.2	0.0	2.0
1	1	1	99	2862	2410	1	1	0	1	6	6	149.	13.	17.	4650.8	3916.3	0.4	0.4	0.0	0.2	2.4	2.4
1	1	1	100	1993	1639	1	1	0	1	6	5	149.	13.	18.	3238.6	2663.4	0.4	0.4	0.2	0.0	2.4	2.0
0	0	1	101	4095	4095	1	0	0	1	2	2	149.	13.	20.	6654.4	6654.4	0.4	0.0	0.0	0.2	0.8	0.8
1	0	1	102	4095	9	1	1	0	1	2	4	149.	13.	21.	6654.4	14.6	0.4	0.4	0.0	0.2	0.8	1.6
1	1	1	103	3831	3463	0	1	2	0	5	4	149.	13.	22.	6225.4	5627.4	0.0	0.4	0.4	0.0	2.0	2.0
1	1	1	104	3076	2716	1	0	1	0	5	4	149.	13.	24.	4998.5	4413.5	0.4	0.0	0.2	0.0	2.0	1.6
0	0	1	105	4095	4095	1	0	1	0	1	4	149.	13.	25.	6654.4	6654.4	0.4	0.0	0.2	0.0	0.4	0.8
1	0	1	106	4095	1533	1	1	0	1	0	4	149.	13.	26.	6654.4	2491.1	0.4	0.4	0.2	0.0	0.4	1.6
1	1	1	107	1251	988	0	1	1	0	3	3	149.	13.	28.	2032.9	1605.5	0.0	0.4	0.2	0.0	1.2	1.2
1	1	1	108	708	474	0	1	1	1	5	5	149.	13.	29.	1150.5	770.3	0.0	0.4	0.2	0.2	2.0	2.0

B	O	E	D	CSC	1-0	1-8	2-0	2-8	3-0	3-8	4-0	4-8	DAY	HR	MM	1-0	1-8	2-0	2-8	3-0	3-8	4-0	4-8
0	0	1		109	4095	4095	0	1	1	0	1	0	149.	13.	30.	6654.4	6654.4	0.0	0.4	0.2	0.0	0.4	0.0
1	0	1		110	4095	2846	0	1	1	0	1	4	149.	13.	32.	6654.4	4624.8	0.0	0.4	0.2	0.0	0.4	1.6
1	1	1		111	2452	2219	0	0	1	0	4	3	149.	13.	33.	3984.3	3605.9	0.0	0.0	0.2	0.0	1.6	1.2
1	1	1		112	2030	1762	0	0	0	0	4	4	149.	13.	35.	3298.8	2863.3	0.0	0.0	0.0	0.0	1.6	1.6
1	1	1		113	125	126	0	1	0	1	1	1	149.	13.	36.	203.1	204.8	0.0	0.4	0.0	0.2	0.4	0.4
1	1	1		114	130	1188	0	0	0	1	2	4	149.	13.	37.	211.3	1930.5	0.0	0.0	0.0	0.2	0.8	1.6
1	1	1		115	1027	882	0	0	0	0	4	3	149.	13.	39.	1668.9	1433.3	0.0	0.0	0.0	0.0	1.6	1.2
1	1	1		116	714	493	1	0	1	1	4	3	149.	13.	40.	1160.3	801.1	0.4	0.0	0.2	0.2	1.6	1.2
0	0	1		117	4095	4095	0	1	63	63	1	0	149.	13.	41.	6654.4	6654.4	0.0	0.4	12.8	12.8	0.4	0.0
1	0	1		118	4095	4081	0	0	63	0	1	2	149.	13.	43.	6654.4	6631.6	0.0	0.0	12.8	0.0	0.4	0.8
1	1	1		119	4000	3802	0	1	0	1	3	3	149.	13.	44.	6500.0	6178.3	0.0	0.4	0.0	0.2	1.2	1.2
1	1	1		120	3568	3396	0	0	1	1	3	3	149.	13.	46.	5798.0	5518.5	0.0	0.0	0.2	0.2	1.2	1.2
0	0	1		121	4095	4095	0	0	0	0	0	0	149.	13.	47.	6654.4	6654.4	0.0	0.0	0.0	0.0	0.0	0.0
1	0	1		122	4095	3085	0	1	0	0	0	4	149.	13.	48.	6654.4	5013.1	0.0	0.4	0.0	0.0	0.0	1.6
0	0	1		123	3022	2850	0	0	63	63	2	3	149.	13.	50.	4910.8	4631.3	0.0	0.0	12.8	12.8	0.8	1.2
1	1	1		124	2673	2412	0	1	1	0	2	3	149.	13.	51.	4343.6	3919.5	0.0	0.4	0.2	0.0	0.8	1.2
0	0	1		125	4095	4095	0	0	0	1	0	0	149.	13.	52.	6654.4	6654.4	0.0	0.0	0.0	0.2	0.0	0.0
1	0	1		126	4095	1873	0	0	0	0	0	2	149.	13.	54.	6654.4	3043.6	0.0	0.0	0.0	0.0	0.0	0.8
1	1	1		127	1796	1609	0	0	0	0	1	4	149.	13.	55.	2918.5	2614.6	0.0	0.0	0.0	0.0	0.4	1.6
1	1	1		128	1420	1239	1	0	1	0	2	2	149.	13.	56.	2307.5	2013.4	0.4	0.0	0.2	0.0	0.8	0.8
0	0	1		129	4095	4095	0	0	0	1	0	0	149.	13.	58.	6654.4	6654.4	0.0	0.0	0.0	0.2	0.0	0.0
1	0	1		130	4095	999	0	0	0	0	0	2	149.	13.	59.	6654.4	1623.4	0.0	0.0	0.0	0.0	0.0	0.8
1	1	1		131	933	885	0	1	0	0	2	2	149.	14.	1.	1516.1	1438.1	0.0	0.4	0.0	0.0	0.8	0.8
1	1	1		132	822	732	0	0	1	0	2	3	149.	14.	2.	1335.8	1189.5	0.0	0.0	0.2	0.0	0.8	1.2
0	0	1		133	4095	4095	0	0	0	1	0	0	149.	14.	3.	6654.4	6654.4	0.0	0.0	0.0	0.2	0.0	0.0
1	0	1		134	4095	512	0	0	0	0	0	2	149.	14.	5.	6654.4	832.0	0.0	0.0	0.0	0.0	0.0	0.8
1	1	1		135	508	541	1	0	1	0	3	3	149.	14.	6.	825.5	879.1	0.4	0.0	0.2	0.0	1.2	1.2
1	1	1		136	543	445	0	0	0	0	3	4	149.	14.	7.	882.4	723.1	0.0	0.0	0.0	0.0	1.2	1.6
0	0	1		137	4095	4095	0	0	1	1	0	0	149.	14.	9.	6654.4	6654.4	0.0	0.0	0.2	0.2	0.0	0.0
1	0	1		138	4095	346	0	1	1	0	0	2	149.	14.	10.	6654.4	562.3	0.0	0.4	0.2	0.0	0.0	0.8
1	1	1		139	365	336	0	0	0	1	3	2	149.	14.	11.	593.1	546.0	0.0	0.0	0.0	0.2	1.2	0.8
1	1	1		140	325	312	0	0	0	1	2	3	149.	14.	13.	528.1	507.0	0.0	0.0	0.0	0.2	0.8	1.2
1	1	1		141	236	235	0	0	0	1	0	0	149.	14.	14.	383.5	381.9	0.0	0.0	0.0	0.2	0.0	0.0
1	1	1		142	245	213	0	0	0	1	0	3	149.	14.	16.	398.1	346.1	0.0	0.0	0.0	0.2	0.0	1.2
1	1	1		143	219	237	0	1	0	0	1	2	149.	14.	17.	355.9	385.1	0.0	0.4	0.0	0.0	0.4	0.8
1	1	1		144	270	282	0	0	0	1	2	2	149.	14.	18.	438.8	458.3	0.0	0.0	0.0	0.2	0.8	0.8
0	0	1		145	4095	4095	0	0	0	1	2	2	149.	14.	20.	6654.4	6654.4	0.0	0.0	0.0	0.2	0.8	0.8
1	0	1		146	4095	295	0	0	0	0	2	2	149.	14.	21.	6654.4	479.4	0.0	0.0	0.0	0.0	0.8	0.8
1	1	1		147	291	279	0	1	0	0	2	2	149.	14.	22.	472.9	453.4	0.0	0.4	0.0	0.0	0.8	0.8
1	1	1		148	260	235	0	0	1	0	4	3	149.	14.	24.	422.5	381.9	0.0	0.0	0.2	0.0	1.6	1.2
1	1	1		149	213	212	0	0	1	0	0	0	149.	14.	25.	346.1	344.5	0.0	0.0	0.2	0.0	0.0	0.0
1	1	1		150	221	210	0	0	1	0	0	3	149.	14.	26.	359.1	341.3	0.0	0.0	0.2	0.0	0.0	1.2
1	1	1		151	189	162	1	0	0	1	3	1	149.	14.	28.	307.1	263.3	0.4	0.0	0.0	0.2	1.2	0.4
1	1	1		152	148	133	0	0	1	0	3	2	149.	14.	29.	240.5	216.1	0.0	0.0	0.2	0.0	1.2	0.8
1	1	1		153	95	95	0	0	1	0	1	0	149.	14.	31.	154.4	154.4	0.0	0.0	0.2	0.0	0.4	0.0
1	1	1		154	99	79	0	1	1	0	1	2	149.	14.	32.	160.9	128.4	0.0	0.4	0.2	0.0	0.8	0.8
1	1	1		155	75	72	0	0	0	0	2	2	149.	14.	33.	121.9	117.0	0.0	0.0	0.0	0.0	0.8	0.8
1	1	1		156	62	64	0	0	0	0	3	2	149.	14.	35.	100.8	136.5	0.0	0.0	0.0	0.0	1.2	0.8
1	1	1		157	108	109	0	0	1	0	0	0	149.	14.	36.	175.5	177.1	0.0	0.0	0.2	0.0	0.0	0.0
1	1	1		158	112	92	0	1	1	0	0	3	149.	14.	37.	182.0	149.5	0.0	0.4	0.2	0.0	0.0	1.2
1	1	1		159	98	100	0	0	1	0	2	1	149.	14.	39.	159.3	162.5	0.0	0.0	0.2	0.0	0.8	0.4
1	1	1		160	95	72	0	0	0	1	2	2	149.	14.	40.	154.4	117.0	0.0	0.0	0.0	0.2	0.8	0.8
1	1	1		161	73	73	0	1	0	0	2	2	149.	14.	41.	118.6	118.6	0.0	0.4	0.0	0.0	0.8	0.8
1	1	1		162	76	87	0	0	0	1	2	3	149.	14.	43.	123.5	141.4	0.0	0.0	0.0	0.2	0.8	1.2
1	1	1		163	84	73	0	0	0	0	1	3	149.	14.	44.	136.5	118.6	0.0	0.0	0.0	0.0	0.4	1.2
1	1	1		164	68	68	0	0	1	0	3	3	149.	14.	46.	110.5	110.5	0.0	0.0	0.2	0.0	1.2	1.2
1	1	1		165	71	71	0	1	0	1	1	2	149.	14.	47.	115.4	115.4	0.0	0.4	0.0	0.2	0.4	0.8
1	1	1		166	74	90	0	0	0	0	2	2	149.	14.	48.	120.3	146.3	0.0	0.0	0.0	0.0	0.8	0.8

8 0 E0	CSC	1-0	1-8	2-0	2-8	3-0	3-8	4-0	4-8	DAY	HR	MN	1-0	1-8	2-0	2-8	3-0	3-8	4-0	4-8
1 1 1	167	105	101	0	0	0	0	2	1	149.	14.	50.	170.6	164.1	0.0	0.0	0.0	0.0	0.8	0.4
1 1 1	168	82	76	0	1	1	0	4	3	149.	14.	51.	133.3	123.5	0.0	0.0	0.2	0.0	1.6	1.2
1 1 1	169	65	66	0	0	0	0	2	2	149.	14.	52.	105.6	107.3	0.0	0.0	0.0	0.0	0.8	0.8
1 1 1	170	68	66	0	0	0	0	1	2	149.	14.	54.	110.5	107.3	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	171	66	70	0	0	0	0	2	2	149.	14.	55.	107.3	113.8	0.0	0.0	0.0	0.0	0.8	0.8
1 1 1	172	70	65	0	0	1	0	3	2	149.	14.	57.	113.8	105.6	0.0	0.0	0.2	0.0	1.2	0.8
1 1 1	173	54	53	0	1	1	0	0	0	149.	14.	58.	87.8	86.1	0.0	0.4	0.2	0.0	0.0	0.0
1 1 1	174	56	53	0	1	1	0	0	2	149.	14.	59.	91.0	86.1	0.0	0.0	0.2	0.0	0.0	0.8
1 1 1	175	53	63	0	1	1	0	3	2	149.	15.	1.	86.1	102.4	0.0	0.4	0.2	0.0	1.2	0.8
1 1 1	176	66	68	0	1	1	0	2	3	149.	15.	2.	107.3	110.5	0.0	0.0	0.2	0.0	0.8	1.2
1 1 1	177	68	68	0	0	0	0	2	2	149.	15.	3.	110.5	110.5	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	178	71	65	0	0	0	0	1	2	149.	15.	5.	115.4	105.6	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	179	62	67	0	0	1	0	3	2	149.	15.	6.	100.8	108.9	0.0	0.0	0.2	0.0	0.8	1.2
1 1 1	180	73	68	1	0	1	0	2	3	149.	15.	7.	118.6	110.5	0.4	0.0	0.2	0.2	0.8	0.8
1 1 1	181	51	50	0	0	0	1	2	2	149.	15.	9.	82.9	81.3	0.0	0.0	0.0	0.0	0.8	2.0
1 1 1	182	53	47	0	0	0	0	2	5	149.	15.	10.	86.1	76.4	0.0	0.0	0.0	0.0	1.2	0.8
1 1 1	183	49	43	0	1	0	0	3	2	149.	15.	12.	79.6	69.9	0.0	0.4	0.2	0.0	1.2	1.2
1 1 1	184	38	37	0	0	1	0	3	3	149.	15.	13.	61.8	60.1	0.0	0.0	0.2	0.0	0.0	0.0
1 1 1	185	24	25	0	0	0	1	0	0	149.	15.	14.	39.0	40.6	0.0	0.0	0.0	0.2	0.0	1.2
1 1 1	186	25	19	0	0	0	1	0	3	149.	15.	16.	40.6	30.9	0.0	0.0	0.0	0.0	0.4	1.2
1 1 1	187	21	31	0	0	0	0	1	3	149.	15.	17.	34.1	50.4	0.0	0.0	0.0	0.0	1.6	0.8
1 1 1	188	37	44	0	1	1	0	4	2	149.	15.	18.	60.1	71.5	0.0	0.4	0.2	0.0	0.0	0.0
1 1 1	189	29	28	0	0	1	0	0	0	149.	15.	20.	47.1	45.5	0.0	0.0	0.0	0.0	0.0	1.2
1 1 1	190	30	23	0	0	0	0	0	3	149.	15.	21.	48.8	37.4	0.0	0.0	0.0	0.2	0.4	1.6
1 1 1	191	22	28	1	0	0	1	1	4	149.	15.	23.	35.8	45.5	0.4	0.0	0.2	0.0	0.8	1.2
1 1 1	192	33	34	0	0	1	0	2	2	149.	15.	24.	53.6	55.3	0.0	0.0	0.2	0.0	0.8	0.8
1 1 1	193	36	37	0	0	1	0	2	2	149.	15.	25.	58.5	56.9	0.0	0.4	0.0	0.2	0.8	1.2
1 1 1	194	37	35	0	0	0	1	2	3	149.	15.	27.	60.1	56.9	0.0	0.0	0.0	0.0	1.2	1.2
1 1 1	195	36	33	0	0	0	0	3	3	149.	15.	28.	58.5	53.6	0.0	0.0	0.0	0.2	0.8	1.2
1 1 1	196	31	30	0	0	0	1	2	3	149.	15.	29.	50.4	48.8	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	197	26	27	0	1	0	1	2	2	149.	15.	31.	42.3	43.9	0.0	0.0	0.0	0.2	1.2	0.8
1 1 1	198	27	25	0	0	0	1	3	2	149.	15.	32.	43.9	40.6	0.0	0.0	0.0	0.0	0.8	1.2
1 1 1	199	19	12	0	0	0	0	2	3	149.	15.	33.	30.9	19.5	0.0	0.0	0.0	0.0	1.2	0.8
1 1 1	200	11	11	0	0	1	0	3	2	149.	15.	35.	17.9	17.9	0.0	0.0	0.2	0.0	0.8	0.8
1 1 1	201	11	11	0	1	0	1	2	2	149.	15.	36.	17.9	17.9	0.0	0.4	0.0	0.0	0.8	0.8
1 1 1	202	11	11	0	0	0	0	2	2	149.	15.	38.	17.9	17.9	0.0	0.0	0.2	0.0	0.8	1.6
1 1 1	203	12	12	0	0	1	0	2	4	149.	15.	39.	19.5	19.5	0.0	0.0	0.0	0.0	0.8	1.2
1 1 1	204	12	13	0	1	0	0	2	3	149.	15.	40.	19.5	21.1	0.0	0.4	0.0	0.2	0.0	0.0
1 1 1	205	13	13	0	0	0	1	0	0	149.	15.	42.	21.1	21.1	0.0	0.0	0.0	0.0	0.0	0.8
1 1 1	206	14	14	0	0	0	0	0	2	149.	15.	43.	22.8	22.8	0.0	0.0	0.0	0.2	0.8	1.2
1 1 1	207	13	12	0	0	0	1	2	3	149.	15.	44.	21.1	19.5	0.0	0.0	0.0	0.0	1.2	0.4
1 1 1	208	13	14	0	0	0	0	3	1	149.	15.	46.	21.1	22.8	0.0	0.0	0.0	0.0	0.8	0.8
1 1 1	209	14	14	0	0	0	0	2	2	149.	15.	47.	22.8	22.8	0.0	0.0	0.0	0.2	1.2	0.8
1 1 1	210	15	19	0	0	0	1	3	2	149.	15.	48.	24.4	30.9	0.0	0.0	0.0	0.0	1.2	1.2
1 1 1	211	21	20	0	0	0	0	3	3	149.	15.	50.	34.1	32.5	0.0	0.0	0.0	0.0	1.2	1.2
1 1 1	212	4095	4095	511	511	1	0	3	7	149.	15.	51.	6654.4	6654.4	207.5	207.5	0.2	12.8	2.8	2.8
1 1 1	218	4095	15	511	0	63	0	7	3	149.	15.	59.	6654.4	24.4	207.5	0.0	12.8	0.0	2.8	1.2
1 1 1	219	14	13	1	0	1	0	3	4	149.	16.	1.	22.8	21.1	0.4	0.0	0.2	0.0	1.2	1.6
1 1 1	220	13	14	0	0	0	0	2	4	149.	16.	2.	21.1	22.8	0.0	0.0	0.0	0.0	0.8	1.6
1 1 1	221	13	13	0	1	0	1	0	0	149.	16.	3.	21.1	21.1	0.0	0.4	0.0	0.2	0.0	0.0
1 1 1	222	14	15	0	0	0	0	0	3	149.	16.	5.	22.8	24.4	0.0	0.0	0.0	0.0	1.2	0.8
1 1 1	223	15	15	0	0	0	0	3	2	149.	16.	6.	24.4	24.4	0.0	0.0	0.0	0.0	1.2	0.8
1 1 1	224	15	15	0	0	0	0	3	2	149.	16.	8.	24.4	24.4	0.0	0.0	0.0	0.2	0.4	0.0
1 1 1	225	14	14	0	0	0	1	1	0	149.	16.	9.	22.8	22.8	0.0	0.0	0.0	0.0	0.4	1.2
1 1 1	226	15	15	0	1	0	0	1	3	149.	16.	10.	24.4	24.4	0.0	0.4	0.0	0.0	0.8	0.8
1 1 1	227	15	14	0	0	1	0	2	2	149.	16.	12.	24.4	22.8	0.0	0.0	0.2	0.0	0.8	1.2
1 1 1	228	14	15	0	0	0	0	2	3	149.	16.	13.	22.8	24.4	0.0	0.0	0.0	0.0	0.8	1.2
1 1 1	229	14	14	0	1	1	0	2	3	149.	16.	14.	22.8	22.8	0.0	0.4	0.2	0.0	0.8	1.2

8 0 F0	CSC	1-0	1-8	2-0	2-8	3-0	3-8	4-0,8	DAY	HR	MN	1-0	1-8	2-0	2-8	3-0	3-8	4-0	4-8
0 0 1	230	14	15	511	511	1	0	3 4	149.	16.	16.	22.8	24.4	207.5	207.5	0.2	0.0	1.2	1.6
1 1 1	231	13	15	0	0	1	0	3 2	149.	16.	17.	21.1	24.4	0.0	0.0	0.2	0.0	1.2	0.8
1 1 1	232	14	14	0	0	1	0	3 2	149.	16.	18.	22.8	22.8	0.0	0.0	0.2	0.0	1.2	0.8
1 1 1	233	13	14	0	0	1	1	2 2	149.	16.	20.	21.1	22.8	0.0	0.0	0.2	0.2	0.8	0.8
1 1 1	234	14	14	0	0	1	0	3 2	149.	16.	21.	22.8	22.8	0.0	0.0	0.2	0.0	1.2	0.8
1 1 1	235	15	15	1	0	1	0	2 2	149.	16.	23.	24.4	24.4	0.4	0.0	0.2	0.0	0.8	0.8
1 1 1	236	15	15	0	0	0	0	2 3	149.	16.	24.	24.4	24.4	0.0	0.0	0.0	0.0	0.8	1.2
1 1 1	237	15	14	0	1	0	1	2 2	149.	16.	25.	24.4	22.8	0.0	0.4	0.0	0.2	0.8	0.8
0 1 1	238	16	17	0	511	0	0	2 2	149.	16.	27.	26.0	27.6	0.0	207.5	0.0	0.0	0.8	2.8
1 0 1	239	16	16	511	0	1	0	2 2	149.	16.	28.	26.0	26.0	207.5	0.0	0.2	0.0	2.8	0.8
1 1 1	240	14	15	0	0	0	1	3 2	149.	16.	29.	22.8	24.4	0.0	0.0	0.0	0.2	1.2	0.8
1 1 1	241	15	14	0	1	0	0	2 2	149.	16.	31.	24.4	22.8	0.0	0.4	0.0	0.0	0.8	0.8
1 1 1	242	16	16	0	0	0	1	2 2	149.	16.	32.	26.0	26.0	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	243	16	16	0	0	0	1	2 3	149.	16.	33.	26.0	26.0	0.0	0.0	0.0	0.2	0.8	1.2
1 1 1	244	14	16	0	0	0	1	1 3	149.	16.	35.	22.8	26.0	0.0	0.0	0.0	0.2	0.4	1.2
1 1 1	245	14	15	0	1	0	1	0 1	149.	16.	36.	22.8	24.4	0.0	0.4	0.0	0.2	0.0	0.4
1 1 1	246	15	14	0	0	0	0	0 2	149.	16.	38.	24.4	22.8	0.0	0.0	0.0	0.0	0.0	0.8
1 1 1	247	13	14	0	0	1	1	2 3	149.	16.	39.	21.1	22.8	0.0	0.0	0.2	0.2	0.8	1.2
1 1 1	248	15	16	0	1	0	1	2 2	149.	16.	40.	24.4	26.0	0.0	0.4	0.0	0.2	0.8	0.8
1 1 1	249	14	15	0	0	1	0	2 2	149.	16.	42.	22.8	24.4	0.0	0.0	0.2	0.0	0.8	0.8
1 1 1	250	15	15	0	0	1	0	2 2	149.	16.	43.	24.4	24.4	0.0	0.0	0.2	0.0	0.8	0.8
1 1 1	251	15	15	0	0	0	0	4 1	149.	16.	44.	24.4	24.4	0.0	0.0	0.0	0.0	1.6	0.4
1 1 1	252	14	13	0	1	0	0	4 3	149.	16.	46.	22.8	21.1	0.0	0.4	0.0	0.0	1.6	1.2
1 1 1	253	13	13	0	0	1	0	0 1	149.	16.	47.	21.1	21.1	0.0	0.0	0.2	0.0	0.0	0.8
1 1 1	254	13	13	0	0	1	0	0 2	149.	16.	48.	21.1	21.1	0.0	0.4	0.2	0.0	0.4	0.8
1 1 1	255	14	13	0	1	1	0	1 2	149.	16.	50.	22.8	21.1	0.0	0.0	0.0	0.0	1.2	0.4
1 1 1	256	13	14	0	0	0	0	3 1	149.	16.	51.	24.4	26.0	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	257	15	16	0	0	0	1	2 2	149.	16.	53.	24.4	26.0	0.0	0.0	0.0	0.2	0.8	0.8
1 1 1	258	16	14	0	1	0	0	3 2	149.	16.	54.	26.0	22.8	0.0	0.4	0.0	0.0	1.2	0.8
1 1 1	259	15	14	0	0	0	1	3 3	149.	16.	55.	24.4	22.8	0.0	0.0	0.0	0.2	1.2	1.2

HASP-II***HASP-II.....END JOB 70.....12.44.16 PM 14 MAR 72....187627.....RESCD
HASP-II***HASP-II.....END JOB 70.....12.44.16 PM 14 MAR 72....187627.....RESCD
HASP-II***HASP-II.....END JOB 70.....12.44.16 PM 14 MAR 72....187627.....RESCD
HASP-II***HASP-II.....END JOB 70.....12.44.16 PM 14 MAR 72....187627.....RESCD
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HASP-II***HASP-II.....END JOB 70.....12.44.16 PM 14 MAR 72....187627.....RESCD

....CLAFLIN.....HASP-II***HASP-II
....CLAFLIN.....HASP-II***HASP-II
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....CLAFLIN.....HASP-II***HASP-II
....CLAFLIN.....HASP-II***HASP-II
....CLAFLIN.....HASP-II***HASP-II

EXPLORER 18 PLACET DATA
63 046A-03C

D-6869

This tape contains 5 parity errors.
It was duped using Bob Johnson's
D&C program which deleted the
bad records. 1/13/72

AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	1
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	2
A PARITY ERROR HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	3
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	4
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	5
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	7 OF FILE NO.	6
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	7
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	8
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	9
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	10
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	11
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	12
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	13
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	14
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	15
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	8 OF FILE NO.	16
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	17
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	18
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	8 OF FILE NO.	19
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	20
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	21
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	22
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	2 OF FILE NO.	23
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	24
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	25
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	26
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	27
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	28
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	29

AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	30
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	31
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	32
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	33
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	34
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	35
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	36
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	37
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	38
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	39
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	40
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	9 OF FILE NO.	41
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	42
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	43
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	2 OF FILE NO.	44
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	2 OF FILE NO.	45
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	3 OF FILE NO.	46
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	3 OF FILE NO.	47
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	2 OF FILE NO.	48
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	49
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	50
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	7 OF FILE NO.	51
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	8 OF FILE NO.	52
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	6 OF FILE NO.	53
A PARITY ERROR HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	1 OF FILE NO.	54

AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	54
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	55
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	56
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	12 OF FILE NO.	57
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	58
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	10 OF FILE NO.	59
AN END-OF-FILE HAS BEEN ENCOUNTERED ON PHYSICAL RECORD NO.	11 OF FILE NO.	60

3361	00000000000000	000000000000	202431463146	000000000000	263121300454	000000000000	000000000000	000000000000	000000000000
3409	000000000000	26312112447	000000000000	000000000000	000000000000	000000000000	20263146315	000000000000	000000000000
3457	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	000000000000	020710000700
3505	000000000000	400000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
3553	000000000000	771777777777	771777777777	771777777777	263121420407	000000000000	000000000000	000000000000	000000000000
3501	263141432402	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	263121450342	000000000000
3549	000000000000	000000000000	000000000000	000000000000	263121552335	000000000000	000000000000	000000000000	201714631463
3597	000000000000	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777
3745	000000000000	020710000703	0304100314	400000000000	000000000000	000000000000	000000000000	000000000000	000000000000
3793	000000000000	000000000000	000000000000	771777777777	771777777777	771777777777	771777777777	000000000000	000000000000
3841	000000000000	000000000000	263121672770	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
3869	263122002300	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
3937	000000000000	000000000000	000000000000	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777
3945	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777
4033	040100000000	010000000000	000000000000	020710000703	060302000401	400000000000	000000000000	000000000000	000000000000
4081	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	771777777777	771777777777	771777777777
4129	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
4177	400000000000	000000000000	263122500004	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
4225	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	771777777777	771777777777	771777777777
4273	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777	771777777777
4321	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
4369	771777777777	263122617740	000000000000	000000000000	000000000000	000000000000	000000000000	263122617740	000000000000
4417	000000000000	000000000000	202514631463	000000000000	263122373673	000000000000	000000000000	000000000000	000000000000
4465	000000000000	263122516605	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	771777777777
4513	771777777777	771777777777	771777777777	771777777777	771				

[illegible]

[illegible]

FILE 0001 REC 0011 CH 4824

[illegible]