Data Set Catalog #142

Thunderstorm Noise
67-042A-04A

53 D-tapes
51 C-tapes

Table of Contents

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1. INTRODUCTION:

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

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

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

2. ERRATA/CHANGE LOG:

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

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

Version	Date	Person	Page	Description of Change
01				
02				

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

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

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

4. CATALOG MATERIALS:

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

b. Core Catalog Materials

ARIEL 3

THUNDERSTORM NOISE

67-042A-04A, 06A

THESE DATA SETS HAVE BEEN RESTORED. ORIGINALLY IT CONTAINED 53 7-TRACK, 556 BPI TAPES WRITTEN IN BCD. TWO OF THESE TAPES WERE NOT RESTORED, ONE WAS BAD AND THE OTHER WAS PHYSICALLY DAMAGED; D002511 AND D004860. THERE ARE 16 RESTORED TAPES, WRITTEN IN EBCDIC. THERE ARE FOUR TAPES WHICH CONTAIN A FILE WHICH DOES NOT FOLLOW THE FLOW OF THE TIME SPANS FOR THAT TAPE, THE TAPES ARE DR02133, 34, 40 AND DR02144. THE DR AND DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 7094 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND THE TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR002129	DS002129	D002506	1	05/11/67 - 05/15/67
		D002507	2	05/16/67 - 05/20/67
		D002508	3	05/21/67 - 05/26/67
DR002130	DS002130	D002509	1	05/27/67 - 05/31/67
		D002510	2	06/01/67 - 06/05/67
		D004730	3	06/11/67 - 06/15/67
DR002131	DS002131	D004731	1	06/16/67 - 06/20/67
		D004732	2	06/21/67 - 06/25/67
		D004733	3	06/26/67 - 06/30/67
DR002132	DS002132	D004734	1	07/01/67 - 07/05/67
		D004735	2	07/06/67 - 07/10/67
		D004736	3	07/11/67 - 07/15/67 (a)
DR002133	DS002133	D004737	1	07/16/67 - 07/20/67 (b)
		D004738	2	07/21/67 - 07/25/67 (c)
		D004739	3	08/01/67 - 08/06/67
DR002134	DS002134	D004854	1	07/26/67 - 07/31/67 (d)
		D004855	2	08/07/67 - 08/10/67
		D004856	3	08/11/67 - 08/15/67
		D004857	4	08/16/67 - 08/20/67
DR002135	DS002135	D004858	1	08/21/67 - 08/26/67
		D004859	2	08/26/67 - 08/31/67
		D004861	3	09/07/67 - 09/11/67
		D004862	4	09/12/67 - 09/16/67

67-042A-04A, 06A

DR#	DS#	D#	FILES	TIME SPAN	
DR002136	DS002136	D004863	1	09/17/67 - 09/21/67	
		D004903	2	09/22/67 - 09/26/67	(e)
		D004904	3	09/27/67 - 09/30/67	
		D004905	4	10/01/67 - 10/05/67	
DR002137	DS002137	D000029	1	10/11/67 - 10/15/67	
		D000030	2	10/16/67 - 10/20/67	
		D000031	3	10/21/67 - 10/26/67	
DR002138	DS002138	D000032	1	10/27/67 - 10/31/67	
		D000033	2	11/01/67 - 11/05/67	
		D000034	3	11/06/67 - 11/11/67	(f)
DR002139	DS002139	D000035	1	11/12/67 - 11/17/67	
		D000036	2	11/18/67 - 11/22/67	
		D000037	3	11/23/67 - 11/27/67	(g)
DR002140	DS002140	D000038	1	12/06/67 - 12/12/67	(h)
		D000248	2	10/06/67 - 10/10/67	
		D000249	3	12/13/67 - 12/17/67	
DR002141	DS002141	D000250	1	12/18/67 - 12/22/67	
		D000251	2	01/06/68 - 01/13/68	
		D000252	3	01/14/68 - 01/18/68	
DR002142	DS002142	D000253	1	01/19/68 - 01/23/68	
		D000254	2	01/24/68 - 01/28/68	
		D000255	3	01/29/68 - 02/02/68	
DR002143	DS002143	D000256	1	02/03/68 - 02/06/68	
		D000257	2	03/22/68 - 03/28/68	
		D000258	3	03/29/68 - 04/03/68	(i)
DR002144	DS002144	D000259	1	04/04/68 - 04/08/68	
		D000260	2	04/09/68 - 04/14/68	
		D002505	3	05/05/67 - 05/10/67	(j)

(a) D004736 - 1 Error, Record 17581, File 1
(b) D004737 - 2 Errors, Records 34, 35, File 1
(c) D004738 - 3 Errors, Records 3624, 3625, 3628, File 1
(d) D004854 - 3 Errors, Records 2499, 2689, 2981, File 1
(e) D004903 - 1 Error, Record 2052, File 1
(f) D000034 - 2 Errors, Records 2606, 2707, File 1
(g) D000037 - 1 Error, Record 2342, File 1
(h) D000038 - 1 Error, Record 4579, File 1
(i) D000258 - 4 Errors, Records 1667, 1668, 1677, 1678, File 1
(j) D002505 - 1 Error, Record 19940, File 1

ARIEL III

THUNDERSTORM NOISE

67-042A-04A

This data set contains 53 tapes in BCD format. Tapes are 556 BPI, 7 TRK, with 1 file. These tapes contained no EOF and programming services were required (see attached sheet for tape format and program specifications). This data set originally consisted of 55 tapes. 2 of these were found to be for different data set. Problems encountered during the processing of these tapes are as follows:

- Processing had to be altered due to the fact that it was impossible to dupe these tapes before an EOF was placed on the original tapes. Two programs were generated to scan the tapes and look for a record which was of a different format than described.
- Several of these tapes caused many retrys before the inconsistant record was found. This caused the loss of many days of processing.
- Many tapes were found to be missing data at the beginning of the tapes, called for by the tape format. The following tapes fall in this catagory:

  1) D-04731
  2) D-02506
  3) D-02507
  4) D-02505
  5) D-02508
  6) D-02509
  7) D-02510

  This caused changing of the program written by programming services which also caused a delay in processing.
- The following tapes are missing all dummy header records which can be many times throughout each tape.

  1) D-04731
  2) D-02505
  3) D-02506
  4) D-02508
  5) D-02509
  6) D-02510

- D-02507 was not only missing all dummy header records, but also the first identification record. This resulted in taking the beginning time from the tape label. This start time is believed to be correct.
- D-02511 was found to be a blank tape containing no data.
- D-04860 was found to be a bad tape. Tape was creased and snapped in spots. Therefore, this tape was not duped.
- When D-35 was originally duped a parity error was found and the original input tape was not duped to the end-of-file. When the tape was resubmitted, the operators reversed the tapes which resulted in duping the original output onto the original input.
- After processing was completed, the duping of these tapes with EOF on THEM caused many reruns. The regular dupe & compare would not dupe these tapes due to redundancy errors on tape. A special dupe deck (RBJ) was needed to dupe these tapes. Several retrys were needed before these tapes were successfully duped.

The following are the time spans and duplicates available:

D#	C#	START-TIME	STOP-TIME
D-00248	C-05094	Oct. 6, 1967	Oct. 10, 1967
D-00249	C-05094	Dec. 13, 1967	Dec. 17, 1967
D-00250	C-05096	Dec. 18, 1967	Dec. 22, 1967
D-00251	C-05097	Jan. 6, 1968	Jan. 13, 1968
D-00252	C-05098	Jan. 14, 1968	Jan. 18, 1968
D-00253	C-05099	Jan. 19, 1968	Jan. 23, 1968
D-00254	C-05100	Jan. 24, 1968	Jan. 28, 1968
D-00255	C-05101	Jan. 29, 1968	Feb. 2, 1968
D-00256	C-04586	Feb. 3, 1968	Feb. 6, 1968
D-00257	C-05102	March 22, 1968	March 28, 1968
D-00258	C-05103	March 29, 1968	April 3, 1968

D#	C#	START-TIME	STOP-TIME
D-00259	C-05104	April 4, 1968	April 8, 1968
D-00260	C-05105	April 9, 1968	April 14, 1968
D-00029	C-04579	Oct. 11, 1967	Oct. 15, 1967
D-00030	C-04580	Oct. 16, 1967	Oct. 20, 1967
D-00031	C-05271	Oct. 21, 1967	Oct. 26, 1967
D-00032	C-05205	Oct. 27, 1967	Oct. 31, 1967
D-00033	C-04581	Nov. 1, 1967	Nov. 5, 1967
D-00034	C-05272	Nov. 6, 1967	Nov. 11, 1967
D-00035	C-05247	Nov. 12, 1967	Nov. 17, 1967
D-00036	C-04582	Nov. 18, 1967	Nov. 22, 1967
D-00037	C-05206	Nov. 23, 1967	Nov. 27, 1967
D-00038	C-05274	Dec. 6, 1967	Dec. 12, 1967
D-04903	C-04588	Sept. 22, 1967	Sept. 26, 1967
D-04904	C-04589	Sept. 27, 1967	Sept. 30, 1967
D-04905	C-04590	Oct. 1, 1967	Oct. 5, 1967
D-04730	C-04584	June 11, 1967	June 15, 1967
D-04731	C-05165	June 16, 1967	June 20, 1967
D-04732	C-05159	June 21, 1967	June 25, 1967
D-04733	C-05128	June 26, 1967	June 30, 1967
D-04734	C-05189	July 1, 1967	July 5, 1967
D-04735	C-05162	July 6, 1967	July 10, 1967
D-04736	C-05131	July 11, 1967	July 15, 1967
D-04737	C-04585	July 16, 1967	July 20, 1967
D-04738	C-05132	July 21, 1967	July 25, 1967
D-04739	C-05211	Aug. 1, 1967	Aug. 6, 1967
D-04854	C-05161	July 26, 1967	July 31, 1967
D-04855	C-05133	Aug. 7, 1967	Aug. 10, 1967
D-04856	C-05212	Aug. 11, 1967	Aug. 15, 1967

D#	C#	START-TIME	STOP-TIME
D-04857	C-05160	Aug. 16, 1967	Aug. 29, 1967
D-04858	C-04587	Aug. 21, 1967	Aug. 25, 1967
D-04859	C-05273	Aug. 26, 1967	Aug. 31, 1967
D-04860	BAD TAPE		
D-04861	C-05207	Sept. 7, 1967	Sept. 11, 1967
D-04862	C-05164	Sept. 12, 1967	Sept. 16, 1967
D-04863	C-05129	Sept. 17, 1967	Sept. 21, 1967
D-02505	C-05163	May 5, 1967	May 10, 1967
D-02506	C-05134	May 11, 1967	May 15, 1967
D-02507	C-05130	May 16, 1967	May 20, 1967
D-02508	C-05208	May 21, 1967	May 26, 1967
D-02509	C-04583	May 27, 1967	May 31, 1967
D-02510	C-05209	June 1, 1967	June 5, 1967
D-02511	BLANK TAPE		

SDO 47-22 DOCUMENTATION

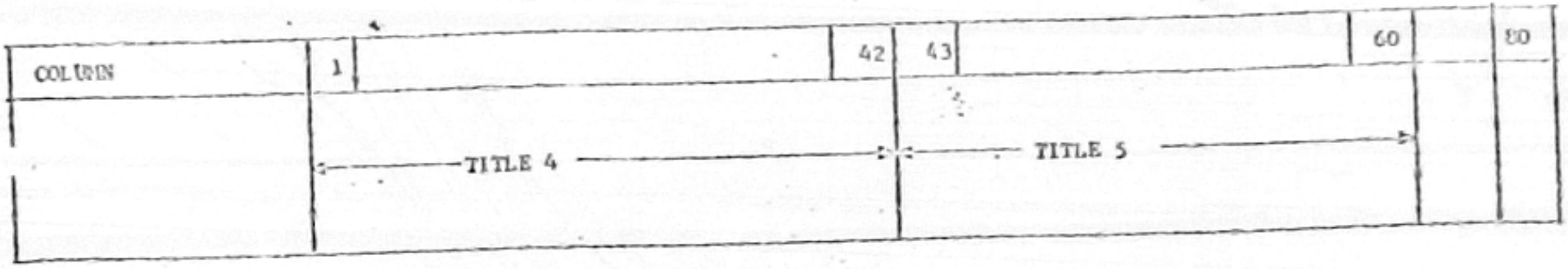
SATELLITE NAME	ARIEL III
DATA SET ID:	67-042A-04
DATE:	October 20, 1970
PURPOSE:	Enter 14 thunderstorm tapes into the data bank by verification of tape format and marking the data tapes with end-of-file marks.
INPUT:	First Run
CARDS:	None
TAPES:	Mount the tape to be checked on tape drive A5
OUTPUT:	
TAPES:	Duplicate tape from the IBM 360/30 placing an EOF on the record designated by the noise record number obtained from the on-line print-out of the 7094 computer run.
INPUT:	Second Run
CARDS:	Run data information and a number two less than the record containing the EOF mark following the format on the attached pages.
TAPES:	The duplicated tape obtained from the IBM 360/30.
OUTPUT:	
TAPES:	None
PRINTOUT:	A header page indicating run data information, and a listing of the number of records or data per individual data sets contained on the magnetic tape being processed.

FIRST DATA CARD

COLUMN	1		12	13		24	25		42		80
	TITLE 1			TITLE 2			TITLE 3				

PROGRAM NAME	DESCRIPTION	FORMAT
Title 1	Data Set ID	2A6
Title 2	Satellite Name	2A6
Title 3	Experiment Name	3A6

SECOND DATA CARD



PROGRAM NAME	DESCRIPTION	FORMAT
Title 4	Data Set Name	7A6
Title 5	Date of Run	3A6

THIRD DATA CARD

COLUMN	1	5	6	80
	IREND			

PROGRAM NAME	DESCRIPTION	FORMAT
IREND	A NUMBER TWO LESS THAN THE RECORD NUMBER CONTAINING THE EOF MARK	I 5

The following write-up is for 15 Ariel III Thunderstorm tape.

A. Each set of data is started with a blank record. DUMMY (NO FORMAT) FORMAT (A6)

B. A file identification record indicates DAY, UNIVERSAL TIME in HRS, STATION NAME, and ERROR CODE.
FORMAT (16X, I4, I5, 17X, A3, 20X, I2)

C. A pair of records follows and is duplicated until a zero appears in the first of the two records. Then the second record is skipped.

1. The following represents the data name and format of the first record.

0000	X(1)	Record Number
	A1	Record Type
	X(2)	Frequency (MHz)
	X(3)	Universal Time (Hrs)
	X(4)	Universal Time (Mins)
	X(5)	Universal Time (Secs)
	X(6)	Latitude (Degrees)
	X(7)	Longitude (Degrees)
	X(8)	Satellite Height (Km)
	X(9)	Local Mean Time (Hrs)
	X(10)	Local Mean Time (Mins)
	X(11)	Local Mean Time (Secs)
	X(12)	FxF2 (mhz)
	X(13)	Plasma Frequency (MHz)

X(14) Electron Temp. (deg. K)

X(15) Equipment Temp. (deg. C)

X(16) Average Field (Upper)

X(17) Pulse Counts (Upper)

X(18) Average Field (Lower)

X(19) Pulse Counts (Lower)

X(20) hmF2 (km)

X(21) gyro-frequency (MHz)

X(22) Radius of observation at 5 MHz (km)

X(23) Radius of observation at 10 MHz

X(24) Radius of observation at 15 MHz

X(25) Ionospheric attenuation of 5 MHz reception (dB)

X(26) Ionospheric attenuation of 10 MHz reception

X(27) Ionospheric attenuation of 15 MHz reception

FORMAT (F4.0, A2, 3F3.0, F5.2, F7.3, F8.3, F5.1, F4.0, F3.0, F5.2, F4.1, F5.2, 2F6.1,2 (F6.1, F4.1), F6.1, F5.2, 3F5.0, 3F6.2)

2. The following represents the date name and format of the second record.

A1 Record Type

X(2) Frequency (MHz)

X(3) Universal Time (Hrs)

X(4) Universal Time (Mins)

X(5) Universal Time (Secs)

X(6) Latitude (Degrees)

X(7) Longitude (Degrees)

X(8) Satellite Height (Km)

X(9) Local Mean Time (Hrs)

X(10)	Local Mean Time (Mins)
X(11)	Local Mean Time (Secs)
X(12)	FxF2 (mhz)
X(13)	Plasma Frequency (MHz)
X(14)	Electron Temp. (deg. K)
X(15)	Equipment Temp. (deg. C)
X(16)	Average Field (Upper)
X(17)	Pulse Counts (Upper)
X(18)	Average Field (Lower)
X(19)	Pulse Counts (Lower)
X(20)	hmF2 (km)
X(21)	gyro-frequency (MHz)
X(22)	Radius of observation at 5 MHz (km)
X(23)	Radius of observation at 10 MHz
X(24)	Radius of observation at 15 MHz
X(25)	Ionospheric attenuation of 5 MHz reception (dB)
X(26)	Ionospheric attenuation of 10 MHz reception
X(27)	Ionospheric attenuation of 15 MHz reception
J(1)	Values between -65° and $+65^{\circ}$
J(2)	Values between -65° and $+65^{\circ}$
J(3)	Values between -65° and $+65^{\circ}$
J(4)	Values between -65° and $+65^{\circ}$
J(5)	Values between -65° and $+65^{\circ}$
J(6)	Values between -65° and $+65^{\circ}$
J(7)	Values between -65° and $+65^{\circ}$

FORMAT (3F3.0, F5.2, F7.3, F8.3, F5.1, F4.0, F3.0, F5.2, F4.1, F5.2, 2F6.1, 2(F6.1, F4.1), F6.1, F5.2, 3F5.0, 3F6.2, 713)

D. A record containing the corrected Zurich sunspot RZ
FORMAT (I4)

E. Right ascension and declination of satellite spin axis.
FORMAT (2F7.1)

F. Two integers K and M
FORMAT (2I6)

G. A variable group of records (M-K)/10 follows. Ten groups of three data values is presented per record 10 (T1, T2, T3)
FORMAT (30F5.1)

H. K* number of records are next of T1, T2, T3.
FORMAT (3F5.1)
*If K=1 this set of records are skipped!!!

I. Four records of 25 integers are next.
FORMAT (25(I4, I2))

The steps A thru I are repeated for each group of data.

JAL/BLD

67-04215-056

67-04214-056

ARIEL III

Science Research Council

RADIO AND SPACE RESEARCH STATION

Ditton Park, SLOUGH, Bucks.

Telex: 84369 Radsearch, Sl Telegrams: Radsearch, Slough

Telephone: Slough 24411/16 (6 lines)

Please address any reply to
THE DIRECTOR
and quote: S/27/01
Your reference

9th December, 1968

Dear Mr. LEE DuBACH

I recently received from N.S.S.D.C. a consignment of 10 ½ inch magnetic tapes to which data from the R.S.R.S. radio noise experiment and data from the Birmingham University electron density and electron temperature measurements made aboard the ARIEL III satellite are to be copied. The first tape has now been successfully copied, and contains 49 satellite passes covering the period 5th November 1967 to 9th November inclusive. This choice of period was made for two reasons. Firstly, earlier periods do not yet contain electron temperature data; secondly, later periods, while containing electron temperatures, have further passes to be added as they become available to us. Both these conditions should cease to be important as further processing is done here.

The tapes you will receive will be formatted BCD tapes. Characteristics are:

Recording density 556 bits per inch
Inter block gap 0.75 inches
Even parity
Write speed 37.5 inches per second
Transfer rate 20.8 Kchs. per second
Recording voltage 7.4 volts ± 0.02
Forward skew 4 microseconds between extreme tracks.

The tapes contain data in the following form:

0. BLANK HEADER RECORD
1. File Ident: DAY, UNIVERSAL TIME (HRS), STATION NAME, ERROR CODE; FORMAT (I4, I4, I5, 17A, A5, 20X, I2).

2. 5 Mhz or 15 Mhz data recordN THE FOLLOWING FORMAT.

0000	X(1) Record Number	
	M Record Type	C – for calibration record D – indicates that discontinuity between 5 & 15 mhz is impossible. X(2) = 88. in this case T – indicates that the normal universal time interval of 37.92 seconds between records does not apply between the record number T and the record preceding
	X(2) Frequency (Mhz)	
	X(3) Universal Time (Hrs)	
	X(4) Universal Time (Mins)	
	X(5) Universal Time (Secs)	
	X(6) Latitude (Degrees)	
	X(7) Longitude (Degrees)	
	X(8) Satellite Height (Km)	
	X(9) Local Mean Time (Hrs)	
	X(10) Local Mean Time (Mins)	
	X(11) Local Mean Time (Secs)	
	X(12) FoF2 (mhz)	
	X(13) Plasma Frequency (Mhz)	
	X(14) Electron Temp. (deg. K)	
	X(15) Equipment Temp. (deg.C)	

National Space Science Data Centre,
Code 601,
Goddard Space Flight Centre,
Greenbelt,

X(16) Average Field (Upper) dB > 1 μV/m
X(17) Pulse Counts (Upper)
X(18) Average Field (Lower) dB > 1 μV/m
X(19) Pulse Counts (Lower)
X(20) hmF2 (km)
X(21) Gyro-frequency (MHz)
X(22) Radius of observation at 5 MHz (km)
X(23) " " " " 10 MHz
X(24) " " " " 15 MHz
X(25) Ionospheric attenuation of 5 MHz reception (dB) } = 100.0 when
X(26) " " 10 MHz " } hmF2 > F
X(27) " " 15 MHz " }

FORMAT (F4.0, A2, 3F3.0, F5.2, F7.3, F8.3, F5.1, F4.0, F3.0, F5.2, F4.1, F5.2, 2F6.1, 2(F6.1, F4.1), F6.1, F5.2, 3F5.0, 3F6.2)

X(17) and X(19) are in pulse counts per second.

3. 10 MHz data record IN THE FOLLOWING FORMAT

As 5 or 15 MHz data record, but WITHOUT record number, and with seven integer numbers representing the width of the region of visibility at each orbital point after conversion to SC4020 graph plotter coordinates. These integers are only valid between latitudes - 65° and + 65°; points which fall outside those latitudes are indicated by 888 in the first integer position, i.e. J(1) = 888.

The 10 MHz record, then, contains

A1, X(2), etc., up to X(27), and then J(I), I = 1, 7.

FORMAT (A2, 3F3.0, ... as 5 or 15 MHz record ...., 3F6.2, 7I3)

The end of a file is indicated by a record of zeros in the 5 or 15 MHz data record position. Before the start of the next file occur several records used in the analysis of the previous file. These are

(i) Corrected Zurich sunspot number RZ : FORMAT I4

(ii) Right ascension and declination of satellite spin axis: FORMAT (2F7.1)

(iii) Two integers K and M : FORMAT (2I6)

M is the number of data records in the preceding file. K is the residue of M modulus 10.

There follow (M-K)/10

(iv) M-K records, each in ten groups of three: FORMAT (30F5.1). In each group of three contains numbers denoted by T1, T2, T3, then T1 is - 32 dB relative to one microvolt at 5 MHz signal frequency (signal here refers to the average voltage measured at the satellite), after corrections for aerial characteristics, immersion of the aerial in the ionospheric plasma, orientation of aerial polar diagram, and conversion from receiver

calibration (in terms of fluctuation noise) to atmospheric noise. (All these corrections are applied also to X(16) and X(18), the average field measurements). T2 and T3 are the same parameters as T1, but for 10 and 15 MHz signal frequencies respectively. Successive groups of three (T1, T2, T3) refer to successive satellite positions as given in each data record. T1, T2, T3 represent a baseline, of - 52 dB above one microvolt, for the average field values, and after the above corrections are in dB above one microvolt per metre.

(v) The last K groups of three (T1, T2, T3) are written out in records containing one group each: FORMAT (3F5.1).

There are then four records of 25 integer numbers p record. The first two records give arrays J1(50) and J2(50) referring to the 5 or 15 MHz records. If an element of J1 is non-zero, it contains the number of a record in the preceding file; if the corresponding element of J2 is 1, a thunderstorm region begins on that record; if 2, an individual peak of activity occurs on that record; if 3, an individual trough; if 4, a thunderstorm region ends.

The next two records contain similar information for the 10 MHz records. Each of these four records has FORMAT (25(I4, I2)).

The next data record is the file ident for a new file.

The ionospheric parameters FoF2 and hmF2 are from the ITSA predictions. The model ionosphere used to calculate absorption is

(a) Above hm

$$N = Nm \exp(-Ka)$$

where Nm = electron density at hm

a = height above hm

K is constant

(b) Below hm

$$N = Nm\,(1 - b^2/s^2)^2$$

where b = distance measured downwards from hm

s = distance of lower bound of ionosphere measured downwards from hm.

I enclose a printout of the first two files from the accompanying tape. Please let me know if there is any further information you require.

Yours sincerely,

J. A. Murphy

calibration (in terms of fluctuation noise) to ionospheric noise. (All these corrections are applied also to X(16) and X(18), the average field measurements). Z2 and Z3 are the same parameters as Z1, but for 10 and 15 Mc/s signal frequencies respectively. Successive groups of three (Z1, Z2, Z3) refer to successive satellite positions as given in each data record. Z1, Z2, Z3 represent a baseline, of - 52 dB above one microvolt, for the average field values, and after the above corrections are in dB above one microvolt per metre.

(v) The last N groups of three (Z1, Z2, Z3) are written out in records containing one group each: FORMAT (3F5.1).

There are then four records of 25 integer numbers per record. The first two records give arrays J1(50) and J2(50) referring to the 5 or 15 Mc/s records. If an element of J1 is non-zero, it contains the number of a record in the preceding file; if the corresponding element of J2 is 1, a thunderstorm region begins on that record; if 2, an individual peak of activity occurs on that record; if 3, an individual trough; if 4, a thunderstorm region ends.

The next two records contain similar information for the 10 Mc/s records. Each of these four records has FORMAT (25(I4, I2)).

The next data record is the file ident for a new file.

The ionospheric parameters FM2 and hM2 are from the ITSA predictions. The model ionosphere used to calculate absorption is

(a) Above hm

$$N = N_m \exp(-K_a)$$

where N_m = electron density at hm

a = height above hm

K is constant

(b) Below hm

$$N = N_m (1 - b^2/s^2)^2$$

where b = distance measured downwards from hm

s = distance of lower bound of ionosphere measured downwards from hm.

I enclose a printout of the first two files from the accompanying tape. Please let me know if there is any further information you require.

Yours sincerely,

J. A. Murphy

Sept. 14, 1971

To: Frank Hagan

From: ADP Services

Subject: ARIEL III, Thunderstorm noise tapes

In reply to your request (RA-6395) for routine processing of ARIEL III tapes in data set 67-042A-04A, the following two problems were encountered:

- D-2511 was found to be a blank tape. This tape was for the period June 6 to June 10, 1967.
- D-4860 was found to be a bad tape with many parity errors and it was also snapped in places. This tape was for the period September 1 to September 6, 1967.

These two tapes should be sent back to experimenter with a request for a replacement tape for the periods noted above.

```
$USE
$EXECUTE        IBJOB
$IBJOB          GO,MAP,FILES,SOURCE,LOGIC
$IBFTC DRIVER  FULIST,REF,NODECK,M94/2,XR7
      DIMENSION X(27), XX(27), BUFET(200),L(7)
      DIMENSION  TITLE (5)
C
C*************************************************************************
C     THIS ROUTINE PRINTS A HEADING AS THE FIRST OUTPUT OF THE
C     PROGRAM CONSISTING OF THE NAME OF THE EXPERIMENT
C     SATELLITE NAME, AND SATELLITE ID
C     THE EXPERIMENT NAME AND DATE OF THIS RUN
      DIMENSION TITLE1(2), TITLE2(2), TITLE3(3), TITLE4(7),TITLE5(3)
C
C     TITLE1 = DATA SET ID
C     TITLE2 = SATELLITE NAME
C     TITLE3 = EXPERIMENT NAME
C     TITLE4 = DATA SET NAME
C     TITLE5 = RUN DATE
C
      READ(2,1000) TITLE1, TITLE2, TITLE3, TITLE4,TITLE5
 1000 FORMAT( 2A6, 2A6, 3A6,/ 7A6, 3A6)
      WRITE (3,1001) TITLE2,TITLE1, TITLE3, TITLE4, TITLE5
 1001 FORMAT(1H1201/),
     1        50X,16HSATELLITE   NAME,4H -  ,2A6,////
     2        26X,13HDATA  SET  ID,4H -  ,2A6,
     3        23X,15HEXPERIMENT NAME,4H -  ,3A6,///
     4        38X,15HDATA  SET  NAME,4H -  ,7A6////
     5        46X,14HDATE  OF RUN  ,4H -  ,3A6,//1H1)
C
C*************************************************************************
C
C
C *** ZERO  OUT  COUNTER  FOR  PHYSICAL  RECORDS
C
C
      IX       = 0
      ILINCT   = 0
C
C
```

```
C
C *** ZERO  OUT  COUNTER  FOR  PHYSICAL  RECORDS
C
C
      IX       = 0
      ILINCT   = 0
C
C
C
      READ(2,200) IREND
      WRITE(3,201)
    1 CONTINUE
C
C
C *** READ  HEADER  RECORD  THAT  PRECEEDS  EACH  SET  OF  DATA
C
C
      READ(5,107) DUMMY
      IX       = IX + 1
C
C
C *** READ  DATA  SET  IDENTIFICATION  RECORD
C
C
      READ(5,100) IDAY, IHRS, STA, IERR
   21 CONTINUE
      IX       = IX + 1
    2 XX(1)    = X(1)
C
C
C *** DATA  RECORD  RELATING  TO  5  OR  15  MHZ
C     THIS  RECORD  ALSO  INDICATES  END  OF  DATA  SET  WHEN  X(1) = 0.
C
C
      READ(5,   1) X(1),AS, (X(I),I=2,26)
      IX       = IX + 1
      IF(X(1).EQ.0.) GO  TO  11
C
C
C *** DATA  RECORD  RELATING  TO  10  MHZ
```

```
C
C
C *** READ  DATA  SET  IDENTIFICATION  RECORD
C
C
      READ(5,100) IDAY, IHRS, STA, IERR
   21 CONTINUE
      IX       = IX + 1
    2 XX(I)    = X(I)
C
C
C *** DATA  RECORD  RELATING  TO  5  OR  15  MHZ
C     THIS  RECORD  ALSO  INDICATES  END  OF  DATA  SET  WHEN  X(I) = 0.
C
C
      READ(5,101) X(1),AS, (X(I),I=2,26)
      IX       = IX + 1
      IF(X(1).EQ.0.)  GO  TO  11
C
C
C *** DATA  RECORD  RELATING  TO  10  MHZ
C
C
      READ(5,102) A10, (XX(I),I=2,26)
      IX       = IX + 1
      IF(X(1).NE.0.)  GO  TO  2
   11 CONTINUE
C
C
C *** INDICATES  NUMBER  OF  RECORDS  IN  DATA  SET  +  ACCUMULATIVE  COUNT.
C
C
C
C
C *** NEXT  STEP  IN  DATA  SET  ARE  THREE  RECORDS  GIVING  SOME  DETAILS
C     ON  DATA  RECORDS  JUST  READ.
C
C
      READ(5,104) IRZ
      IX       = IX + 1
      READ(5,105) RAS, RAD
      IX       = IX + 1
```

```
   11 CONTINUE
C
C
C *** INDICATES  NUMBER  OF  RECORDS  IN  DATA  SET  +  ACCUMULATIVE  COUNT.
C
C
C
C
C *** NEXT  STEP  IN  DATA  SET  ARE  THREE  RECORDS  GIVING  SOME  DETAILS
C     ON  DATA  RECORDS  JUST  READ.
C
C
      READ(5,104) IRZ
      IX        = IX + 1
      READ(5,105) RAS, RAD
      IX        = IX + 1
      READ(5,106) K,M
      IX        = IX + 1
C
C
C *** MM - INDICATES  NEXT  SET  OF  RECORDS  TO  BE  READ
C
C
      MM        = (N-K)/10
C
C
C *** READS  MM  RECORDS
C
C
      DO 3 J    = 1,MM
      READ(5,107) DUMMY
      IX        = IX + 1
    3 CONTINUE
C *** K - RESIDUE  OF  M  MODULUS  10
C
C
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = 1,K
      READ(5,107) DUMMY
      IX        = IX + 1
    4 CONTINUE
```

```
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = I,K
      READ(5,107) DUMMY
      IX       = IX + 1
    4 CONTINUE
   44 CONTINUE
C
C *** CONSTANT  4  RECORDS  PER  DATA  SET
C
C
      DO  5 J  = 1,4
      READ(5,107) DUMMY
      IX       = IX + 1
    5 CONTINUE
      K2       = (M*2) + K + ((M-K1)/10) + 10
      IF(K.EQ.1)  K2  =  K2- 1
      ILINCT   = ILINCT + 1
      IF(ILINCT.LT.50)  GO  TO  56
      ILINCT   =  0
      WRITE(3,201)
   56 CONTINUE
      WRITE(3,202) K2,IX,XX(1)
C
CC
C *** RETURN  TO  1  FOR  NEXT  DATA  SET
C
C
      IF(IX.EQ.IREND)  GO  TO  55
      GO  TO  1
C
   55 CONTINUE
      STOP
C
C *** F  O  R  M  A  T  S
C
C
  100 FORMAT(16X,I4, I5, 17X, A3, 20A,I2)
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F6.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  102 FORMAT(      A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
```

```
      GO TO 1
C
   55 CONTINUE
      STOP
C
C *** F O R M A T S
C
C
  100 FORMAT(16X,I4, I5, 17X, A3, 20X,I2)
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  102 FORMAT(      A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  103 FORMAT(20X,I10,2(10X,F5.0)/)
  104 FORMAT(I4)
  105 FORMAT(2F7.1)
  106 FORMAT(2I6)
  107 FORMAT(A6)
  200 FORMAT(I5)
  201 FORMAT(1H1
     2       9X,31H DATA  SET  RECORDS  PER  GROUP
     3       9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
     4       9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                                    07/12/67    FXEM0000
$TEXT  FXEM                                                                FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 'O =75 76 74 ' =549   7 =7' 74'76'75'74'76'66'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 775*74'5 Y74 '4 ' '1 '' '4-'6 =74=9 774 FXEM0003
*N8!*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''(!FXEM0004
*N97'X*7(*7V*7 *(*X*)P(!*****X*XPP+777PP***PPPPPPP**PPPPPPPP**P+037P*!(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP)!*)PPPPP)**)PP+I'74'4M9FXEM0006
*N)L*7(*7(*7-76 75027'0F'' '75'06'Z7'0W90N  90P'0P70P'00900'00'0F'0X9FXEM0007
*N'!*6*7V*?(*7-4.9'4 4480 99 *449G 975'4 =75'7 74 '' 8. '5 '' '75 0VZ75'FXEM0008
*N'X(!*7(*X!*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z0 775'4 '9 '5 '+X!   76 '68FXEM0009
*N*.)!*7(*7!*7-J5 5 '449'4 4499 '7'0  84      9-8 '05'8 '07'76 74=9 74 'FXEM0010
*N=(.(*7X*7V*7 75'4 '75'   74-0 Y7X'55-'(!*6PPPP*)***6*P*=PP+7''!*P)*'!)FXEM0011
*N=6W**7X*7X*7 **P+1''  ' '4 =76(76'' 9) 9-6776 5497G''  76 5 77  ' ''6 FXEM0012
```

```
  201 FORMAT(1P(
      2          9X,31H DATA  SET  RECORDS  PER  GROUP
      3          9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
      4          9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                                       07/12/67     FXEM0000
$TEXT  FXEM                                                                    FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'00'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 /75'84'5 Y74 '4 ' '1 '' '4-'G -74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''()FXEM0004
*N97'X*7(*7V*7 *(*X*)P(*****X*XPP+777PP***PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP/)*)PPPPP)**)PP+I'74'4M9FXEM0006
*N ()L*7(*7(*7-76 750Z7'0F'' '75'06'Z7'0W90W W90P'0P70P'0090G'0G'0F'0X9FXEM0007
*N'(*G*7V*7(*7-449'4 448G 99 =449G 975'4 =75'7 74 '' 8. '5 '' '75 0VZ75'FXEM0008
*N'X()*7(*X(*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z4 775'4 '9 '5 '+X'   16 '68FXEM0009
*N ,))*7(*7(*7-15 5 '449'4 4499 '7'0  84     9-8 '05'8 '07'76 74=9 74 'FXEM0010
*N=(,(*7X*7V*7 75'4 '75'   74-0 Y7K*59-*()*GPPPP*)***G*P**PP+7''*P*)**))FXEM0011
*N=GW**7X*7X*7 **P+1''  ) '4 =76(76'' 9) 9-6776 54976''  76 5 77  ' ''6 FXEM0012
*N='W'*X(*X(*X-1 74 74 Y(W'D ='6'. 776 5499 +4  '  G 95 75 09 +   740032FXEM0013
*N7)I(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'5 7')******)*GGFXEM0014
*N'X('*7Z*7V*7 *P**G***PPPP+0'7PP- '    '(PPP      =  '((X   X     *PP   FXEM0015
*S''X,*7(             8  9 '  '                                        FXEM0016
$CDICT FXEM                                                            FXEM0017
*N *7*7W  1'*PP7W (*)   (**  7(*(  '()* 6'GPG-6 (**-6 P*)-  X*P-  (*(-  FXEM0018
*19((XP*R-  (*X-                                                       FXEM0019
$DKEND FXEM                                                            FXEM0020
$DATA
67-042A-04A ARIEL 3     THUNDERSTORM NOISE
D02508                                JULY 12, 1971
19946
```

CARD TOTAL

```
$USE
$EXECUTE        IBJOB
$IBJOB          GO,MAP,FILES,SOURCE,LOGIC
$IBFTC DRIVER  FULIST,REF,NODECK,M94/2,XR7
      DIMENSION X(27), XX(27), BUFET(200),L(7)
C *** ZERO  OUT  COUNTER  FOR  PHYSICAL  RECORDS
C
C
      IX       = 0
      ILINCT   =  0
C
C
C
      WRITE(3,201)
    1 CONTINUE
C
C
C *** READ  HEADER  RECORD  THAT  PRECEEDS  EACH  SET  OF  DATA
C
C
      READ(5,107) DUMMY
      IX       = IX + 1
C
C
C *** READ  DATA  SET  IDENTIFICATION  RECORD
C
C
      READ(5,100) IDAY, IHRS, STA, IERR
   21 CONTINUE
      IX       = IX + 1
    2 XX(1)    = X(1)
C
C
C *** DATA  RECORD  RELATING  TO  5  OR  15  MHZ
C     THIS  RECORD  ALSO  INDICATES  END  OF  DATA  SET  WHEN  X(1) = 0.
C
C
      READ(5,101) X(1),AB, (X(I),I=2,26)
      IX       = IX + 1
      IF(X(1).EQ.0.)  GO  TO  11
```

```
C
C
      READ(5,101) X(1),A5, (X(I),I=2,26)
      IX       = IX + 1
      IF(X(1).EQ.0.)  GO  TO  11
C
C
C *** DATA  RECORD  RELATING  TO  10  MHZ
C
C
      READ(5,102) A10, (XX(I),I=2,26)
      IX       = IX + 1
      IF(X(1).NE.0.)  GO  TO  2
   11 CONTINUE
C
C
C *** INDICATES  NUMBER  OF  RECORDS  IN  DATA  SET  +  ACCUMMULATIVE  COUNT.
C
C
C
C
C *** NEXT  STEP  IN  DATA  SET  ARE  THREE  RECORDS  GIVING  SOME  DETAILS
C     ON  DATA  RECORDS  JUST  READ.
C
C
      READ(5,104) IRZ
      IX       = IX + 1
      READ(5,105) RA5, RAD
      IX       = IX + 1
      READ(5,106) K,M
      IX       = IX + 1
C
C
C *** MM - INDICATES  NEAT  SET  OF  RECORDS  TO  BE  READ
C
C
      MM       = (M-K)/10
C
C
C *** READS  MM  RECORDS
C
C
      DO 3 J   = 1,MM
```

```
C
C
      DO 3 J    = 1,MM
      READ(5,107) DUMMY
      IX        = IX + 1
    3 CONTINUE
C *** K - RESIDUE  OF  M  MODULUS  10
C
C
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = 1,K
      READ(5,107) DUMMY
      IX        = IX + 1
    4 CONTINUE
   44 CONTINUE
C
C
C
      DO  5 J  = 1,4
      READ(5,107) DUMMY
      IX        = IX + 1
    5 CONTINUE
      K2        = (M*2) + K + ((M-K)/10) + 10
      IF(K.EQ.1)  K2  =  K2- 1
      ILINCT    = ILINCT + 1
      IF(ILINCT.LT.50)  GO  TO  56
      ILINCT    =  0
      WRITE(3,201)
   56 CONTINUE
      WRITE(3,202) K2,IX,XX(1)
C
CC
C *** RETURN  TO  1  FOR  NEXT  DATA  SET
C
C
      IF(IX.EQ.50000)  GO  TO  55
      GO  TO  1
C
   55 CONTINUE
      STOP
C
C *** F  O  R  M  A  T  S
C
```

```
   55 CONTINUE
      STOP
C
C *** F O R M A T S
C
C
  100 FORMAT(16X,I4, I5, 17X, A3, 20X,I2)
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2        F3.0,F5.2,F4.1,F5.2,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3        2F6.2)
  102 FORMAT(       A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2        F3.0,F5.2,F4.1,F5.2,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3        2F6.2)
  103 FORMAT(20X,I10,2(10X,F5.0)/)
  104 FORMAT(I4)
  105 FORMAT(2F7.1)
  106 FORMAT(216)
  107 FORMAT(A8)
  200 FORMAT(I5)
  201 FORMAT(1H1
     2          9X,31H DATA  SET  RECORDS  PER  GROUP
     3          9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
     4          9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,42X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                                    07/12/67    FXEM0000
$TEXT  FXEM                                                                FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'66'FXEM0002
*N9;*(*7(*7(*7 7674 '75'4 '75'4 775'74'5 Y74 '4 ' '1 '' '4-'G =74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''(;FXEM0004
*N97'X*7(*7V*7 *(*X*)P(*****X*XPP+777PP**PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP))*)PPPPP)**)PP+T*74'4M9FXEM0006
*N'()L=7(*7(*7-76 7507'0F'' '75'06'Z7'0W90P'0W90P'0P70P'0Q900'0G'0F'0X9FXEM0007
*N'(*G*7V*7(*7-449'4 4486 99 =4496 975'4 =75'7 74 '' 6, '5 '' '75 0V275'FXEM0008
*N'X()*7(*X(*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z4 775'4 '9 '5 '+X'   16 '68FXEM0009
*N6,))*7(*7(*7-15 5 '449'4 4499 '7'0  84     59-8 '05'6 '07'76 74=9 74 'FXEM0010
*N=1,'(*7X*7V*7 75'4 '75'   74-0 Y7X'59-'()*QPPPP*)***0*P**PP+7''**P*)**))FXEM0011
*N=G*=7X*7X*7 **P+1''  ) '4 =76(76'' 9) 9-6776 5497G''  7G 5 77  ' ''6 FXEM0012
*N='W'*X(*X-1 74 74 Y(W'D =6', 776 5499 +4  '  G 95 75 09 +   74003ZFXEM0013
*N7))(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'5 7')*******)*GGFXEM0014
*N7))(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'5 7')*******)*GGFXEM0015
```

```
     3         9X,36H TOTAL   RECORDS   TO   THIS   DATA   SET
     4         9X,28H NUMBER   OF   15-MHZ   RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                              07/12/67    FXEM0000
$TEXT  FXEM                                                          FXEM0001
```

```
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'G6'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 775'74'5 Y74 '4 ' '1 '' '4-'G =74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''()FXEM0004
*N97'X*7(*7V*7 *(*X*)P(*****X*XPP+777PP***PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP))*)PPPPP)**)PP+T'74'4M9FXEM0006
*N'()L*7(*7(*7-76 750_ 'UF'' '75'G6'Z7'UW9GW'UW90P'UP70P'0090G'GG'UF'UX9FXEM0007
*N'(*G*7V*7(*7-449'4 4486 99 =449G 975'4 =75'7 74 '' 8. '5 '' '75 UVZ75'FXEM0008
*N'X()*7(*X(*7 75'45 95*-7Y4 '9 '4 Z9 '5 '5 Z4 775'4 '9 '5 '+X'   )6 '68FXEM0009
*N6,))*7(*7(*7-)5 5 '449'4 4499 '7'0  64      59-8 '05'8 '07'76 74=9 74 'FXEM0010
*N=(,(*7X*7V*7 75'4 '75'   74-0 Y7K'59-'()*GPPPP*)***G*P**PP+7''*P*)**))FXEM0011
*N=GW**7X*7X*7 **P+1''  ) '4 =76(76'' 9) 9-6776 54976''  76 5 77  ' ''6 FXEM0012
*N='W'*X(*X(*X-1 74 74 Y(W'D ='6'. 776 5499 +4  '  G 95 75 09 +   74003ZFXEM0013
*N7))(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'5 7')******)*GGFXEM0014
*N'X('*7Z*7V*7 *P**G***PPPP+0'7PP- '    '(PPP     =  '((X   X     *PP   FXEM0015
*S''X,*7(             B  9  '  '                                        FXEM0016
```

```
$CDICT FXEM                                                          FXEM0017
```

```
*N *7*7W  1'*PP7W (*)   (**  7(*(  '()* 6'GPG-6 (**-6 P*)-  X*P-  (*(-  FXEM0018
*19((XP*R-  (*X-                                                     FXEM0019
```

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$DKEND FXEM                                                          FXEM0020


                                                                          CARD TOTAL
```

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Record # ↑ Record type

279 1 SNT 0

Frac Hr Min Sec

1. C15. 0.16. 6.40-49.499 -54.658566.5 20.37.28.50 8.9 3.392377.0 13.7 13.8 4.6 18.1 4.5 339.0
0.78 0. 294. 847.100.00 1.61 0.52

Hr Min Sec

C10. 0.16. 9.90-49.289 -54.583566.2 20.37.49.90 8.9 3.392877.0 13.7 20.1 4.7 19.3 4.9 339.0 0.77
0. 294. 847.100.00 1.61 0.52636679679669690649710

2. 15. 0.16.34.30-47.811 -54.095564.2 20.40.11.50 9.1 3.332736.0 15.1 -13.8 0.0 -17.4 0.1 338.0
0.75 0. 260. 809.100.00 1.78 0.55

10. 0.16.37.80-47.600 -54.026564.0 20.40.31.50 9.1 3.332735.0 15.1 -12.2 0.1 -12.2 0.1 337.0 0.75
0. 260. 809.100.00 1.78 0.55629681681672690653709

3. 15. 0.17. 2.20-46.118 -53.575562.0 20.42.34.30 9.4 3.292783.0 14.3 -17.4 0.2 -17.4 0.2 336.0
0.73 0. 205. 756.100.00 2.14 0.60

10. 0.17. 5.70-45.906 -53.511561.7 20.43. 3.10 9.5 3.292783.0 14.3 -12.2 0.1 -12.2 0.0 336.0 0.73
0. 205. 756.100.00 2.14 0.606226826826756896957708

4. 15. 0.17.30.20-44.420 -53.092559.8 20.45. 8.10 9.8 3.322757.0 14.0 -17.4 0.1 -17.4 0.2 335.0
0.71 0. 114. 694.100.00 3.05 0.70

10. 0.17.33.70-44.208 -53.033559.5 20.45.25.80 9.8 3.322757.0 14.0 -12.1 0.2 -12.1 0.1 335.0 0.71
0. 114. 694.100.00 3.05 0.706166836836806876617706

5. 15. 0.17.58.10-42.717 -52.643557.5 20.47.23.9010.2 3.302593.0 14.8 -17.3 0.2 -17.3 0.2 334.0
0.69 0. 0. 636.100.00100.00 0.80

10. 0.18. 1.60-42.504 -52.587557.3 20.47.40.6010.2 3.302593.0 14.3 -12.1 0.1 -12.1 0.1 334.0 0.69
0. 0. 636.100.00100.00 0.806096856856856856647705

6. 15. 0.18.26.00-41.011 -52.224555.3 20.49.32.4010.5 3.332643.0 14.3 -17.3 0.3 -17.3 0.1 333.0
0.67 0. 0. 584.100.00100.00 0.93

10. 0.18.29.50-40.797 -52.172555.0 20.49.48.2010.6 3.332643.0 14.3 -12.0 0.1 -12.0 0.0 333.0 0.67
0. 0. 584.100.00100.00 0.936026866866866856687704

7. 15. 0.18.53.90-39.301 -51.831553.1 20.51.34.5011.1 3.482643.0 14.0 -17.2 0.1 -17.2 0.1 332.0
0.66 0. 0. 523.100.00100.00 1.13

10. 0.18.57.40-39.087 -51.782552.8 20.51.49.7011.1 3.482643.0 14.0 -12.0 0.0 -12.0 0.0 332.0 0.66
0. 0. 523.100.00100.00 1.135966876876876876871703

8. 15. 0.19.21.80-37.587 -51.461550.8 20.53.31.1011.5 3.602596.0 14.3 -17.2 0.0 -17.2 0.1 331.0
0.64 0. 0. 477.100.00100.00 1.32

10. 0.19.25.30-37.372 -51.416550.5 20.53.45.6011.6 3.602596.0 14.3 -11.9 0.0 -11.9 0.0 331.0 0.64
0. 0. 477.100.00100.00 1.325896886886886896874702

9. 15. 0.19.49.80-35.869 -51.114548.6 20.55.22.4012.0 3.842569.0 14.3 -17.1 0.0 -17.1 0.0 330.0
0.63 0. 0. 422.100.00100.00 1.62

10. 0.19.53.30-35.655 -51.071548.3 20.55.36.1012.1 3.842569.0 14.3 -11.9 0.0 -11.8 0.0 330.0 0.63
0. 0. 422.100.00100.00 1.625826896896896896776701

10. 15. 0.20.17.70-34.148 -50.785546.4 20.57. 9.1012.5 4.002596.0 14.3 -17.0 0.0 -17.0 0.0 330.0
0.62 0. 0. 370.100.00100.00 1.97

10. 0.20.21.20-33.933 -50.745546.1 20.57.22.3012.6 4.002596.0 14.3 -11.7 0.0 -11.7 0.0 330.0 0.62

0.5-11.8-17.2 D-248 LAST ID REC.

-5.7-11.7-17.2

-5.6-11.7-17.1

-5.6-11.7-17.1

```
 44 1  53 4  63 1  73 4  87 1 105 4   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0
0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0

  0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0
0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0

 51 1  66 4  85 1  90 4   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0
0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0

  0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0
0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0   0 0
```

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283 1 SNT 3

```
 1.  15.23.49.18.00-31.403 -53.619529.7 20.14.49.4013.5 8.203114.3  17.4 -15.0 0.1 -15.0 0.1 328.
0.62   0.   0. 249.100.00100.00  4.12

 10.23.49.21.50-31.186 -53.582529.4 20.15. 1.9013.6 8.203114.3  17.4  -8.2 0.0  -8.2 0.0 328.0 0.
  0.   0. 249.100.00100.00  4.12565626826826826675689

 2.  15.23.49.45.90-29.668 -53.332527.7 20.16.26.3013.9 9.633347.3  17.4 -14.5 0.0 -14.5 0.0 331.
0.61   0.   0. 216.100.00100.00  5.28

 10.23.49.49.40-29.452 -53.296527.5 20.16.38.3013.9 9.633347.3  17.4  -4.3 0.0  -4.8 0.0 331.0 0.
  0.   0. 216.100.00100.00  5.2855868368368368677689

 3.  15.23.50.13.80-27.931 -53.057526.8 20.18. 0.0014.3 9.631747.3  17.4 -14.3 0.0 -14.3 0.0 335.
0.61   0.   0. 204.100.00100.00  5.41

 10.23.50.17.30-27.714 -53.024525.5 20.18.11.6014.0 9.631747.0  17.4  -4.7 0.0  -4.7 0.0 336.0 0.
  0.   0. 204.100.00100.00  5.41551684684684684678689

 4. C 5.23.50.41.70-26.192 -52.795523.9 20.19.31.0014.3 9.632221.3  17.4  83.8 4.7  88.8 4.6 341.
0.60   0.   0. 203.100.00100.00  5.28

C10.23.50.45.20-25.974 -52.762523.6 20.19.42.3014.0 9.632221.3  17.4  27.8 4.7  27.4 4.9 342.0 0.
  0.   0. 203.100.00100.00  5.2854568468468468679690

 5.  15.23.51. 9.70-24.450 -52.543522.0 20.20.59.3013.8 9.631270.3  17.4 -13.9 0.1 -14.1 0.0 348.
0.60   0.   0. 224.100.00100.00  4.71

 10.23.51.13.20-24.232 -52.512521.8 20.21.10.2013.8 9.631270.3  17.4  -4.5 0.1  -4.5 0.1 348.0 0.
  0.   0. 224.100.00100.00  4.7153368568568568679691

 6.  15.23.51.37.60-22.706 -52.302520.2 20.22.25.1013.4 9.63 981.3  16.6 -14.3 0.0 -14.0 0.0 355.
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D-249 1ST 22 RECS.

```
                                                   0000
              347      4                 FIN                 0

  1.  15. 2.44.46.20 33.081 -60.684306.7 22.42. 1.90 4.6 2.683178.0  12.3  -2.5 4.5 -16.3 0.1 332.0
1.23 217.1203.2460.  0.60  0.08  0.03

  10. 2.44.49.70 32.863 -60.645508.1 22.42.15.00 4.6 2.683178.0  12.3 -11.1 1.3  -7.1 1.9 332.0 1.23
 217.1203.2460.  0.60  0.08  0.0331368867003069759573 2

  2.  15. 2.45.14.10 31.327 -60.380505.1 22.43.43.00 4.6 2.783084.0  12.0  -2.0 1.5 -16.2 0.2 331.0
1.21 217.1159.2457.  0.62  0.08  0.03

  10. 2.45.17.60 31.119 -60.348504.9 22.43.55.60 4.7 2.783084.0  12.0 -11.0 0.6 -11.0 0.6 330.0 1.21
 217.1159.2457.  0.62  0.08  0.0232065967043269759773 2

  3.  15. 2.45.42.00 29.590 -60.090503.9 22.45.20.40 4.7 2.752559.0  11.7  -4.3 1.4 -16.1 0.7 329.0
1.19 184.1145.2484.  0.71  0.09  0.04

  10. 2.45.45.50 29.372 -60.054503.8 22.45.32.50 4.7 2.782659.0  11.7 -10.9 0.3 -10.9 0.2 329.0 1.19
 184.1145.2484.  0.71  0.09  0.0432766087063469559973 1

  4.  15. 2.46.10.00 27.842 -59.814502.9 22.46.54.60 4.8 3.132990.0  12.2  -6.2 1.3 -15.9 0.2 327.0
1.16 147.1097.2452.  0.50  0.10  0.04

  10. 2.46.13.50 27.623 -59.780502.7 22.47. 6.20 4.8 3.132990.0  12.3 -10.7 0.2 -10.7 0.2 327.0 1.16
 147.1097.2452.  0.90  0.10  0.0433446826706379950173 1

  5. 015. 2.46.37.90 26.091 -59.550501.8 22.48.25.90 4.8 3.192403.0  11.7  20.3 4.6  19.7 4.5 325.0
1.14 147.1054.2449.  0.61  0.10  0.04

 010. 2.46.41.40 25.872 -59.518501.7 22.48.37.20 4.9 3.192403.0  11.7  21.5 4.7  20.8 4.9 325.0 1.14
 147.1054.2445.  0.51  0.10  0.0834166367063869550373 0

  6.  15. 2.47. 5.80 24.339 -59.294500.6 22.49.59.40 5.0 3.212356.0  11.7  -0.9 2.1  -0.1 1.6 323.0
1.11   0.1010.2447.100.00  0.12  0.05

  10. 2.47. 9.80 24.120 -  .266500.7 22.50. 5.40 5.0 3.212356.0  11.7  -7.5 0.0  -9.7 0.0 323.0 1.11
  0.1010.2447.100.00  0.12  0.0534866765764189360573 0

  7.  15. 2.47.33.70 22.588 -59.054499.9 22.51.20.70 5.1 3.452619.0  12.3  -3.3 1.5  -2.3 1.8 321.0
1.09   0. 972.2446.100.00  0.14  0.08

  10. 2.47.37.20 22.366 -59.024499.8 22.51.31.40 5.1 3.452619.0  12.3 -10.3 0.0 -10.3 0.0 321.0 1.09
  0. 972.2445.100.00  0.14  0.0535466866854359360673 0

  8.  15. 2.48. 1.60 20.829 -58.820499.1 22.52.44.30 5.3 3.272309.0  12.0  -8.2 0.6 -15.4 0.7 318.0
1.06   0. 904.2443.100.00  0.15  0.06

  10. 2.48. 5.10 20.610 -58.751499.0 22.52.55.20 5.3 3.272309.0  12.0 -10.2 0.0 -10.2 0.0 318.0 1.06
  0. 904.2443.100.00  0.15  0.0636166956964669160773 0

  9.  15. 2.48.29.40 19.073 -58.594498.3 22.54. 6.90 5.5 3.362592.0  12.0 -13.3 0.5 -15.3 0.7 316.0
1.04   0. 844.2441.100.00  0.17  0.07

  10. 2.48.33.10 18.823 -58.566498.2 22.54.17.10 5.6 3.362892.0  12.0 -10.0 0.0 -10.0 0.0 316.0 1.03
  0. 844.2441.100.00  0.17  0.0736866959904869050973 0

 10.  15. 2.48.57.50 17.315 -58.376497.6 22.55.27.30 5.8 3.492375.0  12.3  -9.0 0.7  -7.4 1.1 313.0
1.01   0. 766.1846.100.00  0.22  0.05

  10. 2.49. 1.00 17.155 -58.349497.5 22.55.37.30 5.9 3.492375.0  12.3  -9.9 0.0  -9.9 0.0 313.0 1.01
```

ecs.

0000 REC 1, LENGTH 156

FIN 0 REC 2, LENGTH 144

...3305.3 22.42. 1.90 4.6 2.683178.0 12.3 -2.5 4.5 -16.3 0.1 332.0 REC 3, LENGTH 156
...03

...1 22.42.15.00 4.6 2.683178.0 12.3 -11.1 1.3 -7.1 1.9 332.0 1.25 REC 4, LENGTH 156
...3698670630697595732

...9505.1 22.43.43.00 4.6 2.783084.0 12.0 -2.0 1.5 -16.2 0.2 331.0 REC 5, LENGTH 156
...03

...9 22.43.55.60 4.7 2.783084.0 12.0 -11.0 0.6 -11.0 0.5 330.0 1.21 REC 6, LENGTH 156
...6698670633697597732

...9503.9 22.45.20.40 4.7 2.782659.0 11.7 -4.3 1.4 -16.1 0.7 326.0 REC 7, LENGTH 156
...04

...9 22.45.32.50 4.7 2.782659.0 11.7 -10.9 0.3 -10.9 0.2 329.0 1.18 REC 8, LENGTH 156
...7686670638695597731

...502.9 22.46.54.60 4.8 3.132990.0 12.2 -6.2 1.3 -15.9 0.2 327.0 REC 9, LENGTH 156
...04

...7 22.47. 6.20 4.8 3.132990.0 12.3 -10.7 0.2 -10.7 0.2 327.0 1.16 REC 10, LENGTH 156
...8662670647595601731

...501.8 22.48.25.90 4.8 3.192403.0 11.7 20.2 4.6 19.7 4.5 325.0 REC 11, LENGTH 156
...04

...7 22.48.37.20 4.9 3.192403.0 11.7 21.5 4.7 20.4 4.9 325.0 1.14 REC 12, LENGTH 156
...1663670638695603730

...500.8 22.49.54.40 5.0 3.212356.0 11.7 -0.9 2.1 -0.1 1.6 323.0 REC 13, LENGTH 156
...05

...7 22.50. 5.40 5.0 3.212356.0 11.7 -7.5 0.0 -9.7 0.0 323.0 1.11 REC 14, LENGTH 156
...8667657641693605730

...499.9 22.51.20.70 5.1 3.452619.0 12.3 -3.3 1.5 -2.3 1.8 321.0 REC 15, LENGTH 156
...05

...5 22.51.31.40 5.1 3.452619.0 12.3 -10.3 0.0 -10.3 0.0 321.0 1.09 REC 16, LENGTH 156
...6698668503693605730

...499.1 22.52.44.30 5.3 3.272309.0 12.0 -8.2 0.6 -15.4 0.7 318.0 REC 17, LENGTH 156
...04

...0 22.52.55.20 5.3 3.272309.0 12.0 -10.2 0.0 -10.2 0.0 318.0 1.06 REC 18, LENGTH 156
...6698668669160773O

...498.3 22.54. 2.90 5.5 3.362592.0 12.0 -13.3 0.5 -15.3 0.7 316.0 REC 19, LENGTH 156
...7

...22.54.17.10 5.6 3.362592.0 12.0 -10.0 0.0 -10.0 0.0 316.0 1.03 REC 20, LENGTH 156
...6698668630609730

...497.6 22.55.27.30 5.8 3.492375.0 12.3 -9.0 0.7 -7.4 1.1 313.0 REC 21, LENGTH 156
...5

...22.55.37.30 5.9 3.492375.0 12.3 -9.9 0.0 -9.9 0.0 313.0 1.01 REC 22, LENGTH 156

D-249 LAST ID REC.

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0 00 00 00 00 00 00 00 00 00

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351 22 SKA 0

1. 15.21. 1.10.10 74.029-122.080553.5 12.52.50.90 7.0 3.834552.0 12.6 -6.4 4.6 -17.0 0.0 309.0
1.44 0. 594.1314.100.00 1.03 0.40

10.21. 1.11.60 74.203-121.625553.4 12.54.43.60 7.0 3.834552.0 12.6 -11.7 0.0 -11.7 0.0 310.0 1.44
0. 594.1314.100.00 1.03 0.40834564564451658423480

2. 15.21. 1.38.00 75.364-117.514552.3 13. 9.58.70 6.8 4.234459.0 13.7 -6.6 4.6 -16.9 0.0 314.0
1.44 0. 630.1357.100.00 0.93 0.36

10.21. 1.41.80 75.626-117.377552.1 13.12.12.00 6.7 4.234459.0 13.7 -11.6 0.1 -11.6 0.1 314.0 1.44
0. 630.1357.100.00 0.93 0.26838456445644514584234 86

3. 15.21. 2. 5.50 76.606-112.939550.9 13.30.20.60 6.5 4.843109.0 13.4 -5.8 4.6 -16.8 0.0 318.0
1.44 0. 685.1551.100.00 0.84 0.33

10.21. 2. 9.40 76.759-112.252550.8 13.32.59.30 6.5 4.843109.0 13.4 -11.3 0.0 -11.3 0.0 319.0 1.44
0. 685.1553.100.00 0.84 0.3398456445644514584 23486

4. 15.21. 2.23.60 77.727-105.998549.6 13.54.34.20 6.4 4.983437.0 13.7 -7.7 4.6 -16.7 0.0 323.0
1.43 0. 709.1612.100.00 0.75 0.29

10.21. 2.37.30 77.663-106.227549.4 13.57.43.00 6.3 4.983437.0 13.7 -11.2 0.0 -11.2 0.0 323.0 1.43
0. 709.1612.100.00 0.75 0.25838456445644514584 23486

5. 15.21. 3. 1.87 78.690 -99.558540.2 14.23.12.30 6.3 4.922922.0 12.8 -9.5 3.9 -15.6 0.0 326.0
1.42 0. 782.1766.100.00 0.62 0.24

10.21. 3. 6.20 78.605 -99.042548.1 14.26.55.10 6.2 4.922922.0 12.8 -11.1 0.0 -11.1 0.0 327.0 1.42
0. 782.1766.100.00 0.62 0.2488845644564451458423486

6. C 5.21. 3.25.70 79.452 -91.753546.8 14.56.28.30 6.2 4.353367.0 12.8 24.7 4.7 24.1 4.6 330.0
1.42 0. 745.1758.100.00 0.51 0.20

C10.21. 3.33.20 79.541 -90.696546.7 15. 0.46.20 6.1 4.353367.0 12.8 21.0 4.7 20.3 4.9 330.0 1.41
0. 745.1758.100.00 0.51 0.2088845644564451458423486

7. 15.21. 3.57.60 79.967 -82.507545.4 15.33.36.00 6.1 2.40 49.0 12.8 -3.7 4.4 -16.6 0.1 332.0
1.41 0. 771.1651.100.00 0.31 0.12

10.21. 4. 1.10 80.023 -81.321548.3 15.38.44.00 6.1 2.40 49.0 12.8 -11.4 0.1 -11.4 0.0 333.0 1.41
0. 771.1651.100.00 0.31 0.1288845644564451458423485

8. 15.21. 4.25.50 80.155 -72.555544.0 16.14.12.20 6.0 2.743156.0 13.1 -4.4 4.6 -16.5 0.0 335.0
1.40 0. 753.1571.100.00 0.27 0.10

10.21. 4.29.00 80.216 -71.294543.8 16.19.18.50 6.0 2.743156.0 13.1 -11.3 0.0 -11.3 0.0 335.0 1.40

10 REC.

```
0 0   0 0    0 0                    00

0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 C    0  REC     65. LENGTH    162
0 C    0 0    0 0                   00

0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 C    0  REC     66. LENGTH    162
0 0    0 0    0 0                   00

C    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 0    0 C    0  REC     67. LENGTH    162
0 C    0 0    0 0                   00

                                                                              REC     68. LENGTH    156
                    0000

          SKA                              0                                  REC     69. LENGTH    144

0883.5 12.52.50.90 7.0 3.834552.0   12.6  -6.4 4.6 -17.0 0.0 309.0            REC     70. LENGTH    156
.40

.4 12.54.43.50 7.0 3.834552.0  12.6 -11.7 0.0 -11.7 0.0 310.0 1.44            REC     71. LENGTH    156
1E4564544451458423486

4552.3 13. 9.58.70 6.8 4.234459.0   13.7  -6.4 4.6 -16.9 0.0 314.0            REC     72. LENGTH    156
.36

.1 13.12.12.00 6.7 4.234459.0  13.7 -11.6 0.1 -11.6 0.1 314.0 1.44            REC     73. LENGTH    156
1E4564544451458423486

4550.9 13.30.20.60 6.5 4.843109.0   13.4  -5.8 4.6 -16.8 0.0 318.0            REC     74. LENGTH    156
.33

E 13.32.59.30 6.5 4.843109.0  13.4 -11.3 0.0 -11.3 0.0 319.0 1.44             REC     75. LENGTH    156
1E4564544451458423486

4549.6 13.54.34.20 6.4 4.983437.0   13.7  -7.7 4.6 -16.7 0.0 323.0            REC     76. LENGTH    156
29

4 13.57.43.00 6.3 4.983437.0  13.7 -11.2 0.0 -11.2 0.0 323.0 1.43             REC     77. LENGTH    156
1E4564544451458423486

548.2 14.23.12.30 6.2 4.922922.0   12.8  -9.5 3.9 -16.6 0.0 326.0             REC     78. LENGTH    156
24

1 14.26.55.10 6.2 4.922922.0  12.8 -11.1 0.0 -11.1 0.0 327.0 1.42             REC     79. LENGTH    156
E4564544451458423486

546.8 14.56.28.30 5.2 4.353367.0   12.8  24.7 4.7  24.1 4.6 330.0             REC     80. LENGTH    156
20

7 15. 0.46.20 6.1 4.353367.0  12.8  21.0 4.7  20.3 4.9 330.0 1.41             REC     81. LENGTH    156
E4564544451458423486

545.4 15.33.56.00 6.1 2.40  49.0  12.8  -3.7 4.4 -16.6 0.1 332.0              REC     82. LENGTH    156
12

3 15.38.44.00 6.1 2.40  49.0  12.8 -11.4 0.1 -11.4 0.0 333.0 1.41             REC     83. LENGTH    156
E4564544451458423486

544.0 16.14.12.20 6.0 2.743156.0   13.1  -4.4 4.6 -16.5 0.0 335.0             REC     84. LENGTH    156
10

E 16.19.18.50 6.0 2.743156.0  13.1 -11.3 0.0 -11.3 0.0 335.0 1.40             REC     85. LENGTH    156
```

```
$JOB            YZJRJVM,K1010,2,385L,P,KA0001,826
$PAUSE
$EXECUTE        IBJOB
$IBJOB          GO,MAP,FILES,SOURCE,LOGIC
$IBFTC DRIVER   FULIST,REF,NODECK,M94/2,XR7
      DIMENSION X(27), XX(27), BUFFT(200),L(7)
      DIMENSION  TITLE (5)
C
C*****************************************************************
C     THIS ROUTINE PRINTS A HEADING AS THE FIRST OUTPUT OF THE
C     PROGRAM CONSISTING OF THE NAME OF THE EXPERIMENT
C     SATELLITE NAME, AND SATELLITE ID
C     THE EXPERIMENT NAME AND DATE OF THIS RUN
      DIMENSION TITLE1(2), TITLE2(2), TITLE3(3), TITLE4(7),TITLE5(3)
C
C     TITLE1 = DATA SET ID
C     TITLE2 = SATELLITE NAME
C     TITLE3 = EXPERIMENT NAME
C     TITLE4 = DATA SET NAME
C     TITLE5 = RUN DATE
C
      READ(2,1000) TITLE1, TITLE2, TITLE3, TITLE4,TITLE5
 1000 FORMAT( 2A6, 2A6, 3A6,/ 7A6, 3A6)
      WRITE (3,1001) TITLE2,TITLE1, TITLE3, TITLE4, TITLE5
 1001 FORMAT(1H120(/),
```

Deck # 1 modified to run D-2567

```
     1       50X,16HSATELLITE   NAME,4H -  ,2A6,////
     2       26X,13HDATA  SET  ID,4H -  ,2A6,
     3       23X,15HEXPERIMENT NAME,4H -  ,3A6////
     4       38X,15HDATA  SET  NAME,4H -  ,7A6////
     5       48X,14HDATE  OF RUN  ,4H -  ,3A6,//1H1)
C
C*************************************************************************
C
C
C *** ZERO  OUT  COUNTER  FOR  PHYSICAL  RECORDS
C
C
      IX       = 0
      ILINCT   = 0
C
C
C
      READ(2,200) IREND
      WRITE(3,201)
      GO  TO  22 * ADD THIS CARD TO GO AROUND THE FIRST TWO RECORDS
    1 CONTINUE
C
C
C *** READ  HEADER  RECORD  THAT  PRECEEDS  EACH  SET  OF  DATA
C
C
C           READ (5,107) DUMMY ----------> * TWO CARDS HAVE BEEN PULLED
C           IX = IX+1                      * TAPE CONTAINS NO DUMMY RECORDS
```

D-2507 IS MISSING FIRST TWO RECORDS

```
C
C
C *** READ  DATA  SET  IDENTIFICATION  RECORD
C
C
      READ(5,100) IDAY, IHRS, STA, IERR
   21 CONTINUE
      IX       = IX + 1
    2 XX(1)    = X(I)
C
C
C *** DATA  RECORD  RELATING  TO  5  OR  15  MHZ
C     THIS  RECORD  ALSO  INDICATES  END  OF  DATA  SET  WHEN  X(1) = 0.
C
C
   22 CONTINUE                                  * 3 RECORD IS READY TO BE READ
      READ(5,101) X(1),A5, (X(I),I=2,26)
      IX       = IX + 1
      IF(X(1).EQ.0.)  GO  TO  11
C
C
C *** DATA  RECORD  RELATING  TO  10  MHZ
C
C
      READ(5,102) A10, (XX(I),I=2,26)
      IX       = IX + 1
```

```
      IF(X(1).NE.0.)  GO  TO  2
   11 CONTINUE
C
C
C *** INDICATES  NUMBER  OF  RECORDS  IN  DATA  SET  +  ACCOMMULATIVE  COUNT.
C
C
C
C
C
C *** NEXT  STEP  IN  DATA  SET  ARE  THREE  RECORDS  GIVING  SOME  DETAILS
C     ON  DATA  RECORDS  JUST  READ.
C
C
      READ(5,104) IRZ
      IX        = IX + 1
      READ(5,105) RAS, RAD
      IX        = IX + 1
      READ(5,106) K,M
      IX        = IX + 1
C
C
C *** MM - INDICATES  NEXT  SET  OF  RECORDS  TO  BE  READ
C
C
      MM        = (M-K)/10
C
```

```
C
C *** READS  MM  RECORDS
C
C
      DO 3 J    = 1,MM
      READ(5,107) DUMMY
      IX        = IX + 1
    3 CONTINUE
C *** K - RESIDUE  OF  M  MODULUS  10
C
C
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = 1,K
      READ(5,107) DUMMY
      IX        = IX + 1
    4 CONTINUE
   44 CONTINUE
C
C *** CONSTANT  4  RECORDS  PER  DATA  SET
C
C
      DO  5 J  = 1,4
      READ(5,107) DUMMY
      IX        = IX + 1
    5 CONTINUE
```

```
      K2        = (M*2) + K + ((M-K)/10) + 10
      IF(K.EQ.1)  K2  =  K2- 1
      ILINCT    = ILINCT + 1
      IF(ILINCT.LT.50)  GO  TO  56
      ILINCT    =  0
      WRITE(3,201)
   56 CONTINUE
      WRITE(3,202) K2,IX,XX(1)
C
CC
C *** RETURN  TO  1  FOR  NEXT  DATA  SET
C
C
      IF(IX.EQ.IREND)  GO  TO  55
      GO  TO  1
C
   55 CONTINUE
      STOP
C
C *** F  O  R  M  A  T  S
C
C
  100 FORMAT(16X,I4, I5, 17X, A3, 20X,I2)
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
```

```
  102 FORMAT(      A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  103 FORMAT(20X,I10,2(10X,F5.0)/)
  104 FORMAT(I4)
  105 FORMAT(2F7.1)
  106 FORMAT(2I6)
  107 FORMAT(A6)
  200 FORMAT(I5)
  201 FORMAT(1H1
     2       9X,31H DATA  SET  RECORDS  PER  GROUP
     3       9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
     4       9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                                    07/12/67    FXEM0000
$TEXT  FXEM                                                                FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'G6'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 775'74'5 Y74 '4 ' '1 '' '4-'G =74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '9  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''()FXEM0004
*N97'X*7(*7V*7 *(*X*)P(*****X*XPP+777PP***PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP)*)PPPPP(**)PP+T'74'4M9FXEM0006
*N'()L*7(*7(*7-76 750Z7'0F'' '75'06'Z7'0W90W'0W90P'0P70P'0090G'0G'0F'0X9FXEM0007
```

```
*N'(*G*7V*7(*7-449'4 448G 99 =449G 975'4 =75'7 74 '' 8. '5 '' '75 0VZ75'FXEM0008
*N'X(  *X(*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z4 77   '9 '5 '+X'   )6 '68FXEM0009
*N6.))*7(*7(*7-)5 5 '449'4 4499 '7'0  84     59-8 '05'8 '07'76 74=9 74 'FXEM0010
*N=(,(*7X*7V*7 75'4 '75'   74-0 Y7K'59-'()*GPPPP*)***G*P**PP+7'**P*)**))FXEM0011
*N=GW**7X*7X*7 **P+1''  ) '4 =76(76'' 9) 9-6776 54976''  76 5 77  ' ''6 FXEM0012
*N='W'*X(*X(*X-I 74 74 Y(W'D ='6'. 776 5499 +4  '  G 95 75 09 +   74003ZFXEM0013
*N7)I(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'S 7')******)*GGFXEM0014
*N'X('*7Z*7V*7 *P**G***PPPP+0'7PP- '    '(PPP     =  '((X   X     *PP   FXEM0015
*S''X.*7(              8  9  '  '                                          FXEM0016
$CDICT FXEM                                                               FXEM0017
*N *7*7W  1'*PP7W (*)   (**  7(*(  '()* 6'GPG-6 (**-6 P*)-  X*P-  (*(-  FXEM0018
*19(IXP*R-  (*X-                                                          FXEM0019
$DKEND FXEM                                                               FXEM0020
$DATA
67-042A-04A ARIEL 3     THUNDERSTORM NOISE
D02507                                  JUNE 28, 1971
21925
'
```

CARD TOTAL 199

```
$PAUSE
$EXECUTE        IBJOB
$IBJOB          GO,MAP,FILES,SOURCE,LOGIC
$IBFTC DRIVER   FULIST,REF,NODECK,M94/2,XR7
      DIMENSION X(27), XX(27), BUFET(200),L(7)
      DIMENSION  TITLE (5)
C
C*****************************************************************
C     THIS ROUTINE PRINTS A HEADING AS THE FIRST OUTPUT OF THE
C     PROGRAM CONSISTING OF THE NAME OF THE EXPERIMENT
C     SATELLITE NAME, AND SATELLITE ID
C     THE EXPERIMENT NAME AND DATE OF THIS RUN
      DIMENSION TITLE1(2), TITLE2(2), TITLE3(3), TITLE4(7),TITLE5(3)
C
C     TITLE1 = DATA SET ID
C     TITLE2 = SATELLITE NAME
C     TITLE3 = EXPERIMENT NAME
C     TITLE4 = DATA SET NAME
C     TITLE5 = RUN DATE
C
      READ(2,1000) TITLE1, TITLE2, TITLE3, TITLE4,TITLE5
1000  FORMAT( 2A6, 2A6, 3A6,/ 7A6, 3A6)
      WRITE (3,1001) TITLE2,TITLE1, TITLE3, TITLE4, TITLE5
1001  FORMAT(1H1,20(/),
     1       50X,16HSATELLITE   NAME,4H -  ,2A6,////
```

Special Deck #2 needed to run
D-1731
D-2505
D-2506
D-2508
D-2509
D-2510

```
      2       26X,13HDATA  SET  ID,4H -  ,2A6,
      3       23X,15HEXPERIMENT NAME,4H -  ,3A6////
      4       38X,15HDATA  SET  NAME,4H -  ,7A6////
      5       48X,14HDATE  OF RUN  ,4H -  ,3A6,//1H1)
C
C*************************************************************************
C
C
C *** ZERO  OUT  COUNTER  FOR  PHYSICAL  RECORDS
C
C
      IX       = 0
      ILINCT   =  0
C
C
C
      READ(2,200) IREND
      WRITE(3,201)
    1 CONTINUE
C
C
C *** READ  HEADER  RECORD  THAT  PRECEEDS  EACH  SET  OF  DATA
C
C       READ (5,107) DUMMY   } THESE TO STATEMENTS HAVE BEEN PULLED.
C       IX = IX + 1          } TAPE CONTAIN NO DUMMY RECORDS
C
C
```

```
C
      DO 3 J    = 1,MM
      READ(5,107) DUMMY
      IX        = IX + 1
    3 CONTINUE
C *** K - RESIDUE  OF  M  MODULUS  10
C
C
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = 1,K
      READ(5,107) DUMMY
      IX        = IX + 1
    4 CONTINUE
   44 CONTINUE
C
C *** CONSTANT  4  RECORDS  PER  DATA  SET
C
C
      DO  5 J  = 1,4
      READ(5,107) DUMMY
      IX        = IX + 1
    5 CONTINUE
      K2        = (M*2) + K + ((M-K)/10) + 10
      IF(K.EQ.1)  K2  =  K2- 1
      ILINCT    = ILINCT + 1
```

```
      IF(ILINCT.LT.50)  GO  TO  56
      ILINCT   =  0
      WRITE(3,201)
   56 CONTINUE
      WRITE(3,202) K2,IX,XX(1)
C
CC
C *** RETURN  TO  1  FOR  NEXT  DATA  SET
C
C
      IF(IX.EQ.IREND)  GO  TO  55
      GO  TO  1
C
   55 CONTINUE
      STOP
C
C *** F  O  R  M  A  T  S
C
C
  100 FORMAT(16X,I4, I5, 17X, A3, 20X,I2)
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  102 FORMAT(      A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
```

```
  103 FORMAT(20X,I10,2(10X,F5.0)/)
  104 FORMAT(I4)
  105 FORMAT(2F7.1)
  106 FORMAT(2I6)
  107 FORMAT(A6)
  200 FORMAT(I5)
  201 FORMAT(1H1
     2        9X,31H DATA  SET  RECORDS  PER  GROUP
     3        9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
     4        9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                                    07/12/67    FXEM0000
$TEXT  FXEM                                                                FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'G6'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 775'74'5 Y74 '4 ' '1 '' '4-'G =74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''()FXEM0004
*N97'X*7(*7V*7 *(*X*)P(*****X*XPP+777PP***PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP))*)PPPPP)**)PP+T'74'4M9FXEM0006
*N''()L*7(*7(*7-76 750Z7'0F'' '75'06'Z7'0W90W'0W90P'0P70P'0090G'0G'0F'0X9FXEM0007
*N''(*G*7V*7(*7-449'4 448G 99 =449G 975'4 =75'7 74 '' 8. '5 '' '75 0VZ75'FXEM0008
*N'X()*7(*X(*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z4 775'4 '9 '5 '+X'   16 '68FXEM0009
*N6.))*7(*7(*7-15 5 '449'4 4499 '7'0  84     59-8 '05'8 '07'76 74=9 74 'FXEM0010
```

```
*N=(,(*7X*7V*7 75'4 '75'   74-0 Y7K'59-'()*GPPPP*)***G*P**PP+7''*P*)=*))FXEM0011
*N=GW**7X*7X*7 **P+1''  ) '4 =76(76'' 91 9-6776 54976''  76 5 77  ' ''6 FXEM0012
*N='W''*X(*X(*X-I 74 74 Y(W'D ='6'. 776 5499 +4  '  G 95 75 09 +   740032FXEM0013
*N7)I(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'5 7')******'*GGFXEM0014
*N*X('*7Z*7V*7 *P**G***PPPP+0'7PP- '    '(PPP     =  ''(X   X     *PP   FXEM0015
*S''X,*7(              8  9  '  '                                          FXEM0016
$CDICT FXEM                                                               FXEM0017
*N *7*7W  1'*PP7W (*)   (**  7(*(  '()* 6'GPG-6 (**-6 P*)-  X*P-  (*(-  FXEM0018
*19((XP*R-  (*X-                                                          FXEM0019
$DKEND FXEM                                                               FXEM0020
$DATA
67-042A-04A ARIEL 3     THUNDERSTORM NOISE
D02505                                  JUNE 28, 1971
19942
'
```

CARD TOTAL 196

```
$PAUSE
$EXECUTE        IBJOB
$IBJOB          GO,MAP,FILES,SOURCE,LOGIC
$IBFTC DRIVER   FULIST,REF,NODECK,M96/2,XR7
      DIMENSION X(27), XX(27), BUFET(200),L(7)
C *** ZERO  OUT  COUNTER  FOR  PHYSICAL  RECORDS
C
C
      IX      = 0
      ILINCT  =  0
C
C
C
      WRITE(3,201)
      GO  TO  22   & ADD THIS CARD TO SKIP RECS 1 & 2.
    1 CONTINUE
C
C
C *** READ  HEADER  RECORD  THAT  PRECEEDS  EACH  SET  OF  DATA
C
C     READ(5,107) DUMMY  } THESE TWO STATEMENTS HAVE BEEN PULLED.
C     IX=IX+1            } TAPES CONTAINS NO HEADER RECORDS
C
C *** READ  DATA  SET  IDENTIFICATION  RECORD
C
```

Deck #1 needed for D-2507

```
C
      READ(5,100) IDAY, IHRS, STA, IERR
   21 CONTINUE
      IX        = IX + 1
    2 XX(1)     = X(1)
C
C
C *** DATA  RECORD  RELATING  TO  5  OR  15  MHZ
C     THIS  RECORD  ALSO  INDICATES  END  OF  DATA  SET  WHEN  X(1) = 0.
C
C
   22 CONTINUE      #    READING REC. 3
      READ(5,101) X(1),A5, (X(I),I=2,26)
      IX        = IX + 1
      IF(X(1).EQ.0.)  GO  TO  11
C
C
C *** DATA  RECORD  RELATING  TO  10  MHZ
C
C
      READ(5,102) A10, (XX(I),I=2,26)
      IX        = IX + 1
      IF(X(1).NE.0.)  GO  TO  2
   11 CONTINUE
C
C
```

```
C *** INDICATES  NUMBER  OF  RECORDS  IN  DATA  SET  +  ACCOMMULATIVE  COUNT.
C
C
C
C
C *** NEXT  STEP  IN  DATA  SET  ARE  THREE  RECORDS  GIVING  SOME  DETAILS
C     ON  DATA  RECORDS  JUST  READ.
C
C
      READ(5,104) IRZ
      IX        = IX + 1
      READ(5,105) RAS, RAD
      IX        = IX + 1
      READ(5,106) K,M
      IX        = IX + 1
C
C
C *** MM - INDICATES  NEXT  SET  OF  RECORDS  TO  BE  READ
```

```
C
      MM        = (M-K)/10
C
C
C *** READS  MM  RECORDS
C
C
```

```
      DO 3 J    = 1,MM
      READ(5,107) DUMMY
      IX        = IX + 1
    3 CONTINUE
C *** K - RESIDUE  OF  M  MODULUS  10
C
C
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = 1,K
      READ(5,107) DUMMY
      IX        = IX + 1
    4 CONTINUE
   44 CONTINUE
C
C *** CONSTANT  4  RECORDS  PER  DATA  SET
C
C
      DO  5 J  = 1,4
      READ(5,107) DUMMY
      IX        = IX + 1
    5 CONTINUE
      K2        = (M*2) + K + ((M-K1/10) + 10
      IF(K.EQ.1)  K2  =  K2- 1
      ILINCT    = ILINCT + 1
      IF(ILINCT.LT.50)  GO  TO  56
```

```
      ILINCT = 0
      WRITE(3,201)
   56 CONTINUE
      WRITE(3,202) K2,IX,XX(1)
C
CC
C *** RETURN TO 1 FOR NEXT DATA SET
C
C
      IF(IX.EQ.50000) GO TO 55
      GO TO 1
C
   55 CONTINUE
      STOP
C
C *** F O R M A T S
C
C
  100 FORMAT(
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  102 FORMAT(       A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  103 FORMAT(20X,I10,2(10X,F5.0)/)
```

```
  104 FORMAT(I4)
  105 FORMAT(2F7.1)
  106 FORMAT(2I6)
  107 FORMAT(A6)
  200 FORMAT(I5)
  201 FORMAT(1H1
     2         9X,31H DATA  SET  RECORDS  PER  GROUP
     3         9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
     4         9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1/)
C
C
C
      END
$IBLDR FXEM                                                    07/12/67    FXEM0000
$TEXT  FXEM                                                                FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'G6'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 775'74'5 Y74 '4 ' '1 '' '4-'G =74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''()FXEM0004
*N97'X*7(*7V*7 *(*X*)P(*****X*XPP+777PP***PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP))*)PPPPP)**)PP+T'74'4M9FXEM0006
*N'()L*7(*7(*7-76 750Z7'0F'' '75'06'Z7'0W90W'0W90P'0P70P'0090G'0G'0F'0X9FXEM0007
*N'(*G*7V*7(*7-449'4 448G 99 =449G 975'4 =75'7 74 '' 8. '5 '' '75 0VZ75'FXEM0008
*N'X()*7(*X(*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z4 775'4 '9 '5 '+X'   16 '68FXEM0009
*N6,))*7(*7(*7-15 5 '449'4 4499 '7'0  84     59-8 '05'8 '07'76 74=9 74 'FXEM0010
*N=(,(*7X*7V*7 75'4 '75'   74-0 Y7K'59-'()*GPPPP*)***G*P**PP+7''*P*)**))FXEM0011
```

```
*N=GW**7X*7X*7 **P+1''  ) '4 =75(75'' 9) 9-6776 54976''  76 5 77  ' ''6 FXEM0012
*N='W'*X(*X(*X-I 74 74 Y(W'D ='6'. 776 5499 +4  '  G 95 75 09 +   74003ZFXEM0013
*N7)I(*7(*7(*7 7K=  '559M90+  09+74'(XZ44 G =74=9 74 '75'5 7')*******)*GGFXEM0014
*N'X('*7Z*7V*7 *P**G***PPPP+0'7PP- '    '(PPP     =  '((X   X     *PP   FXEM0015
*S''X,*7(               8  9  '  '                                        FXEM0016
$CDICT FXEM                                                               FXEM0017
*N *7*7W  1'*PP7W (*)   (**  7(*(  '()* 6'GPG-6 (**-6 P*)-  X*P-  (*(-   FXEM0018
*19((XP*R-  (*X-                                                          FXEM0019
$DKEND FXEM                                                               FXEM0020
'
```

CARD TOTAL 165

```
      READ(5,100) IDAY, IHRS, STA, IERR
   21 CONTINUE
      IX        = IX + 1
    2 XX(1)     = X(1)
C
C
C *** DATA  RECORD  RELATING  TO  5  OR  15  MHZ
C     THIS  RECORD  ALSO  INDICATES  END  OF  DATA  SET  WHEN  X(1) = 0.
C
C
      READ(5,101) X(1),A5, (X(I),I=2,26)
      IX        = IX + 1
      IF(X(1).EQ.0.)  GO  TO  11
C
C
C *** DATA  RECORD  RELATING  TO  10  MHZ
C
C
      READ(5,102) A10, (XX(I),I=2,26)
      IX        = IX + 1
      IF(X(1).NE.0.)  GO  TO  2
   11 CONTINUE
C
C
C *** INDICATES  NUMBER  OF  RECORDS  IN  DATA  SET  +  ACCOMMULATIVE  COUNT.
C
```

```
C
C
C
C *** NEXT  STEP  IN  DATA  SET  ARE  THREE  RECORDS  GIVING  SOME  DETAILS
C     ON  DATA  RECORDS  JUST  READ.
C
C
      READ(5,104) IRZ
      IX        = IX + 1
      READ(5,105) RAS, RAD
      IX        = IX + 1
      READ(5,106) K,M
      IX        = IX + 1
C
C
C *** MM - INDICATES  NEXT  SET  OF  RECORDS  TO  BE  READ
C
C
      MM        = (M-K)/10
C
C
C *** READS  MM  RECORDS
C
C
      DO 3 J    = 1,MM
      READ(5,107) DUMMY
```

```
      IX       = IX + 1
    3 CONTINUE
C *** K - RESIDUE  OF  M  MODULUS  10
C
C
C
      IF(K.EQ.1)  GO  TO  44
      DO   4 J = 1,K
      READ(5,107) DUMMY
      IX       = IX + 1
    4 CONTINUE
   44 CONTINUE
C
C *** CONSTANT  4  RECORDS  PER  DATA  SET
C
C
      DO  5 J  = 1,4
      READ(5,107) DUMMY
      IX       = IX + 1
    5 CONTINUE
      K2       = (M*2) + K + ((M-K)/10) + 10
      IF(K.EQ.1)  K2  =  K2- 1
      ILINCT   = ILINCT + 1
      IF(ILINCT.LT.50)  GO  TO  56
      ILINCT   =  0
      WRITE(3,201)
```

```
   56 CONTINUE
      WRITE(3,202) K2,IX,XX(1)
C
CC
C *** RETURN  TO  1  FOR  NEXT  DATA  SET
C
C
      IF(IX.EQ.50000)  GO  TO  55
      GO  TO  1
C
   55 CONTINUE
      STOP
C
C *** F  O  R  M  A  T  S
C
C
  100 FORMAT(16X,I4, I5, 17X, A3, 20X,I2)
  101 FORMAT(F4.0, A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  102 FORMAT(      A2, 3F3.0,F5.2,F7.3,F8.3,F5.1,F4.0,
     2       F3.0,F5.2,F4.1,F5.2,2F6.1,2(F6.1,F4.1),F6.1,F5.2,3F5.0,
     3       2F6.2)
  103 FORMAT(20X,I10,2(10X,F5.0)/)
  104 FORMAT(I4)
  105 FORMAT(2F7.1)
```

```
  106 FORMAT(216)
  107 FORMAT(A6)
  200 FORMAT(I5)
  201 FORMAT(1H1
     2         9X,31H DATA  SET  RECORDS  PER  GROUP
     3         9X,36H TOTAL  RECORDS  TO  THIS  DATA  SET
     4         9X,28H NUMBER  OF  15-MHZ  RECORDS//)
  202 FORMAT(24X,I3,41X,I5,37X,F5.1//)
C
C
C
      END
$IBLDR FXEM                                                    07/12/67    FXEM0000
$IEXT  FXEM                                                                FXEM0001
*N *)(*7V*7(*7-E 79 '' 89 '0 =75 76 74 ' =549   7 =7' 74'76'75'74'76'G6'FXEM0002
*N9(*(*7(*7(*7 7674 '75'4 '75'4 775'74'5 Y74 '4 ' '1 '' '4-'G =74=9 774 FXEM0003
*N8(*(*7(*7(*7 74 74'9 '4  G '' '' 7' ZG  76 1 7' Z4  9 =4 675'-675 ''()FXEM0004
*N97'X*7(*7V*7 *(*X*)P(**X**XPP+777PP**PPPPPP**PPPPPPP**P+037P*)(PPPPFXEM0005
*N7(*Z*7(*7V*7 PPP(G)PPPPPP**G*PP+T=PP(*(PPPPPPP))*)PPPPP)**)PP+T'74'4M9FXEM0006
*N'()L*7(*7(*7-76 750Z7'0F'' '75'06'Z7'0W90W'0W90P'0P70P'0090G'0G'0F'0X9FXEM0007
*N'(*G*7V*7(*7-449'4 448G 99 =449G 975'4 =75'7 74 '' 8. '5 '' '75 0VZ75'FXEM0008
*N'X()*7(*X(*7 75'45 95=-7Y4 '9 '4 Z9 '5 '5 Z4 775'4 '9 '5 '+X'   )6 '68FXEM0009
*N6.))*7(*7(*7-)5 5 '449'4 4499 'T'0  84     59-8 '05'8 '07'76 74=9 74 'FXEM0010
*N=(.(*7X*7V*7 75'4 '75'   74-0 Y7K*59-'()*G*PPP*)***G*P**PP+7'**P*)**))FXEM0011
*N=GW**7X*7X*7 **P+1''  ) '4 =76(76'' 91 9-6776 54976''  76 5 77  ' ''6 FXEM0012
*N='W'*X(*X(*X-I 74 74 Y(W'D ='6'. 776 5499 +4  '  G 95  5 09 +   74003ZFXEM0013
```

```
*N7)1(*7(*7(*7 7K=  '559M90+  09+74'IXZ44 G =74=9 74 '75'5 7')*****)*GGFXEM0014
*N*X(*'*7Z*7V*7 *P**G***PPPP+0*7PP- '    '(PPP     =  '((X   X     *PP   FXEM0015
*S!'X*(*7(                B  9  '  '                                      FXEM0016
$CDICT FXEM                                                               FXEM0017
*N *7*7W  1'*PP?W (*)   (**  7(*(  '()* 6'GPG-6 (**-6 P*)-  X*P-  (*(-   FXEM0018
*19((XP*R-  (*X-                                                          FXEM0019
$DKEND FXFM                                                               FXEM0020
.
```

CARD TOTAL 163

SATELLITE NAME - ARIEL 3

DATA SET ID - 67-042A-04A

EXPERIMENT NAME - THUNDERSTORM NOISE

DATA SET NAME - 004738

DATE OF RUN - MAY 19, 1971

DATA SET RECORDS PER GROUP	TOTAL RECORDS TO THIS DATA SET NUMBER
430	431
367	798
436	1234
424	1658
178	1837
289	2126
427	2553
400	2953
415	3368
457	3825
400	4225
436	4661
436	5097
358	5455
411	5866
243	6109
451	6561
415	6976
409	7385
430	7816
157	7974
310	8284
424	8708
424	9132
442	9574
369	9943
424	10367
256	10623
451	11075
409	11484
424	11908
451	12360
136	12497
325	12823

ERROR TRACE. CALLS IN REVERSE ORDER.

CALLING ROUTINE	IFN OR LINE NO.	ABSOLUTE LOCATION
FIOS	162	13157
FRDD	13	14511
DRIVER	55	05355

END OF FILE READING UNIT05

EXECUTION TERMINATED.

R GROUP	TOTAL RECORDS TO THIS DATA SET	NUMBER OF 15-MHZ RECORDS
	421	200.0
	798	167.0
	1236	199.0
	1659	195.0
	1837	80.0
	2126	129.0
	2553	196.0
	2953	184.0
	3368	192.0
	3825	212.0
	4225	184.0
	4661	199.0
	5097	202.0
	5455	164.0
	5866	191.0
	6109	111.0
	6561	210.0
	6976	183.0
	7385	187.0
	7816	200.0
	7974	70.0
	8284	142.0
	8708	195.0
	9132	195.0
	9576	204.0
	9943	171.0
	10367	195.0
	10523	115.0
	11075	210.0
	11484	187.0
	11908	195.0
	12360	210.0
	12497	55.0
	12823	150.0

DER.

ABSOLUTE LOCATION
13157
14511
05355

TOS

SATELLITE NAME - ARIEL 3

DATA SET ID - 67-042A-04A EXPERIMENT NAME - THUNDER

DATA SET NAME - 000031

DATE OF RUN - FEBRUARY 19, 1971

SATELLITE NAME - ARIEL 3

SET ID - 67-042A-04A

EXPERIMENT NAME - THUNDERSTORM NOISE

DATA SET NAME - DD0031

DATE OF RUN - FEBRUARY 19, 1971

DATA SET RECORDS PER GROUP	TOTAL RECORDS TO THIS DATA SET	NUM
467	467	
433	890	
322	1212	
460	1672	
55	1727	
367	2095	
430	2525	
421	2946	
454	3400	
424	3824	
460	4284	
433	4717	
421	5138	
250	5388	
433	5821	
460	6281	
433	6714	
421	7135	
460	7595	
418	8013	
253	8266	
163	8429	
424	8853	
457	9310	
367	9678	
433	10111	
457	10568	
427	10995	
367	11363	
238	11601	
256	11857	
322	12179	
415	12594	
433	13027	
253	13280	
205	13485	
457	13942	
283	14226	
262	14488	
250	14738	
457	15195	
430	15625	
325	15950	
364	16314	
433	16747	
433	17180	
427	17607	
421	18028	
343	18371	

S PER GROUP	TOTAL RECORDS TO THIS DATA SET	NUMBER OF 15-MHZ RECORDS
	18838	212.0
	19072	108.0
	19325	114.0
	19777	210.0
	20195	193.0
	20631	199.0
	21064	198.0
	21500	202.0
	21933	198.0
	22351	193.0
	22688	154.0
	23140	213.0
	23521	169.0
	23756	105.0
	23803	105.0