

Data Set Catalog #226

Apollo 14, A1sep, Count Rate Data
71-008C-08A 31 tapes

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

APOLLO 14 LM/ALSEP
COUNT RATE DATA ON MAG TAPE
71-008C-08A

This data set has been restored. There were originally 53 7-track, 556 BPI tapes written in Binary. There are five restored tapes. The DR tapes are 3480 cartridges and the DS tapes are 9-track, 6250 BPI. The original tapes were created on a 930 computer and the restored tapes were created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D numbers are as follows:

DR#	DS#	DD#	FILES	TIME SPAN	
-----	-----	-----	-----	-----	
DR004786	DS004786	D010822	1	02/05/71 - 02/09/71	
		D011638	2	02/09/71 - 02/13/71	(a)
		D011639	3	02/13/71 - 02/17/71	
		D011640	4	02/17/71 - 02/21/71	
		D011641	5	02/21/71 - 02/25/71	
		D011642	6	02/25/71 - 03/01/71	
		D011634	7	03/01/71 - 03/05/71	
		D011635	8	03/05/71 - 03/09/71	(b)
		D011636	9	03/09/71 - 03/12/71	
		D011637	10	03/13/71 - 03/17/71	(c)
		D011890	11	03/19/71 - 03/21/71	
DR004787	DS004787	D011891	1	03/21/71 - 03/25/71	
		D011892	2	03/25/71 - 03/29/71	(d)
		D011893	3	03/29/71 - 04/02/71	
		D011894	4	04/02/71 - 04/06/71	
		D011895	5	04/06/71 - 04/10/71	
		D011896	6	04/16/71 - 04/20/71	
		D011897	7	04/20/71 - 04/24/71	
		D011898	8	04/24/71 - 04/28/71	
		D011899	9	04/28/71 - 05/02/71	
		D012117	10	05/02/71 - 05/06/71	
		D012118	11	05/06/71 - 05/10/71	
DR004788	DS004788	D012119	1	05/10/71 - 05/14/71	
		D012120	2	05/14/71 - 05/18/71	
		D012121	3	05/18/71 - 05/22/71	
		D012122	4	05/22/71 - 05/26/71	(e)
		D012123	5	05/26/71 - 05/30/71	(f)
		D012124	6	05/30/71 - 06/03/71	
		D012125	7	06/03/71 - 06/07/71	
		D016608	8	07/31/72 - 08/04/72	(g)
		D012593	9	08/03/72 - 08/06/72	
		D016604	10	08/04/72 - 08/08/72	
		D012591	11	08/07/72 - 08/10/72	

DR#	DS#	DD#	FILES	TIME SPAN
-----	-----	-----	-----	-----
DR004789	DS004789	D016603	1	08/08/72 - 08/12/72 (h)
		D016601	2	12/06/72 - 12/10/72 (i)
		D016606	3	12/18/72 - 12/22/72
		D016607	4	12/22/72 - 12/26/72 (j)
		D016605	5	12/26/72 - 12/30/72
		D016610	6	12/30/72 - 01/01/73
		D016609	7	01/01/73 - 01/05/73
		D016611	8	01/05/73 - 01/09/73
		D016612	9	01/09/73 - 01/13/73
		D016598	10	01/13/73 - 01/17/73 (k)
DR004790	DS004790	D016622	1	01/17/73 - 01/21/73
		D016621	2	01/21/73 - 01/25/73
		D016620	3	01/25/73 - 01/29/73 (l)
		D016619	4	01/29/73 - 02/02/73
		D016618	5	02/02/73 - 02/06/73
		D016617	6	02/06/73 - 02/10/73 (m)
		D016616	7	02/10/73 - 02/14/73
		D016615	8	02/14/73 - 02/18/73
		D016613	9	02/20/73 - 02/22/73 (n)
		D016614	10	02/28/73 - 03/02/73 (o)

- (a) D011638: Read error occurred in record 490 of file 1.
- (b) D011635: Read error occurred in record 14 of file 1.
- (c) D011637: Read error occurred in record 206 of file 1.
- (d) D011892: Read error occurred in record 93 of file 1.
- (e) D012122: Read error occurred in record 5 of file 1.
- (f) D012123: Read error occurred in record 4 of file 1.
- (g) D016608: Read error occurred in record 1702 of file 1.
- (h) D016603: Read errors occurred in records 1743 & 1769 of file 1.
- (i) D016601: Read error occurred in record 85 of file 1.
- (j) D016607: Read errors occurred in records 1284 & 1285 of file 1.
- (k) D016598: Read errors occurred in records 28, 41, 44, 48, 62 of file 1.
- (l) D016620: Read error occurred in record 395 of file 1.
- (m) D016617: Read error occurred in record 65 of file 1.
- (n) D016613: Read error occurred in record 182 of file 1.
- (o) D016614: Read error occurred in record 47 of file 1.

APOLLO 14 ALSEP

COUNT RATE DATA AND SOLAR FLARE COUNT RATE DATA

71-008C-08A

This data set catalog consisting of 53 tapes contains Apollo 14 ALSEP Charged Particle Lunar Environment Experiment data. The tapes are 556 BPI, 7-track, Binary, 1 file. They were created on an XDS 940 computer.

The physical and logical record size can be found in the data tape format.

The time spans for the tapes are:

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-10822	C-08176	2/05/71 - 2/09/71
D-11638	C-08938	2/09/71 - 2/13/71
D-11639	C-08939	2/13/71 - 2/17/71
D-11640	C-08940	2/17/71 - 2/21/71
D-11641	C-08941	2/21/71 - 2/25/71
D-11642	C-08942	2/25/71 - 3/01/71
D-11634	C-08934	3/01/71 - 3/05/71
D-11635	C-08935	3/05/71 - 3/09/71
D-11636	C-08936	3/09/71 - 3/12/71
D-11637	C-08937	3/13/71 - 3/17/71
D-11890	C-09194	3/19/71 - 3/21/71
D-11891	C-09195	3/21/71 - 3/25/71
D-11892	C-09196	3/25/71 - 3/29/71
D-11893	C-09197	3/29/71 - 4/02/71
D-11894	C-09198	4/02/71 - 4/06/71
D-11895	C-09199	4/06/71 - 4/10/71
D-11896	C-09200	4/16/71 - 4/20/71
D-11897	C-09201	4/20/71 - 4/24/71
D-11898	C-09202	4/24/71 - 4/28/71

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-11899	C-09203	4/28/71 - 5/02/71
D-12117	C-09401	5/02/71 - 5/06/71
D-12118	C-09402	5/06/71 - 5/10/71
D-12119	C-09403	5/10/71 - 5/14/71
D-12120	C-09404	5/14/71 - 5/18/71
D-12121	C-09405	5/18/71 - 5/22/71
D-12122	C-09406	5/22/71 - 5/26/71
D-12123	C-09407	5/26/71 - 5/30/71
D-12124	C-09408	5/30/71 - 6/03/71
D-12125	C-09409	6/03/71 - 6/07/71
<i>SOLAR FLARE</i> * D-12591	C-09583	8/03/72 - 8/06/72
* D-12593	C-09584	8/07/72 - 8/10/72

* These two tapes are the Solar Flare tapes.

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-16598	C-12689	1/13/73 - 1/17/73
D-16601	C-12690	12/06/72 - 12/10/72
D-16603	C-12691	8/08/72 - 8/12/72
D-16604	C-12692	8/04/72 - 8/08/72
D-16605	C-12693	12/26/72 - 12/30/72
D-16606	C-12694	12/18/72 - 12/22/72
D-16607	C-12695	12/22/72 - 12/26/72
D-16608	C-12696	7/31/72 - 8/04/72
D-16609	C-12697	1/01/73 - 1/05/73
D-16610	C-12698	12/30/72 - 1/01/73
D-16611	C-12699	1/05/73 - 1/06/73
D-16612	C-12700	1/09/73 - 1/13/73
D-16613	C-12701	2/20/73 - 2/22/73
D-16614	C-12702	2/28/73 - 3/02/73
D-16615	C-12703	2/14/73 - 2/18/73
D-16616	C-12704	2/10/73 - 2/14/73
D-16617	C-12705	2/06/73 - 2/10/73
D-16618	C-12706	2/02/73 - 2/06/73
D-16619	C-12707	1/29/73 - 2/02/73
D-16620	C-12708	1/25/73 - 1/29/73
D-16621	C-12709	1/21/73 - 1/25/73
D-16622	C-12710	1/17/73 - 1/21/73

Three tapes - D-16599, D-16600, and D-16602 each had over 30 parity errors.

SPHE 00017

APOLLO 14 LM/ALSEP

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		D011634	7	03/01/71 - 03/05/71
		D011635	8	03/05/71 - 03/09/71 (b)
		D011636	9	03/09/71 - 03/12/71
		D011637	10	03/13/71 - 03/17/71 (c)
		D011890	11	03/19/71 - 03/21/71
DR004787	DS004787	D011891	1	03/21/71 - 03/25/71
		D011892	2	03/25/71 - 03/29/71 (d)
		D011893	3	03/29/71 - 04/02/71
		D011894	4	04/02/71 - 04/06/71
		D011895	5	04/06/71 - 04/10/71
		D011896	6	04/16/71 - 04/20/71
		D011897	7	04/20/71 - 04/24/71
		D011898	8	04/24/71 - 04/28/71
		D011899	9	04/28/71 - 05/02/71
		D012117	10	05/02/71 - 05/06/71
		D012118	11	05/06/71 - 05/10/71
DR004788	DS004788	D012119	1	05/10/71 - 05/14/71
		D012120	2	05/14/71 - 05/18/71
		D012121	3	05/18/71 - 05/22/71
		D012122	4	05/22/71 - 05/26/71 (e)
		D012123	5	05/26/71 - 05/30/71 (f)
		D012124	6	05/30/71 - 06/03/71
		D012125	7	06/03/71 - 06/07/71
		D016608	8	07/31/72 - 08/04/72 (g)
		D012593	9	08/03/72 - 08/06/72
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D-11640	C-08940	2/17/71 - 2/21/71
D-11641	C-08941	2/21/71 - 2/25/71
D-11642	C-08942	2/25/71 - 3/01/71
D-11634	C-08934	3/01/71 - 3/05/71
D-11635	C-08935	3/05/71 - 3/09/71
D-11636	C-08936	3/09/71 - 3/12/71
D-11637	C-08937	3/13/71 - 3/17/71
D-11890	C-09194	3/19/71 - 3/21/71
D-11891	C-09195	3/21/71 - 3/25/71
D-11892	C-09196	3/25/71 - 3/29/71
D-11893	C-09197	3/29/71 - 4/02/71
D-11894	C-09198	4/02/71 - 4/06/71
D-11895	C-09199	4/06/71 - 4/10/71
D-11896	C-09200	4/16/71 - 4/20/71
D-11897	C-09201	4/20/71 - 4/24/71
D-11898	C-09202	4/24/71 - 4/28/71

<u>D#</u>	<u>C#</u>	<u>TIME SPAN</u>
D-11899	C-09203	4/28/71 - 5/02/71
D-12117	C-09401	5/02/71 - 5/06/71
D-12118	C-09402	5/06/71 - 5/10/71
D-12119	C-09403	5/10/71 - 5/14/71
D-12120	C-09404	5/14/71 - 5/18/71
D-12121	C-09405	5/18/71 - 5/22/71
D-12122	C-09406	5/22/71 - 5/26/71
D-12123	C-09407	5/26/71 - 5/30/71
D-12124	C-09408	5/30/71 - 6/03/71
D-12125	C-09409	6/03/71 - 6/07/71
<i>SOLAR FLARE</i> * D-12591	C-09583	8/03/72 - 8/06/72
* D-12593	C-09584	8/07/72 - 8/10/72

* These two tapes are the Solar Flare tapes.

RICE UNIVERSITY

HOUSTON, TEXAS

77001

9 November 1972

DEPARTMENT OF SPACE SCIENCE

Mr. Joseph King
Code 601
National Space Science Data Center
Coddard Space Flight Center
Greenbelt, Md. 20771

Dear Mr. King,

I am enclosing a description and data tape format for the Charged Particle Lunar Environment Experiment (CPLEE), a component of the Apollo 14 ALSEP. I am also sending, under separate cover, a test tape for the first four (4) days of CPLEE operation along with an octal dump of the first few records. I would appreciate it if you would verify the tape and inform me as to its acceptability. Following that, I will begin to send tapes on a regular basis.

As we have discussed previously by telephone, CPLEE operated continuously from February 5, 1971 until June 6, 1971, at which time a partial failure in one of the high voltage supplies forced us to operate on an intermittent basis. Initially, therefore I will send tapes of the February 5 - June 6 period (30 tapes), and thereafter will select certain periods of interest (e.g. solar flare events, lunar impact events, magnetic storm events) for which instrument operation was stable and good quality data were received.

I shall also supply a tape, most likely written in 9-track IBM 370 FORTRAN format, of the various ephemeris positions in the solar-ecliptic and solar-magnetospheric coordinate systems. I expect to supply this tape in approximately 2 months.

Sincerely,

David L. Reasoner

David L. Reasoner

cc: W. F. Eichelman
D. W. Strangway
D. Beattie

CPLEE DATA TAPE FORMAT

The data tape records are organized around the CPLEE deflection voltage cycles. The tapes are 7-track, 556 B.P.I., binary, odd parity with 1110 word physical records. A logical record contains timing and housekeeping information, and 96 data words. The 96 data words represent either 1 CPLEE cycle in the automatic mode (19.2 seconds) or 8 CPLEE cycles (2.4 seconds/cycle) in the manual mode. Also included are words to identify the deflection voltage step and polarity.

Each data tape begins with a 4-word header record written in odd parity and SDS-92 internal code. The label is "CPLEE ALSEP APOLLO 14".

Each logical record is constructed as follows, with ten (10) logical records per physical record.

WORD NUMBERFUNCTION

1	Days (Day 1 = Jan.1.)
2	Hours
3	Minutes
4	Milliseconds
5-100	Data Array
101	Mode and Step Indicator
102	Last Valid Line (Manual)
103	N/A
104	N/A
105	Year
106	N/A
107	Analyzer B Channeltron Power Supply Voltage
108	Analyzer A Channeltron Power Supply Voltage
109	DC/DC Convertor Voltage
110	Physical Analyzer Temp. (°C)
111	Electronics Temp. (°C)

DATA ARRAY (Words 5-100)

A. AUTOMATIC MODE

<u>WORD</u>	<u>FUNCTION</u>
5-10	Analyzer A, + 3500, Ch. 1-6
11-16	Analyzer B, + 3500, Ch. 1-6
17-22	Analyzer A, + 350, Ch. 1-6
23-28	Analyzer B, + 350, Ch. 1-6
29-34	Analyzer A, + 35, Ch. 1-6
35-40	Analyzer B, + 35, Ch. 1-6
41-46	Analyzer A, + 0, Ch. 1-6
47-52	Analyzer B, + 0, Ch. 1-6
53-58	Analyzer A, - 3500, Ch. 1-6
59-64	Analyzer B, -3500, Ch. 1-6
65-70	Analyzer A, -350, Ch. 1-6
71-76	Analyzer B, -350, Ch. 1-6
77-82	Analyzer A, -35, Ch. 1-6
83-88	Analyzer B, -35, Ch. 1-6
89-94	Analyzer A, -0, Ch. 1-6
95-100	Analyzer B, -0, Ch. 1-6.

B. MANUAL MODE.

WORD

FUNCTION.

5-10

Analyzer A, Ch. 1-6

11-16

Analyzer B, Ch. 1-6

This sequence is repeated 7 times to fill the data array. In the event that the instrument returns to automatic mode or changes deflection voltage before the 8 cycles are complete, the remainder of the array will be filled with zeroes.

MODE AND ID BITS (Word 101)

- A. Automatic Mode - If the instrument is in automatic mode the 24th bit (2^{23}) will be set to "1" and all other bits zero.
- B. Manual Mode - If the instrument is in manual mode the 24th bit will be "0" and the lowest-order four bits will indicate the deflection voltage step according to the following:

<u>OCTAL</u>	<u>DECIMAL</u>	<u>BINARY</u>	<u>DEFLECTION VOLTAGE</u>
16	14	1110	+ 3500
14	12	1100	+ 350
12	10	1010	+ 35
10	8	1000	+ 0
06	6	0110	- 3500
04	4	0100	- 350
02	2	0010	- 35
00	0	0000	- 0

LAST VALID LINE (Word 102)

The last valid line word (word 102) is an integer from 1 to 8 which is the number of the last valid line in the data array. Since all lines are valid in Automatic, this value is significant only in Manual mode. Normally 8 manual cycles are packed into a logical unit, but a data gap or a change in mode or deflection voltage will abort the packaging process. Therefore, some logical units will have fewer than 8 lines of good, time-consecutive data in them, and this parameter tells how many lines are good.

YEAR (Word 105)

The year word is a binary integer for the data year; i.e., 1971.

HOUSEKEEPING (Words 107-111)

The housekeeping data has all been multiplied by 100 to preserve two decimal places in the binary integer form.

TAPE TERMINATION - Tapes are terminated with two (2) IBM end-of-file marks.

NOTE:

- a) All periods when the instrument was off are deleted from the tape.
- b) Each tape contains 4 days of data beginning at Day n, 17/44/00 and ending at Day n + 4, 17/43/59.
- c) When checking to see if instrument is in manual or auto (word 101), simply check if word 101 is greater than or less than 100.

CHARGED PARTICLE LUNAR ENVIRONMENT EXPERIMENT

(CPLEE)

Description of the instrument, calibration factors, operational history, and data tape format prepared for the National Space Science Data Center.

For further information contact:

Prof. David L. Reasoner
Department of Space Science
Rice University
Houston, Texas 77001
713-528-4141 X1135

DESCRIPTION OF THE INSTRUMENT

The CPLEE consists of a box supported by four legs. The box contains two similar physical charged-particle analyzers, two different programable high-voltage supplies, twelve 20-bit accumulators, and appropriate conditioning and shifting circuitry.

Each physical analyzer contains five C-shaped channel electron multipliers with a nominal aperture of 1 mm each and one helical channel electron multiplier with a nominal aperture of 8 mm. These are shown schematically in figure 1.

The channel electron multiplier is a hollow glass tube, the inside surface of which, when bombarded by charged particles, ultraviolet light, etc., is an emitter of secondary electrons. In the CPLEE, the aperture of each electron multiplier is operated nominally at ground potential (actually at 16 V), while a voltage of 2800 or 3200 V (selected by ground command) is placed on the other (i.e., anode) end. Thus, if an incident particle enters the aperture and secondary electrons are produced, these are accelerated and hit the walls to generate more secondary electrons, so that a multiplication to an order of 10^7 is achieved by the time the pulse arrives at the anode. After conditioning, pulses from each electron multiplier are accumulated in a register for later readout as described in the following paragraphs.

As shown in figure 1, incident particles enter an analyzer through a series of slits and then pass between two deflection plates across which a voltage can be applied. Thus, at a given deflection voltage, the five small-aperture electron multipliers make a five-point measurement of the energy spectrum of charged particles of a given polarity (e.g., electrons), while, sim-

ultaneously, the large-aperture electron multiplier makes a single wideband measurement of particles with the opposite polarity and of simultaneous multiple-spectral samples are considerable in studies of rapidly varying particle fluxes.

In the CPLEE, the deflection-plate voltage, in the normal mode, is stepped in the sequence shown in figure 2. As a consequence, the energy passbands shown in figures 4 and 5 are sampled. Although data acquired by the six sensors are not transmitted simultaneously, the six sensors are connected to six accumulators for exactly the same time (viz, 1.2 sec) and the contents transferred to shift registers for later sequential transmission.

Two analyzers, A and B, point in the directions shown in figure 3. The same deflection voltage is applied to each analyzer simultaneously, with counts from 1.2-sec accumulation time of analyzer A being transmitted while counts from analyzer B are accumulating. Thus, each voltage is normally on for 2.4 sec with the result that the total cycle time is 19.2 sec (fig. 2), when allowance is made for two sample times when the deflection voltage is zero. On one of those two occasions, counts are accumulated as usual to measure background or contaminating radiation. On the other occasion, a pulse generator of about 375 kHz is connected to the accumulators to verify operation.

The command link with the ALSEP provides a variety of options for CPLEE operation. Aside from the usual power commands common to all ALSEP experiments, three commands are provided that allow the normal automatic stepping sequence to be modified. The sequence can be stopped and then the deflection plate supply can be manually stepped to any one of the eight possible levels.

This is done to study a particular phenomenon (e.g., low-energy electrons) with higher time resolution (2.4 sec). A second set of commands allows the electron-multiplier high-voltage supply to be set at either 2800 or 3200 V. The higher voltage is used in the event the electron-multiplier gains decrease during lunar operations. A third pair of commands allows the normal thermal-control mode to be bypassed in the event of failure of the thermostat, thus offering manual control of the heaters.

The CPLEE apertures are covered with a dust cover to avoid contamination during deployment and, particularly, during LM ascent. The dust cover was made doubly useful because a ^{63}Ni radioactive source was placed on the underside over each aperture. Thus, the sensors were proof calibrated on the Moon, and the data compared with measurements made in the same way with the same system when the unit was last calibrated on Earth.

CPLEE was deployed on the lunar surface at lunar coordinates $3^{\circ} 40'$ south latitude and $17^{\circ} 27'$ west longitude on February 5, 1971. Leveling and east-west orientation to within $\pm 1^{\circ}$ were accomplished by means of a bubble level and sun compass. Analyzer A, therefore, points toward the local lunar vertical and Analyzer B points 60° from vertical toward lunar west. For a first approximation, the detectors may be considered to be pointing in the plane of the ecliptic.

CPLER PHYSICAL ANALYZER

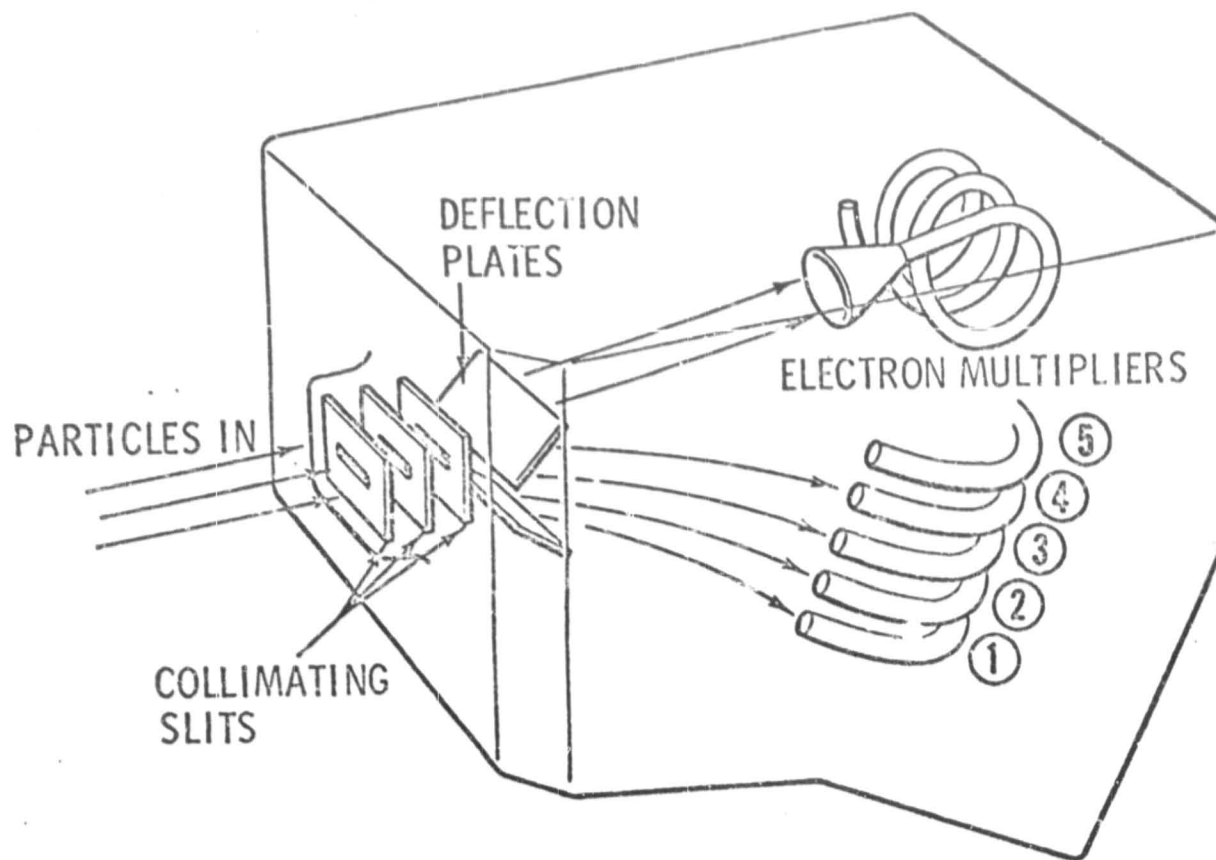


FIGURE 1

CPLEE TIMING SEQUENCE

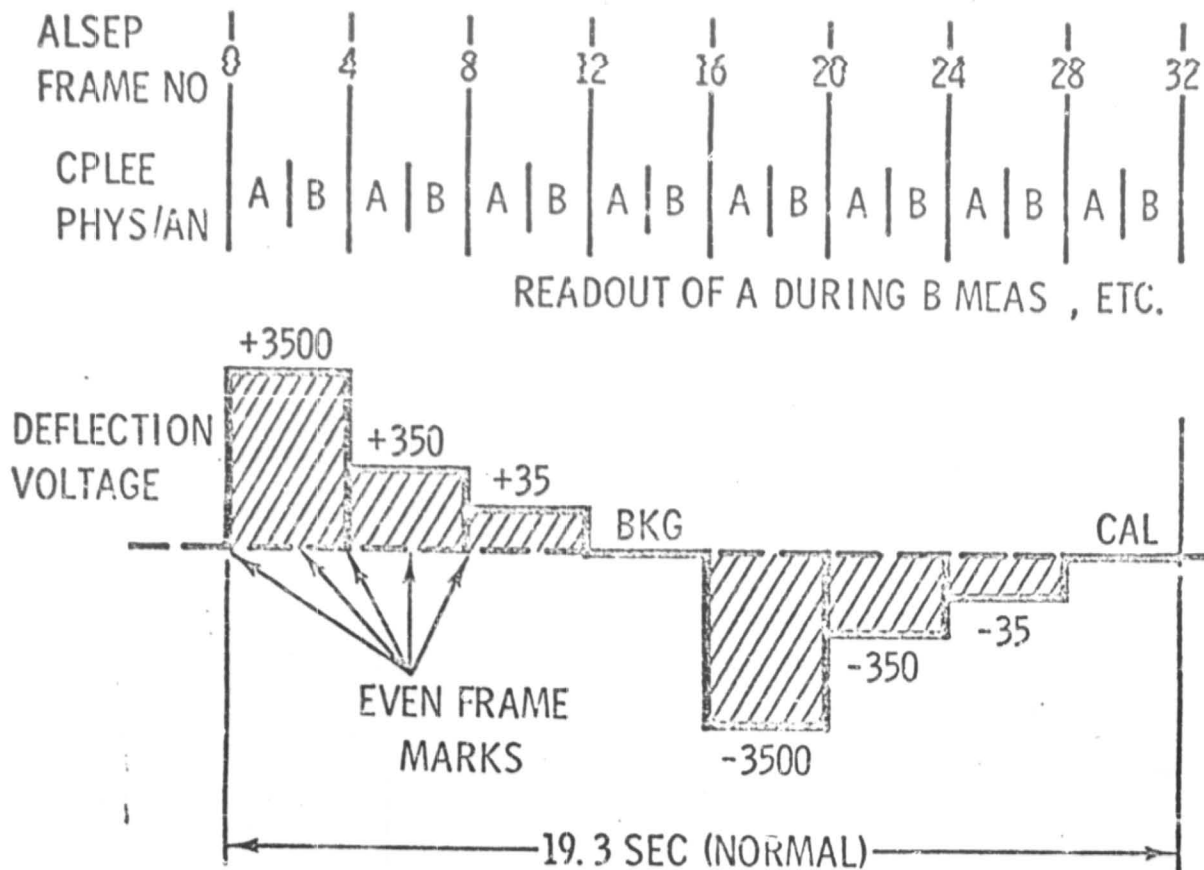


FIGURE 2

CHARGED-PARTICLE LUNAR ENVIRONMENT EXPERIMENT SUBSYSTEM

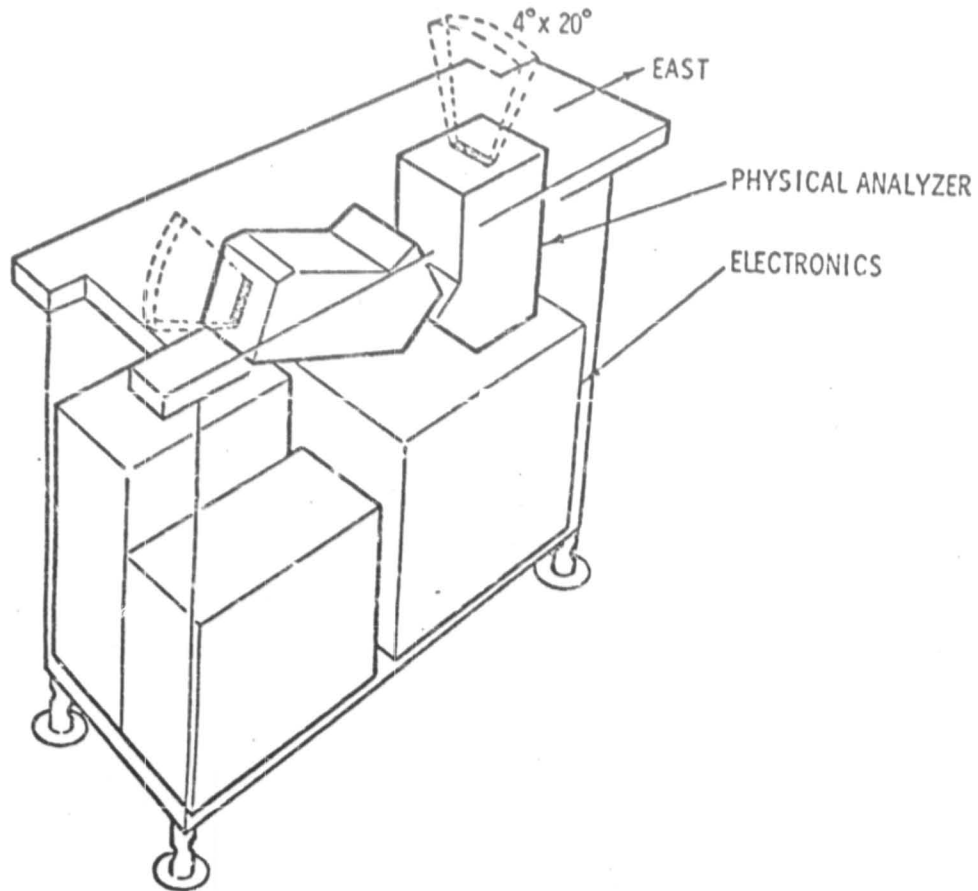


FIGURE 3

CPLEE CALIBRATION

In the following table (Table 1) the center energies of the various channels and the numbers to convert from counts/cycle (1 cycle = 1.2 seconds) to flux in particles/cm² sec-ster-eV are given. Negative deflection voltages (-35, -350, -3500) for channels 1-5 are electron channels, while positive deflection voltages for channel 6 are electron channels. Conversely, positive deflection voltages for channels 1-5 and negative deflection voltages for channel 6 are ion channels. The calibrations for the lowest energy ion channels (+35 volts, channels 1-5) are estimated as there was no low-energy ion source available for calibration.

The deflection voltage step labeled + 0 is a background measurement. At the -0 deflection voltage step, a test oscillator with frequency of about 375 kHz is connected to the amplifiers to verify operation of the entire data link.

Figures 4 and 5 show the actual CPLEE energy passbands for electrons. Here are plotted GF(E) vs. E. The area under a curve is $GF_0 \times \Delta E$, or the effective geometric factor in units of cm²-ster-eV-counts/particle. The conversion numbers in Table 1 were obtained by the formula $N = \frac{1}{GF_0 \times \Delta E} \cdot \frac{1}{1.2}$. (The factor of 1.2 accounts for the 1.2 second accumulation time.)

Table 1

CPLEE Counts to Differential Flux

(Counts/1.2 sec to $\#/cm^2$ sec ster eV)

Step, Detector	Center Energy (eV)		Flux units/count	
	Analyzer A	Analyzer B	Analyzer A	Analyzer B
-35, 1	40	45	5900	4350
-35, 2	50	54	2780	2560
-35, 3	65	70	1410	1430
-35, 4	94	100	530	532
-35, 5	200	200	100	74
-35, 6				
-350, 1	500	500	313	351
-350, 2	600	600	210	266
-350, 3	750	750	118	143
-350, 4	1100	1100	65	81
-350, 5	2000	2300	15	15
-350, 6				
-3500, 1	4800	5000	68	70
-3500, 2	5800	6000	31	33
-3500, 3	7200	7500	18	24
-3500, 4	10000	10000	9.5	11.5
-3500, 5	20000	23000	6.5	6.5
-3500, 6				
+35, 1	(60)	(55)	(2×10^5)	(1.2×10^5)
+35, 2	(70)	(65)	(50000)	(50000)
+35, 3	(84)	(85)	(19000)	(20000)
+35, 4	170	(100)	2000	(4000)
+35, 5	300	220	230	240
+35, 6	75	85	4.8	4.5

Table 1 (continued)

+350,1	500	500	630	615
+350,2	600	600	380	475
+350,3	750	750	170	242
+350,4	1100	1100	70	105
+350,5	2000	2200	12	11
+350,6	750	800	0.74	0.83
+3500,1	4800	5000	35	35
+3500,2	5800	6000	13.4	14.3
+3500,3	7200	7500	6.9	8.0
+3500,4	10000	10000	2.7	3.3
+3500,5	20000	22000	1.5	1.5
+3500,6	9000	8000	0.31	0.60

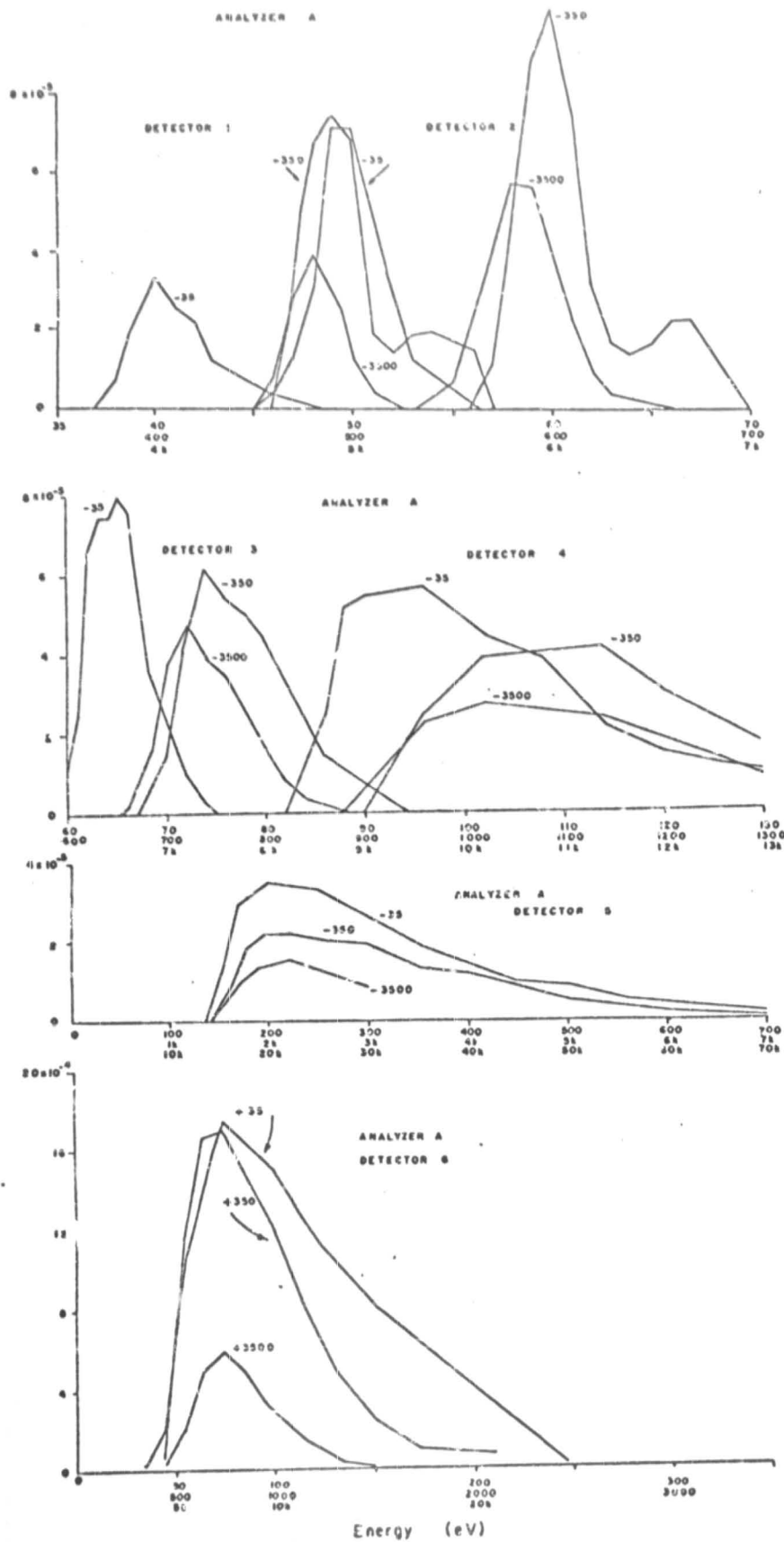


FIGURE 4

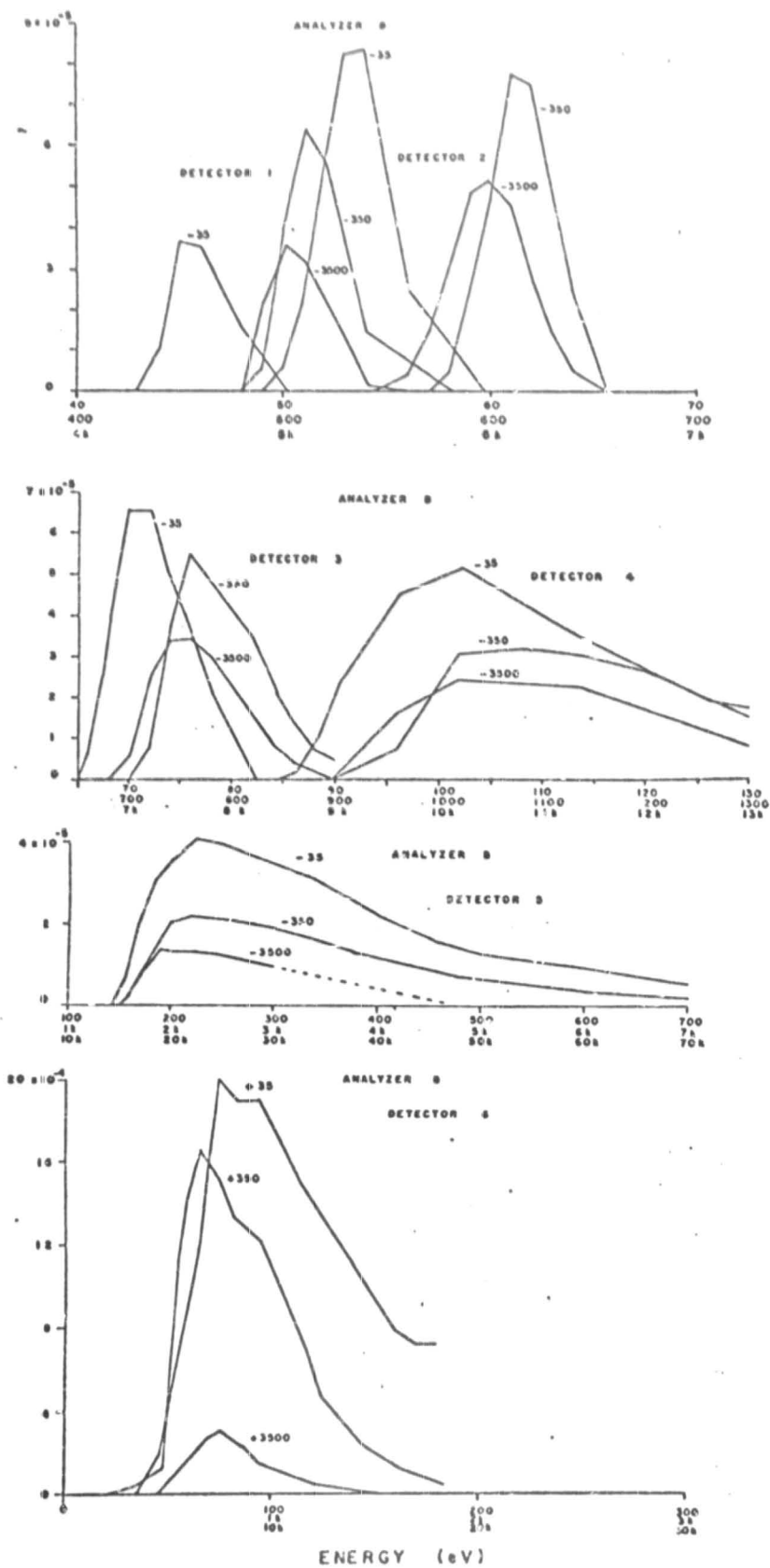


FIGURE 5

CPLEE OPERATIONAL HISTORY

<u>TIME</u> (Day/Hours/Min./Sec.)	<u>EVENT</u>
036/10/00/00	CPLEE on-Functional Test
036/19/10/00	CPLEE off
036/21/58/40	CPLEE on
036/22/03/10	CPLEE off
037/04/00/00	CPLEE on -Full Functional Test w/all command Functions Tested-Counts are due to dust cover beta sources
037/06/09/40	CPLEE off
037/15/28/20	CPLEE on
037/15/39/50	CPLEE off
037/19/10/01	CPLEE on-Post LM Liftoff
037/19/30/13	Dust Cover Removed
044/02/22/00	Sequence of 10 minutes automatic operation alternating with 50 minutes manual + 350 operation begun.
044/21/00/00	Sequence Terminated.

045/02/00/00

Sequence of alternates
1-hour periods of automatic
and manual + 350 operation begun.

048/21/00/00

Sequence Terminated - Instrument
to automatic.

065/08/00/00

Sequence of alternate 1-hour
periods of automatic and manual
-35 operation begun.

069/21/45/00

Sequence Terminated - Instrument
to automatic mode/

072/00/00/00

CPLEE off due to Analyzer A
solar U.V. contamination.

072/18/00/00

CPLEE on.

076/08/03/00

CPLEE off due to Analyzer B
solar U.V. contamination.

078/04/00/00

CPLEE on.

098/21/85/35

CPLEE Channeltron power supply for Analyzer B failed, terminating data from this Analyzer.

099/14/30/00

CPLEE off.

106/14/29/00

CPLEE on - Analyzer A only.

130/20/50/00

CPLEE off due to Analyzer A solar U.V. contamination.

131/18/58/00

CPLEE on.

157/17/15/00

CPLEE channeltron power supply for Analyzer A partially failed (low voltage condition).

157/18/11/00

CPLEE off.

554, B...
2/5/74
2/8/74

D-10A22
C-0A, 76

0001	000000000044	000000000023	000000000001	000000034404	000000000727	000000000346	000000000346	000000000350
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0193	000000000002	000000000161	000000000001	000000000000	000000000004	000000000003	000000000003	000000000523
0241	000000000001	000000000005	000000000000	000000000001	000000000000	000000000173	000000000002	000000000000
0289	000000000001	000000000002	000000000003	000000000542	000000000202	000000000010	000000000230	000000000152
0337	000000000353	000000000424	000000000114	000000000132	000000000146	000000000174	000000000263	000000000455
0385	000000000001	000000000001	000000000006	000000000002	000000000032	000000000104	000000000000	000000000001
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0481	000000000004	000000000140	000000000000	000000000001	000000000012	000000000005	000000000002	000000000505
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0577	000001402736	000001402736	000001402736	000001403005	000040000010	000000000000	000000000001	000000000001
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0769	000000000001	000000000003	000000000002	000000000002	000000000250	000000000001	000000000000	000000000001
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0865	000000000220	000000000003	000000000004	000000000001	000000000004	000000000003	000000000544	000000000001
0913	000000000003	000000000001	000000000000	000000000002	000000000164	000000000001	000000000004	000000000003
0961	000000000002	000000000002	000000000545	000000000011	000000000021	000000000043	000000000122	000000000314
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1393	000000000001	000000000000	000000000003	000000000001	000000000000	00000001367	000000000002	000000000000
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1633	000000000002	000000000546	000000000014	000000000025	000000000046	000000000111	000000000332	000000000047
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1825	000000000000	000000000003	000000000003	000000000001	000000000003	000000000467	000001402561	000001402562
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2113	000000000001	000000000001	000000000230	000000000001	000000000001	000000000001	000000000003	000000000001
2161	000000000600	000000000001	000000000003	000000000001	000000000000	000000000001	000000000173	000000000000
2209	000000000002	000000000002	000000000001	000000000001	000000000640	000000000001	000000000002	000000000001
2257	000000000002	000000000006	000000000140	000000000001	000000000000	000000000001	000000000001	000000000000
2305	000000000507	000000000006	000000000022	000000000046	000000000117	000000000306	000000000041	000000000011
2353	000000000023	000000000021	000000000040	000000000122	000000000262	000000000003	000000000000	000000000004
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3697	000000000043	000000000135	000000000240	000000000002	000000000004	000000000004	000000000005	000000000021
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5569	000000000000	000000000000	000000000001	000000000003	000000000001	000000000140	000000000000	000000000000
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5665	000000000267	000000000047	000000000005	000000000012	000000000016	000000000055	000000000137	000000000225
5713	000000000005	000000000001	000000000003	000000000006	000000000022	000000000104	000000000001	000000000004
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FILE 0001 REC 0002 CH 6660

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6193	000000000177	000000000001	000000000001	000000000006	000000000004	000000000004	000000000505	000000000001
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FILE 0001 REC 0003 CH 6660

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0673	000000000023	000000000005	000000014447	000000000003	000000000003	000000000001	000000000003	000000000003
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1729	000000000001	000000000005	000000000035	000000000073	000000000005	000000000003	000000000002	000000000004
1777	000000000014	000000000461	000000000001	000000000003	000000000003	000000000004	000000000002	000000000115
1825	000000000002	000000000002	000000000001	000000000001	000000000003	000000000520	000001403045	000001403045
1873	000001403046	000001403045	000001403046	000001403071	000001403070	000001403070	000001403070	000001403070
1921	000001403071	000001403173	000040000010	000000000000	000000000001	000000000001	000000003663	000000000000
1969	000001075201	000001037101	000000000456	000000002504	000000002754	000000000044	000000000023	000000000005
2017	000000130030	000000000001	000000000001	000000000003	000000000001	000000000003	000000002373	000000000001
2065	000000000002	000000000001	000000000000	000000000000	000000001331	000000000000	000000000000	000000000002

FILE 0001 REC 0005 CH 6660

5857	000001437530	000001437530	000001437530	000001437530	000001437532	000001437562	000001437603	000001437601
5905	000001437603	000001437603	000001437603	000001437742	000040000000	000000000000	000000000001	000000000001
5953	000000003663	000000000000	000001013105	000001004771	000000000460	000000012574	000000013250	000000000050
6001	000000000020	000000000052	000000144262	000000000005	000000000001	000000000001	000000000004	000000000003
6045	000000000034	000000000003	000000000002	000000000004	000000000005	000000000005	000000000540	000000000001
6097	000000000002	000000000001	000000000005	000000000003	000000000150	000000000001	000000000001	000000000005
6145	000000000006	000000000005	000000001156	000000000001	000000000005	000000000002	000000000002	000000000003
6193	000000014340	000000000001	000000000002	000000000002	000000000004	000000000004	000000006464	000000000001
6241	000000000001	000000000000	000000000000	000000000004	000000000151	000000000002	000000000003	000000000003
6285	000000000006	000000000004	000000001377	000000000004	000000000006	000000000004	000000000002	000000000005
6337	000000000030	000000000004	000000000004	000000000004	000000000002	000000000011	000000000457	000000000000
6385	000000000000	000000000002	000000000001	000000000002	000000000063	000000000000	000000000002	000000000005
6433	000000000002	000000000001	000000001160	000000000004	000000000064	000000000024	000000000026	000000000012
6481	000000000076	000000000032	000000000057	000000000027	000000000013	000000000016	000000001125	000001437532
6525	000001437532	000001437532	000001437531	000001437533	000001437553	000001437574	000001437574	000001437574
6577	000001437574	000001437572	000001437734	000040000000	000000000000	000000000001	000000000001	000000003663
6625	000000000000	000001013105	000001004771	000000000460	000000012574	000000013332		

FILE 0001 REC 0006 CH 6660

0001	000000000050	000000000020	000000000053	000000024712	000000000005	000000000002	000000000002	000000000006
0045	000000000001	000000000037	000000000001	000000000004	000000000003	000000000003	000000000003	000000000004
0097	000000000001	000000000002	000000000003	000000000000	000000000003	000000000147	000000000001	000000000002
0145	000000000003	000000000005	000000000004	00000001115	000000000002	000000000004	000000000005	000000000004
0193	000000000003	000000014307	000000000002	000000000004	000000000004	000000000004	000000000005	000000006563
0241	000000000001	000000000004	000000000000	000000000002	000000000001	000000000146	000000000001	000000000003
0285	000000000001	000000000005	000000000003	00000001377	000000000002	000000000007	000000000006	000000000002
0337	000000000003	000000000030	000000000001	000000000003	000000000006	000000000006	000000000007	000000000462
0385	000000000003	000000000002	000000000003	000000000000	000000000002	000000000045	000000000002	000000000003
0433	000000000003	000000000005	000000000004	000000001110	000000000047	000000000060	000000000030	000000000015
0481	000000000013	000000000053	000000000045	000000000047	000000000027	000000000015	000000000013	000000001127
0525	000001437535	000001437535	000001437535	000001437535	000001437535	000001437575	000001437577	000001437600
0577	000001437577	000001437577	000001437575	000001437740	000040000000	000000000000	000000000001	000000000001
0625	000000003663	000000000000	000001013105	000001004771	000000000456	000000012574	000000013332	000000000050
0673	000000000020	000000000053	000000072502	000000000002	000000000004	000000000002	000000000004	000000000005
0721	000000000032	000000000004	000000000001	000000000001	000000000003	000000000004	000000000566	000000000000
0755	000000000001	000000000001	000000000002	000000000000	000000000153	000000000001	000000000004	000000000004
0817	000000000005	000000000004	000000001207	000000000001	000000000005	000000000002	000000000002	000000000003
0865	000000014005	000000000003	000000000004	000000000006	000000000003	000000000003	000000006473	000000000000
0913	000000000004	000000000002	000000000000	000000000001	000000000137	000000000002	000000000003	000000000003
0961	000000000002	000000000003	000000001416	000000000003	000000000002	000000000005	000000000004	000000000001
1009	000000000027	000000000002	000000000005	000000000002	000000000005	000000000001	000000000455	000000000001
1057	000000000002	000000000000	000000000002	000000000001	000000000053	000000000000	000000000001	000000000002
1105	000000000004	000000000002	000000001103	000000000046	000000000056	000000000026	000000000024	000000000013
1153	000000000054	000000000053	000000000035	000000000020	000000000021	000000000007	000000001165	000001437536
1201	000001437536	000001437536	000001437535	000001437536	000001437570	000001437603	000001437602	000001437603
1249	000001437603	000001437603	000001437727	000040000000	000000000000	000000000001	000000000001	000000003663
1297	000000000000	000001013105	000001004771	000000000456	000000012574	000000013332	000000000050	000000000020
1345	000000000053	00000140271	000000000003	000000000005	000000000002	000000000002	000000000004	000000000044
1393	000000000001	000000000000	000000000003	000000000003	000000000006	000000000532	000000000000	000000000002
1441	000000000001	000000000003	000000000004	000000000150	000000000002	000000000003	000000000003	000000000001
1485	000000000006	000000001200	000000000003	000000000004	000000000006	000000000005	000000000010	000000014124
1537	000000000001	000000000003	000000000002	000000000010	000000000005	0000000006533	000000000001	000000000003
1585	000000000000	000000000003	000000000004	000000000147	000000000001	000000000003	000000000002	000000000003
1633	000000000004	000000001431	000000000004	000000000004	000000000004	000000000001	000000000004	000000000033
1681	000000000000	000000000003	000000000004	000000000005	000000000003	000000000464	000000000001	000000000004
1725	000000000000	000000000001	000000000002	000000000065	000000000001	000000000001	000000000004	000000000005
1777	000000000002	000000001134	000000000052	000000000055	000000000032	000000000023	000000000012	000000000070
1825	000000000033	000000000047	000000000022	000000000013	000000000013	000000001133	000001437537	000001437537
1873	000001437537	000001437536	000001437535	000001437562	000001437613	000001437613	000001437611	000001437611
1921	000001437613	000001437762	000040000000	000000000000	000000000001	000000000001	000000003663	000000000000
1965	000001013105	000001004771	000000000462	000000012574	000000013250	000000000050	000000000020	000000000054
2017	000000020721	000000000005	000000000003	000000000004	000000000004	000000000006	000000000034	000000000001
2065	000000000000	000000000002	000000000003	000000000005	000000000566	000000000000	000000000000	000000000002

FILE 0001 REC 0005 CH 6660								
6529	000001360307	000001360307	000001360310	000001360310	000001360323	000001360344	000001360344	000001360344
6577	000001360344	000001360344	000001360344	000004000000	000000000000	000000000001	000000000001	000000003654
6625	000000000000	000000242655	000001012421	000000000450	777777772420	777777773714		
FILE 0001 REC 0006 CH 6660								
0001	000000000333	000000000027	000000000070	000000107754	000000000011	000000000010	000000000003	000000000034
0049	000000000011	000000000027	000000000000	000000000000	000000000000	000000000000	000000000000	000000000030
0057	000000000006	000000000004	000000000007	000000000006	000000000004	000000000050	000000000000	000000000030
0145	000000000000	000000000000	000000000000	000000000000	000000000002	000000000000	000000000006	000000000030
0193	000000000003	000000000035	000000000000	000000000000	000000000000	000000000000	000000000000	000000000030
0241	000000000004	000000000003	000000000003	000000000004	000000000006	000000000045	000000000000	000000000030
0289	000000000000	000000000000	000000000000	000000000000	000000000012	000000000005	000000000005	000000000035
0337	000000000004	000000000030	000000000000	000000000000	000000000000	000000000000	000000000000	000000000030
0385	000000000006	000000000003	000000000003	000000000007	000000000004	000000000041	000000000000	000000000030
0433	000000000000	000000000000	000000000000	000000000000	000000000010	000000000004	000000000007	000000000032
0481	000000000007	000000000040	000000000000	000000000000	000000000000	000000000000	000000000000	000000000030
0529	000001360345	000001360345	000001360345	000001360347	000001360346	000001360356	000001360366	000001360366
0577	000001360366	000001360366	000001360366	000001360367	000004000000	000000000000	000000000001	000000000031
0625	000000003664	000000000000	000000246233	000001012421	000000000450	777777772420	777777773714	000000000333
0673	000000000027	000000000070	000000155544	000000000006	000000000002	000000000001	000000000004	000000000036
0721	000000000037	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000033
0769	000000000004	000000000001	000000000010	000000000004	000000000055	000000000000	000000000000	000000000030
0817	000000000000	000000000000	000000000000	000000000006	000000000003	000000000004	000000000003	000000000035
0865	000000000052	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000032
0913	000000000002	000000000013	000000000002	000000000004	000000000044	000000000000	000000000000	000000000030
0961	000000000000	000000000000	000000000000	000000000004	000000000005	000000000004	000000000003	000000000037
1009	000000000040	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000030
1057	000000000004	000000000007	000000000007	000000000007	000000000031	000000000000	000000000000	000000000030
1105	000000000000	000000000000	000000000000	000000000007	000000000005	000000000003	000000000002	000000000033
1153	000000000044	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000001360401
1201	000001360400	000001360401	000001360402	000001360402	000001360412	000001360423	000001360423	000001360423
1249	000001360423	000001360423	000001360423	000004000000	000000000000	000000000001	000000000001	000000003654
1297	000000000000	000000246233	000001012421	000000000450	777777772533	777777773714	000000000333	000000000027
1345	000000000071	000000036174	000000000006	000000000005	000000000011	000000000002	000000000003	000000000044
1393	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000005	000000000036
1441	000000000003	000000000001	000000000006	000000000047	000000000000	000000000000	000000000000	000000000030
1489	000000000000	000000000000	000000000007	000000000005	000000000004	000000000007	000000000004	000000000042
1537	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000010	000000000033
1585	000000000007	000000000004	000000000007	000000000041	000000000000	000000000000	000000000000	000000000030
1633	000000000000	000000000000	000000000011	000000000003	000000000003	000000000010	000000000005	000000000047
1681	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000006	000000000010
1729	000000000004	000000000011	000000000010	000000000043	000000000000	000000000000	000000000000	000000000030
1777	000000000000	000000000000	000000000005	000000000004	000000000006	000000000000	000000000005	000000000043
1825	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000001360406	000001360405
1873	000001360407	000001360406	000001360404	000001360416	000001360427	000001360427	000001360427	000001360427
1921	000001360427	000001360427	000004000000	000000000000	000000000001	000000000001	000000000366	000000000030
1969	000000246233	000001012421	000000000450	777777772533	777777773714	000000000333	000000000027	000000000071
2017	000000103763	000000000010	000000000004	000000000004	000000000006	000000000012	000000000041	000000000030

5137	000000000004	00000000011	00000000046	00000000000	00000000000	00000000000	00000000000	00000000000	00000000000
5185	000000000000	000001360403	000001360405	000001360403	000001360401	000001360401	000001360401	000001360415	000001360426
5233	000001360426	000001360426	000001360426	000001360426	000001360426	000001360426	000001360426	000000000000	000000000001
5281	000000000001	000000003664	000000000000	000000242655	000001015772	000000000446	777777772533	777777773611	777777773611
5329	000000000333	000000000027	000000000073	000000026212	000000000013	000000000001	000000000007	000000000007	000000000005
5377	000000000001	000000000045	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5425	000000000005	000000000005	000000000007	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5473	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5521	000000000004	000000000054	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5569	000000000002	000000000005	000000000011	000000000005	000000000004	000000000004	000000000000	000000000000	000000000000
5617	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5665	000000000003	000000000054	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5713	000000000010	000000000006	000000000004	000000000006	000000000005	000000000004	000000000000	000000000000	000000000000
5761	000000000000	000000000000	000000000000	000000000000	000000000006	000000000006	000000000000	000000000005	000000000007
5809	000000000003	000000000056	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
5857	000001360400	000001360400	000001360401	000001360400	000001360402	000001360402	000001360417	000001360432	000001360432
5905	000001360432	000001360432	000001360432	000001360432	000001360432	000001360432	000001360432	000001360432	000001360432
5953	000000003664	000000000000	000000242655	000001015772	000000000446	777777772533	777777773611	000000000333	000000000333
6001	000000000027	000000000073	000000074002	000000000007	000000000002	000000000001	000000000003	000000000002	000000000002
6049	000000000042	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000003
6097	000000000005	000000000003	000000000005	000000000002	000000000005	000000000000	000000000000	000000000000	000000000000
6145	000000000000	000000000000	000000000000	000000000007	000000000002	000000000006	000000000004	000000000010	000000000010
6193	000000000046	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000006
6241	000000000005	000000000011	000000000004	000000000006	000000000060	000000000000	000000000000	000000000000	000000000000
6289	000000000000	000000000000	000000000000	000000000004	000000000007	000000000007	000000000003	000000000003	000000000003
6337	000000000047	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000
6385	000000000006	000000000002	000000000006	000000000007	000000000041	000000000000	000000000000	000000000000	000000000000
6433	000000000000	000000000000	000000000000	000000000005	000000000005	000000000005	000000000005	000000000005	000000000003
6481	000000000052	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000000000000	000001360414
6529	000001360411	000001360413	000001360413	000001360411	000001360433	000001360433	000001360433	000001360433	000001360433
6577	000001360433	000001360433	000001360433	000001360433	000001360433	000001360433	000001360433	000001360433	000001360433
6625	000000000000	000000242655	000001015772	000000000452	777777772533	777777773714			