

562

NIMBUS 7

*Earth Sc*

LIMS MAP ARCHIVAL TAPE

78-098A-01C

*Spencer*

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

REQ. AGENT  
BER  
BER

RAND NO.  
V0048  
V0252

ACQ. AGENT  
RWP  
CYN

NIMBUS 7

LIMS MAP ARCHIVAL TAPE

78-098A-01C ESAC-00031

THIS DATA SET CATALOG CONSISTS OF 8 (LAMAT) TAPES. THEY ARE 9-TRACK, 1600 BPI, AND WERE CREATED ON AN IBM 360 COMPUTER. THE TAPES ARE MULTI-FILED, THE FIRST BEING A STANDARD HEADER FILE WRITTEN IN EBCDIC, FOLLOWED BY BINARY DATA FILES. THE D TAPES HAVE BEEN SENT TO THE FEDERAL RECORDS CENTER. DOCUMENTATION FOR THIS DATA SET CAN BE FOUND IN ROOM 123, IN THE FILING CABINET. THE D AND C NUMBERS, ALONG WITH THE TIME SPANS ARE AS FOLLOWS:

<u>D#</u>	<u>C#</u>	<u>FILES</u>	<u>TIME SPAN</u>
D-54163	C-22811	30	10/25/78 - 11/23/78
D-54164	C-22812	27	11/23/78 - 12/19/78
D-54165	C-22813	28	12/19/78 - 01/15/79
D-54167	C-22815	29	01/15/79 - 02/12/79
D-54168	C-22816	26	02/12/79 - 03/09/79
D-54169	C-22817	24	03/09/79 - 04/01/79
D-54170	C-22818	31	04/01/79 - 05/01/79
D-54171	C-22819	29	05/01/79 - 05/29/79

\*\*\*\*THESE TAPES ARE THE REPLACEMENT TAPES SUPPLIED BY THE NIMBUS PROJECT.\*\*\*\*

SENSOR/INSTRUMENT: LIMS

TAPE SPEC. NO. T564051, REVISION BC DATED 07/15/81

SPEC. TITLE LIMS MAP ARCHIVAL TAPE  
78-098A-01C

REVIEWED BY: Paul Bailey DATE 7/17/80

APPROVED BY: Gary Wolford DATE \_\_\_\_\_  
NOPS Manager

Rev. B. 7/15/80 PLB

Rev. C. 07/15/81

NIMBUS G

NIMBUS OBSERVATION PROCESSING SYSTEM (NOPS)

REQUIREMENTS DOCUMENT #NG-52

TAPE SPECIFICATION T564051

LIMS MAP ARCHIVAL TAPE (MAT)

Prepared by:

*Paul Bailey*  
Paul L. Bailey

Date:

7/15/80

Rev. C. Added new standard header

ABSTRACT

The LIMS Map Archival Tape (MAP) is generated by NCAR and represents high level LIMS archival products. The master files will reside on the NCAR mass storage system and copies will be sent to the NASA distribution center on 9-track, 1600 BPI tape. The tapes will contain standard header records written in EBCDIC twice as the first file.

Each MAT will contain up to one month's daily map data. Each day's data will be contained within a file. Two file marks will occur at the end of the last day's data.

I. REQUIREMENTS IDENTIFICATION

LIMS MAT tape specification T564051.

II. INPUT DATA SOURCE

LIMS IPAT, tape specification T564021.

• EMC Analysis Tape

III. OPERATING MODE

The inverted profile data contained on the IPAT files is interpolated to standard pressures and latitudes and is harmonically analyzed with a sequential estimation Kalman filter. The coefficients resulting from this analysis will be interpolated to synoptic times and will become the MAT variables. Daily MAT results will be averaged over periods of 1 month or 3 months to produce SMAT results.

IV. MAT Gross Format

Beginning of Tape

Standard Header
IRG
Standard Header
EDF
First Map for Day 1
IRG
Second Map for Day 1
⋮
Last Map for Day 1
EDF
First Map for Day 2
⋮
Last Map for Day N
EOF
EOF

First Daily Map File

Repeat for N Days

## V. STANDARD HEADER

All magnetic tapes used as interfaces within NOPS will require some form of identification. A standardized series of records in the initial file on each tape will be used and will be called a NOPS "Standard Header File." Some tapes used within a NOPS facility which do not pass an interface will be exempt from this requirement - although it is a recommended procedure.

The STD HRD will contain the spec number of the tape generated. The interface spec numbering system is shown in Table V-1.

Each STD HDR will be written in EBCDIC so that it can be easily printed for quick identification of the tape. Figure V-1 shows the standard header format using 24 bit words.

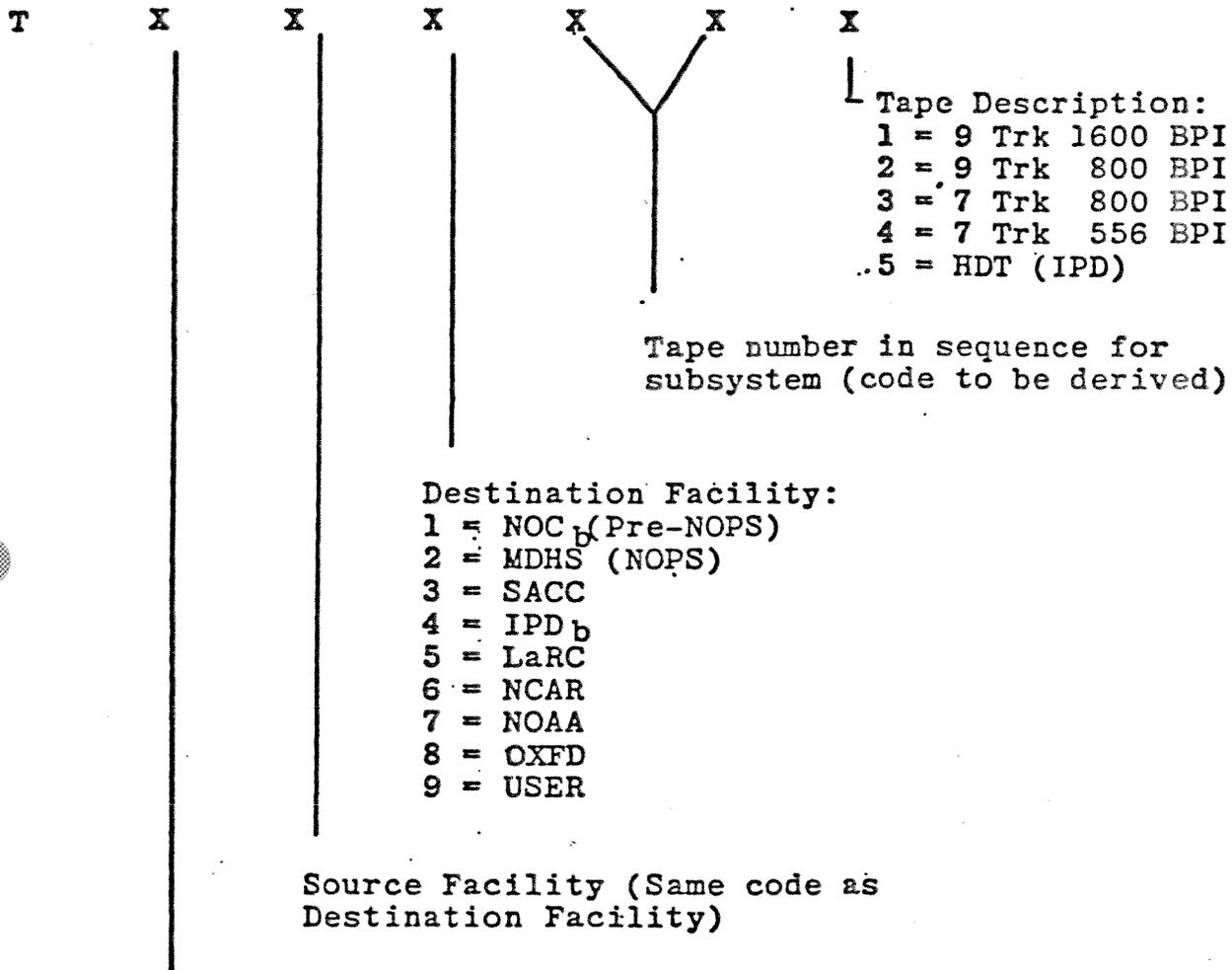
Because of the real possibility of an original tape being damaged in handling (resulting in the loss of many computations), each processing facility within NOPS will generate duplicate copies of master tapes. These duplicates will be delivered to IPD for data product generation or user copy generation and will be indicated by the characters "-2" added to the sequence number in the STD HDR. The original will be indicated by the characters "-1" and will be retained in a secure environment at the originating facility. When IPD returns copy no. 2 due to tape errors, a new copy will be sent to IPD with the same copy number, but identified on the tape cannister as "-2A", then "-2B" for a subsequent redo, etc.

IPD will include a shipping letter with every tape distributed. The shipping letter will be printed directly from the STD HDR on the tape. In the case of copies made from tapes not generated in IPD, a new set of 126 characters reflecting IPD as the source, and the Nimbus experimenter to whom the tape is being sent, as the destination, is produced. This new 126 character set is put at the start of the header and the second through fifth blocks of 126 characters are the first through fourth blocks from the original copy 2 tape (the fifth block on the copy 2 will be lost).

TABLE VI-1

NOPS SPECIFICATION NUMBERING CODE

TAPES: A six digit number prefixed with a T to denote TAPE will be used.



- Subsystem
- 1 = ERB<sub>b</sub>
  - 2 = SMMR
  - 3 = THIR
  - 4 = SAM2
  - 5 = LIMS
  - 6 = SBUV
  - 7 = CZCS
  - 8 = SAMS
  - 9 = ILT<sub>b</sub>

STANDARD HEADER (PHYSICAL RECORD FORMAT)

B	22	20	18	16	14	12	10	8	6	4	2	1	LSB
Nimbus - 7 <sub>b</sub> NOPS <sub>b</sub> SPEC <sub>b</sub> NO <sub>b</sub> T													
(24 Characters)													192
SPEC NO. (6 Digits)													
SQ NO <sub>b</sub> (7 Characters)													
PDFC CODE (2 Char.)													
5 Digit Sequence No. (5 Characters)													
Hyphen (1 Char.)													408
1 Char. Tape Copy No. Blank Character													
(4 Characters) SUBSYSTEM I.D.													
Blank Character SOURCE FACILITY													
(4 Characters)													
Blank Character													
(T) Character (Ø) Character Blank Character													
(4 Characters) DESTINATION FACILITY I.D.													
(23 Characters)													
START YEAR, DAY, HOURS, MINUTES, SECONDS													
START <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub>													696
END DATE AND TIME OF DATA (19 Characters)													
TO <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub> * Some Facilities may not include end time in header													
(20 Characters)													
DATE AND TIME TAPE WAS GENERATED													
GEN <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub>													1008
BLANK (126 Characters)													2016
BLANK (126 Characters)													3024
BLANK (126 Characters)													4032
BLANK (126 Characters)													5040

The STD HDR will contain the following:

Two identical records (physical) of 630 characters (eight bits each) followed by an end-of-file.

The first 126 characters of the first record will consist of:

$b$ NIMBUS-7 $_b$ NOPS $_b$ SPEC $_b$ NO $_b$ T	(24 char.)
XXXXXX (6 digit spec number)	( 6 char.)
$b$ SQ $_b$ NO $_b$	( 7 char.) PDFC Designator and 5 digit sequence No.
AAXXXXX (5 digit sequence No.)	( 7 char.)

NOTE: If sequence number is zero, tape is not a finished product (i.e. definitive ephemeris not used, artificial VIP data, etc.)

-X (copy number 1 or 2) ( 2 char.)

$b$ YYYY $_b$  (4 char. subsystem ID) ( 6 char.)

YYYY (Generation Facility ID) ( 4 char.)

$b$ TO $_b$ YYYY (4 char. Des. Fac. ID) ( 8 char.)

$b$ START $_b$ 19XX $_b$ DDD $_b$ HHMMSS $_b$  (23 char.)  
(Start year, day of year, hours, minutes, seconds)

TO $_b$ 19XX $_b$ DDD $_b$ HHMMSS $_b$  (19 char.)  
(end data and time of data)

GEN $_b$ 19XX $_b$ DDD $_b$ HHMMSS $_b$  (20 char.)  
(date and time tape was generated)

(126 char.)

The second group of 126 characters will contain blanks (to allow for the original 126 characters when IPD duplicates tape for distribution).

The third, fourth, and fifth groups of 126 characters each are intended for the use of the Subsystem Analysts for further identification of their data. They may contain blanks, EBCDIC, BDC, or binary characters or zeros.

The second record in the file is a duplicate of the first record for redundancy.

The PDFC codes are as defined in Table V-2.

EXAMPLE: An ERB matrix tape covering the month of February 1979 is generated by SACC and sent to IPD for production of contour maps on 16 mm microfilm. The NOPS STD HDR File on the tape which IPD receives would contain two of the following records.

<sub>b</sub> NIMBUS-7 <sub>b</sub> NOPS <sub>b</sub> SPEC <sub>b</sub> NO <sub>b</sub> T134031 <sub>b</sub> SQ <sub>b</sub> NO <sub>b</sub>

A00027-2 <sub>b</sub> ERB <sub>bb</sub> SACC <sub>b</sub> TO <sub>b</sub> IPD <sub>bb</sub> START <sub>b</sub> 1979 <sub>b</sub>

032 <sub>b</sub> 000432 <sub>b</sub> TO <sub>b</sub> 1979 <sub>b</sub> 059 <sub>b</sub> 235742 <sub>b</sub> GEN <sub>b</sub>

1979 <sub>b</sub> 104 <sub>b</sub> 094500 <sub>b</sub> followed by 504 blanks

NIMBUS-G PROJECT DATA FORMAT CODES (MAY 5, 1980) REV. FROM MARCH 3, 1980

SENSOR	TAPE ID	ORIG.	COPIES	PDF	DATA TYPE	HORIZ LABEL	VERTIC COLORS	SENSOR	TAPE ID	ORIG.	COPIES	PDF	DATA TYPE	HORIZ LABEL	VERTIC COLORS	
ERB	MATRIX	12	72	AA	MAAA	D RED	/ L RED	LIMS	MATRIX-M	14	28	EA	MAEA	YELLOW	/ BLUE	
	TABLES	12	-	AB	TAAB	D RED	/ D PINK		MATRIX-C	14	28	EB	MAEB	YELLOW	/ L GREEN	
	MAT*	365	2555	AC	MTAC	D RED	/ D RED		PROFILE-R	7	14	EC	PREC	YELLOW	/ L PINK	
	SEFDT*	12	84	AD	SEAD	D RED	/ YELLOW		PROFILE-I	21	42	ED	PRED	YELLOW	/ M TAN	
	ZMT*	2	14	AE	ZMAE	L RED	/ L PINK		RAT*	210	945	EE	RAEE	YELLOW	/ L PINK	
									-IPAT*	105	347	EF	IPEF	YELLOW	/ D ORAN	
									MAT*	70	294	EG	MTEG	YELLOW	/ YELLOW	
									CAT*	70	210	EH	CTEH	YELLOW	/ GREY	
	STAGS	1	-	AG	STAG	D RED	/ D ORANGE		SMAT*	7	28	EI	SMEI	YELLOW	/ L BROW	
									SCAT*	7	21	EM	SCEM	YELLOW	/ D GREEN	
							NMCT@	52	-	EK	NMEK	YELLOW	EXP LABEL			
							UFO@	295	-	UE	UFUE	YELLOW	EXP LABEL			
							ILT@	30	-	LE	ILLE	YELLOW	EXP LABEL			
TOTALS		*379	2653					TOTALS		*469	1845					
	OTHER	25	72							@377	-					
								OTHER (R)	56		112					
SMMR	MATRIX-30	12	-	BA	MABA	L TAN	/ YELLOW	SBUV/ TOMS	MATRIX	24	216	FA	MAFA	D GRN	/ D ORAN	
	MATRIX-LO	12	-	BB	LOBB	L BRWN	/ L GRN		TABLES	12	-	FB	TAFB	L GRN	/ L PINK	
	MATRIX-SS	12	-	BC	SSBC	L BRWN	/ L ORAN		MONTAGE	52	-	FC	MOFC	D GRN	/ D PINK	
	MAP-30*	12	60	BD	MPBD	L BRWN	/ L PINK		RUT-S*	26	26	FD	SRFD	GREY	/ D GRN	
	MAP-LO*	12	60	BE	LOBE	L BRWN	/ BLUE		(R) OZONE-S*	12	100	FE	OSFE	L GRN	/ L BRWN	
	MAP-SS*	12	60	BF	SSBF	M TAN	/ M TAN		(R) OZONE-T*	180	1440	FF	OTFF	D GRN	/ D GRN	
	PARM-30*	60	360	BG	PABG	M TAN	/ YELLOW		ZMT*	2	16	FH	ZMFH	L GRN	/ L PINK	
	PARM-LO*	30	150	BH	LOBH	M BRWN	/ YELLOW		RUT-T*	120	120	FJ	TRFJ	D GRN	/ YELLOW	
	PARM-SS*	30	120	BI	SSBI	M BRWN	/ M BRWN									
	TAT*	183	732	BJ	TABJ	D BRWN	/ YELLOW									
CELL-ALL*	61	427	BK	DEBK	D BRWN	/ L GRN										
TOTALS		*400	1969					TOTALS (R)		*340	1702					
	OTHER	36	-					OTHER	88		216					
THIR	SOURCE	5110	-	IA	SOIA	D ORAN	/ D ORAN	CZCS (R)	CRT360*	100	400	ZI	CRZI	BLUE	/ BLUE	
	STT	1095	-	IB	STIB	D ORAN	/ YELLOW		SOURCE	4500	-	ZA	SOZA	STANDARD	STA LABEL	
	BSHT	365	-	IC	BSIC	D RED	EXP LABEL		(R) CRCST*	250	1000	ZB	CRZB	BLUE	/ D GRN	
	CLDT	730	1460	ID	CLID	D ORAN	/ D GRN		CAT	12	96	ZC	CAZC	BLUE	/ D ORAN	
	CLE	219	1095	IE	CLIE	D ORAN	/ D PINK		CRT-L	900	1800	ZD	CRZD	BLUE	/ YELLOW	
	CLT	365	1825	IF	CLIF	M ORAN	/ GREY		ILT	52	-	LZ	ILLZ	BLUE	/ M TAN	
	ILT-T	52	-	LI	ILLI	L ORAN	/ L PINK		(R) CRT	2750	5500	ZE	CRZE	BLUE	/ D GRN	
	ILT-C	52	-	LC	ILLC	L ORAN	/ L BRWN		ILT-L@	52	-	LL	ILLL	BLACK	EXP LABEL	
									(R) CCT-F	225	-	ZH	CCZH	BLUE	/ PINK	
									(R) LOIT#	250	-	ZF	LOZF	L GRN	/ GREY	
							(R) DPIT#	250	-	ZG	DPZG	GRN	/ BLUE			
TOTALS (R)		7988	4380					TOTALS (R)		*350	1400					
										@ 52	-					
										#500	-					
										(R)	8439	7446				
SAM II	MATRIX	4	24	DA	MADA	D PURP	/ D PURP	SAMS	MATRIX	24	24	HA	MAHA	YEL-OR	/ L PINK	
	PROFILE	12	72	DB	PRDB	D PURP	/ D ORAN		RAT*	180	198	HC	RAHC	YEL-OR	/ YELLOW	
	RDAT*	12	72	DC	RDDC	M PURP	/ D GRN		ILT@	183	-	LH	ILLH	GREY	EXP LABEL	
	BANAT*	12	72	DD	BADD	M PURP	/ YELLOW		NMCT@	52	-	HD	NMHD	GREY	EXP LABEL	
	NMCT@	52	-	DE	NMDE	D ORAN	EXP LABEL									
ILT@	52	-	LD	ILLD	D ORAN	EXP LABEL										
TOTALS		* 24	144					TOTALS		@ 235	-					
		@104	-							* 180	198					
	OTHER	16	96					OTHER	24		24					

	ORIGINALS	COPIES	PDF
(R)	* TOTALS	2,142	27
	@ TOTALS	768	8
(R)	# TOTALS	570	2
(R)	OTHER TOTALS	16,672	30
(R)	GRAND TOTALS	20,082	67

\* PROCESSED BY METOCC AND COPIED BY IPD  
 3 PROCESSED BY METOCC AND SHIPPED BY TSSF  
 1 PROCESSED BY METOCC AND COPIED TO FILM BY IPF

(R) - SENSORS WHERE REVISIONS WERE MADE.  
 CHANGES TO LABEL COLORS MAY BE MADE DEPENDENT  
 ON AVAILABILITY AND QUANTITY.

NIMBUS G PROJECT DATA FORMAT CODES (Cont'd.)

SENSOR	TAPE ID	PDFC CODE
LOCATION	ILT/ERB	LA
	ILT/SMMR	LB
	ILT/THIR	LI
	ILT/SAM II	LD
	ILT/LIMS	LE
	ILT/SBUV	LF
	ILT/CZCS	LZ
	ILT/SAMS	LH
USER	UFO/ERB	UA
	UFO/SMMR	UB
	UFO/LIMS	UE
	UFO/SBUV	UF
	UFO/ILT	UL

1st CHARACTER	SOURCE/SENSOR	2nd CHARACTER	USER/SENSOR OR TAPE NUMBER
ERB	A		
SMMR	B		
THIR	I		
SAM II	D		
LIMS	E		
SBUV/TOMS	F		
CZCS	Z		
SAMS	H		
ILT	L		
UFO	U		

*effective date* \_\_\_\_\_

V.1 GENERAL

All computer compatible tapes (CCT's) that are used as interfaces within NOPS require some form of identification. This applies to all CCT's that are currently defined by a NOPS tape specification, and that are also used for distribution or archiving purposes.

In addition to defining a "latest" product, data relating to previous products that went into the making of the "latest" product provides useful information when system problems occur.

The purpose of this revision to existing NOPS tape specifications is to define a scheme that allows the recording of the genealogy of a "latest" product, and in general adheres to existing tape documentation standards.

In brief the system is as follows:

1. A documentation file that consists of a string of physical records follows the data on any tape defined by a current NOPS tape specification. This will be referred to as a Trailing Documentation File (TDF), and be the last file on a tape when it exists.

2. The standard NOPS header file remains as defined, with minor modifications to the standard header record that reflect both the existence of a TDF and adherence to the IPD standard for sequence numbers.

The following sections define the NOPS standard header records and file, and the TDF. Data files as currently defined in NOPS tape specification remain unchanged.

## V.2 STANDARD HEADER RECORD (SHR)

The SHR will consist of one physical record that consists of 5 logical records of 126 EBCIDIC characters. The first 126 characters will remain as previously defined with the exception of CHARACTER 1, and those characters that define the sequence number (40-45). CHARACTER 1 will contain an asterisk (\*) and serve to notify all systems that a TDF is likely to follow the main data files and that the next logical record contains information relevant to complete identification. As of the implementation date of this specification, all sequence numbers will have the following form that is an IPD standard:<sup>1</sup>

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<sup>1</sup>This does not apply to CZCS Data. For CZCS data, CHARACTERS 40 to 45 represent a 6-digit sequence number.

CHARACTER 40 = The last digit of the year in which the data were acquired.

CHARACTER 41-43 = Julian day of the year in which the data were acquired.

CHARACTER 44 = Sequence number for this particular product (usually a 1) (e.g., CLDT's will have a 1 and 2, as there are 2 products per day).

CHARACTER 45 = The existing hyphen remains unless there is a remake of the tape for any reason. In this case, an ascending alpha character will replace the hyphen, and the most recent reasons for remake will be recorded in logical record 4 of the header.

CHARACTER 47 = This will remain as a blank unless it is needed to remove ambiguities in CHARACTER 40. This may occur if data are being acquired on October 24, 1988.

This scheme will uniquely identify any tape when used in conjunction with the tape specification number, the PDFC code, and the subsystem identification.

The second logical record consisting of 126 characters will contain information that is required to complete the history of the product.

CHARACTER 1-12 = Software program name and version number.

CHARACTER 13-18 = Program documentation reference number, if it exists.

CHARACTER 20-126 = User defined comments that may be more relevant to the user than the preceding ones.

The NOPS standard header file will continue to consist of 2 records, the second being a duplicate of the first. Logical records 3 and 4 may be used for anything desired if no remake information is required.<sup>2</sup>

### V.3 TRAILING DOCUMENTATION FILE (TDF)

The TDF will consist of all NOPS standard header records (non-duplicated) that relate to products that have gone into the making of the current product. Documentation records will be

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<sup>2</sup>In the case of CZCS these logical records are used to define the genealogy of the image rather than the method of V.3.

sequenced in accordance with their access; that is, first in is the first recorded. Every TDF is 630 bytes in length.

The first record of this file will serve to identify the file as a TDF. This will be accomplished by placing asterisks in CHARACTERS 1 to 10 followed by NOPS TRAILER DOCUMENTATION FILE FOR TAPE PRODUCT T [SPEC NO (6 digits)] GENERATED ON DDD HH MM. The exact spacing of this comment is noncritical as long as it is less than 116 characters. The second physical record will be a repeat of the header file NOPS standard header record for this type with the proviso that data referring to the end-time are correct for the data set. Following physical records will be an accumulation of TDF's of all input tapes. For those products that require more than one tape, the TDF will appear on the last tape only as well as the warning asterisk.



Total 24 bit Words	MSB 24	22	20	18	16	14	12	10	8	6	4	2	1 LSB	Total Bits	
1	* Nimbus - 7 NOPS <sub>b</sub> SPEC <sub>b</sub> NO <sub>b</sub> T <sub>b</sub> L-If TDF exists (24 Characters)													192	
8	SPEC NO. (6 Digits)														
9															
10	SQ NO <sub>b</sub> (7 Characters)														
13												PDFC CODE (2 Char.)			
14	5 Digit Sequence No. (5 Characters) YJJJN *For CZCS these characters (4u-45) are a six digit sequence # (includes Redo)													408	
15	REDO CHARACTER														
16	1 Char. Tape Copy No				Blank Character										
17	(4 Characters) SUBSYSTEM I.D.														
18	Blank Character				SOURCE FACILITY										
19	(4 Characters)														
20	(T) Character				(∅) Character				Blank Character						
21	(4 Characters) DESTINATION FACILITY I.D.														
22	(23 Characters)														
29	START YEAR, DAY, HOURS, MINUTES, SECONDS START <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub>													696	
36	END DATE AND TIME OF DATA (19 Characters) TO <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub> * Some Facilities may not include end time in header														
42	DATE AND TIME TAPE WAS GENERATED GEN <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub>													1008	
84	BLANK (126 Characters) SW Program Name (1-12) Documentation (13-18) Comments (19-126)													2016	
126	BLANK (126 Characters)													3024	
168	BLANK (126 Characters)													4032	
210	BLANK (126 Characters)													5040	

Figure V -1. Standard Header (Physical Record Format)  
(1 Character = 8 bits)

The STD HDR will contain the following:

Two identical records (physical) of 630 characters (eight bits ea followed by an end-of-file.

The first 126 characters of the first record will consist of:

*NIMBUS-7 <sub>b</sub> NOPS <sub>b</sub> SPEC <sub>b</sub> NO <sub>b</sub> T <sub>b</sub>	(1 - 24 Character Count)
└ optional	
XXXXXX (96 digit spec number)	(25 - 30 Character Count)
<sub>b</sub> SQ <sub>b</sub> NO <sub>b</sub>	(31 - 37 Character Count)
AA XXXXX (5 digit sequence No.)	(38 - 44 Character Count)

NOTE: If sequence number is zero, tape is not a finished product (i.e., definitive ephemeris not used, artificial VIP data, etc.) \*

└ redo character	
-X (copy number 1 or 2)	(45, 46 Character Count)
<sub>b</sub> YYYY <sub>b</sub> (4 character subsystem ID)	(47 - 52 Character Count)
YYYY (Generation Facility ID)	(53 - 56 Character Count)
<sub>b</sub> TO <sub>b</sub> YYYY (4 Char. Des. Fac. ID)	(57 - 64 Character Count)
<sub>b</sub> START <sub>b</sub> 19XX <sub>b</sub> DDD <sub>b</sub> HHMMSS <sub>b</sub>	(65 - 87 Character Count)
(Start year, day of year, hours, minutes, seconds)	

\*For CZCS, characters 40 to 45 are a 6-digit sequence number.

TO<sub>b</sub> 19XX<sub>b</sub> DDD<sub>b</sub> HHMMSS<sub>b</sub> (88 - 106 Character Count)

(End data and time of data)

GEN<sub>b</sub> 19XX<sub>b</sub> DDD<sub>b</sub> HHMMSS<sub>b</sub> (107 - 126 Character Count)

(Date and time tape was generated)

The second group of 126 characters will contain continuation documentation of the original 126 characters when required.

The third, fourth, and fifth groups of 126 characters each are intended for the use of the subsystem analysts for further identifications of their data. They may contain blanks, EBCDIC, BDC, or binary characters or zeros.

The second record in the file is a duplicate of the first record for redundancy.

The PDFC codes are as defined in Table V-2.

EXAMPLE: An ERB matrix tape covering the month of February 1979 is generated by SACC and sent to IPD for production of contour maps on 16 mm microfilm. The NOPS STD HDR file on the tape that IPD receives would contain two of the following records.

\*NIMBUS-7NOPS<sub>b</sub> SPEC<sub>b</sub> NO<sub>b</sub> T134031<sub>b</sub> SQ<sub>b</sub> NO<sub>b</sub>

1st day of time period

AA90321-2<sub>b</sub> ERB<sub>bb</sub> SACC<sub>b</sub> TO<sub>b</sub> IPD<sub>bb</sub> START<sub>b</sub> 1979<sub>b</sub>

032<sub>b</sub> 000432<sub>b</sub> TO<sub>b</sub> 1979<sub>b</sub> 059<sub>b</sub> 235742<sub>b</sub> GEN<sub>b</sub>

1979<sub>b</sub> 104<sub>b</sub> 094500<sub>b</sub> followed by 504 blanks

First day of time period may not be first data day in the event of multiday-stacked products that are based in an ILT week.

#### V.4 TAPE DUPLICATION

It has been determined that the duplication of master tapes is neither time nor cost effective, thus the requirement of duplication implied in the preceding specification is rescinded. However, some tapes that require a great deal of effort to produce in terms of manpower and computer time should be duplicated.

If a redo is required due to tape errors or algorithm changes, this will be noted both on the CCT (HEADER:C-45) and on the canister.

#### V.5 SHIPPING LETTERS

IPD will include a shipping letter with every tape distributed. The shipping letter will be printed directly from the first 126 (or 138

characters of the first physical record of SHF. In the event of copies made from CCT's that are not generated in IPD, a new physical record reflecting IPD as the source and the Nimbus experimenter to whom the tape is being sent as the destination, will be added as the second record of the TDF. All existing records in the TDF will be pushed down, but none will be lost. This record should also replace those in the SHF.

## VI. LIMS MAT and SMAT DATA RECORD

Figure VI-1 defines the format of both the MAT and SMAT data records. The following items describe each element in the record.

- (1) PHYSICAL RECORD NO. (12 BITS) - This is the number of this record within a file.
  
- (2) RECORD I.D. (8 BITS) - Identifies record type and the last record written in a file and records in the last file on the tape. The MSB will be set to "1" if that record is the last one written in the file. The second most MSB will be set on all records in the last file on the tape. The record type will use the 6 LSB of that byte to identify the type of record being used. The MAT contains daily data, therefore the record ID will be 12. The SMAT contains monthly and quarterly data. The monthly records will have a record ID of 13 and the quarterly records ID will be set to 14.
  
- (3) TANGENT POINT LOCATION BLOCK - This block of 1300, 12-bit words represents the latitudes and longitudes of the profile tangent points with  $\pm 12$  hours of the synoptic time of the map. The points are stored as up to 650 latitude-longitude pairs. Any unused space is zero filled. To convert the 12 bit integers defining latitude to degrees (-90 to +90) subtract 1800 and divide by 20, treating the result as floating point number. To convert the 12 bit integers defining longitude to degrees east longitude (0-360), divide by 10, treating the results as floating point numbers. This data block will be zero filled for SMAT records.
  
- (4) Fourier coefficients for latitude bands for ascending node data. These 24 bit integers are ordered in the following manner:

Element in  
Block

Coefficient

1	Mean	
2	Cosine term wave number 1	
3	Sine term wave number 1	
4	Cosine term wave number 2	Latitude Band #1
5	Sine term wave number 2	(64S)
6	.	
7	.	
8	.	
9	.	
10	.	
11	.	
12	Cosine term wave number 6	
13	Sine term wave number 6	

---

14	Mean	
15	Cosine term wave number 1	
16	Sine term wave number 1	
17	.	
18	.	
19	.	Latitude Band #2
20	.	(60S)
21	.	
22	.	
23	.	
24	.	
25	Cosine term wave number 6	

This sequence is repeated for a total of 38 possible latitude bands. The latitude bands to which the coefficients apply are from 64°S to 84°N in 4 degree increments. The parameter represented by the coefficients is specified by the code in Item (11) and is in the units specified by the units code in Item (13). To convert to these units, subtract  $10^5$  from the 24 bit integers and divide by the appropriate 24 bit integer in Item (15), treating the results as a floating point number. Missing latitudes are zero filled. If ascending node data is present, Item (7) will contain the value of the highest wavenumber.

(5) Fourier coefficients for latitude bands for descending node data. See Item (4) for orders and interpretation. If descending node data is present, Item (8) will contain a positive value corresponding to the wavenumber of the analysis.

(6) Fourier coefficients for combined ascending and descending node data. This data block will be filled if Item (9) contains a non-zero value. The number of harmonics represented will be given by the value of Item (9). The ordering of coefficients is as follows:



An analysis up to wave number 12 may be represented in this block. To convert to the appropriate units, subtract  $10^5$  from the 24 bit integers and divide the results by the appropriate scaling factor given in Item (16), treating the results as floating point numbers.

(7) Ascending node flag. If this 12 bit integer is zero, no data for the block in Item (3) will be included. A positive value (between 1 and 6) indicates that data is present up to and including the wave number corresponding to the value.

(8) Descending node flag. If this 12 bit integer is zero, no data for the block in Item (5) will be included. A positive value (between 1 and 6) indicates that coefficients up to and including the wave number corresponding to the value is present.

(9) Combined data flag. If this 12 bit integer is zero, no data for the block described in Item (6) will be included. A positive value (between 1 and 12) indicates that coefficients up to and including the wavenumber corresponding to the value are present.

(10) Algorithm ID. At present set to a value of 1.

(11) Parameter code number. A 12 bit integer which indicates the parameter which has been mapped. See Table VI-1 for interpretation.

(12) Pressure level of the map in units of mb x 10<sup>3</sup>

(13) Units code number. A 12 bit integer which indicates the units of the mapped parameter. See Table VI-2 for interpretation.

(14) Time coverage code. A 12 bit integer which indicates whether this is a MAT or SMAT record. See Table VI-3 for interpretation.

(15) Scale factors for ascending and descending node data blocks. This block of thirteen 24 bit integers is used to unpack the coefficients in Items (4) and (5). The scale factors are stored in the order of the coefficients, i.e.,

- 1) mean
  - 2) cosine term for wave number 1
  - 3) sine term for wave number 1, etc.
- ⋮

(16) Scale factors for combined node data block. This block of twenty-five 24 bit integers is used to unpack the coefficients in Item (6). The scale factors are stored in the order of the coefficients to which they are applied.

(17) Number of days represented in average. Applies only to SMAT records.

(18) Synoptic time (day of the year). Applied only to MAT records.

- (19) Synoptic time GMT hours. Applies only to MAT records.
- (20) Beginning day number of the period covered by the map.
- (21) Beginning GMT hour of the period covered by the map.
- (22) Beginning GMT minutes of the period covered by the map.
- (23) Beginning GMT seconds of the period covered by the map.
- (24) Ending day number of the period covered by the map.
- (25) Ending GMT hour of the period covered by the map.
- (26) Ending GMT minute of the period covered by the map.
- (27) Ending GMT seconds of the period covered by the map.
- (28) Beginning orbit number in the period.
- (29) Ending orbit number in the period.
- (30) Number of actual orbits of data contained in the period.
- (31) 12 bit 1's complement checksum.

FIGURE VI-1. MAT & SMAT RECORD FORMAT

Words	MSB 24	22	20	18	16	14	12	10	8	6	4	2	LSB 1	Bits
1	PHYSICAL RECORD NO. (12)						4 SPARES		FILE CONT	RECORD ID (6)				24
2	Tan. Pt. Latitude (12 Bits)						Tan. Pt. Longitude (12 Bits)						48	
651	649 additional Tan. Pt. Lat - Lon. pairs for a total of 650 pairs (15,576 bits)													15,624
52-664	Repeat word 652, 12 times for a total of 13 fourier coefficients at latitude band #1, asc. node (312 bits)													15,936
1145	Repeat words 652 through 664, 37 times for a total of 38 latitude bands (84N to 64S) (11,544 bits)													27,480
1146	Fourier coefficient #1 at latitude band #1, desc. node											(24 bits)	27,504	
1158	Repeat word 1146, 12 times for a total of 13 coefficients at latitude band #1, desc. node (288 bits)													27,792
1639	Repeat words 1146 through 1158, 37 times for a total of 38 latitude bands (84N to 64S). (11,544 bits)													39,336
1640	Fourier coef #1 at latitude band #1, combined nodes											(24 bits)	39,360	
1664	Repeat word 1640, 24 times for a total of 25 coefficients at latitude band #1, combined nodes. (576 bits)													39,936
2589	Repeat words (1640 through 1664, 37 times for a total of 38 latitude bands (84N to 64S) (22,200 bits)													62,136
2590	Asc. node flag (12 bits)						Desc. node flag			(12 bits)				62,160
2591	Combined node flag (12 bits)						Algorithm ID			(12 bits)				62,184
2592	Parameter code no. (12 bits)						SPARE			(12 Bits)				62,208
2593	Pressure level in 10 <sup>-3</sup> mb.											(24 Bits)	62,232	
2594	Units code no. (12 bits)						Time coverage code			(12 bits)				62,256
2595	Scale factor #1 for Asc. and Desc. node data											(24 bits)	62,280	
2607	Repeat word 2595, 12 times for a total of 13 scale factors for Asc. and Desc. node data (288 bits)													62,568
2608	Scale factor #1 for combined node data											(24 bits)	62,592	
2632	Repeat word 2608, 24 times for a total of 25 scale factors for combined node data. (576 bits)													63,168

FIGURE VI-1. LIMS MAT & SMAT RECORD FORMAT (Cont'd.)

	MSB	24	22	20	18	16	14	12	10	8	6	4	2	1	LSB	
633	Number of Days in Average (12 bits)							SPARE							(12 Bits)	63,192
634	Synoptic Time, Day (12 Bits)							Synoptic Time, Hr.							(12 Bits)	63,216
635	Start Day (12 Bits)							Start Hour							(12 Bits)	63,240
636	Start Minute (12 Bits)							Start Second							(12 Bits)	63,264
637	Stop Day (12 Bits)							Stop Hour							(12 Bits)	63,288
638	Stop Minute (12 Bits)							Stop Second							(12 Bits)	63,312
639	Start Orbit Number (12 Bits)							Stop Orbit No.							(12 Bits)	63,336
640	Number of inclusive orbits (12 Bits)							SPARE							(12 Bits)	63,360
651	264 Spares												(264 Bits)	63,624		
	Spare (12 Bits)							12 Bit 1's Complment Checksum								63,648

2652, 24 BIT WORDS  
 1989, 32 BIT WORDS  
 1768, 36 BIT WORDS  
 7956, 8 BIT BYTES  
 63,648 BITS

TABLE VI-1. LIMS PARAMETER TABLE

PARAMETER NO.	PARAMETER	UNITS
1	TEMPERATURE VALUES	DEG. KELVIN
2	OZONE VALUES	PPM
3	NITROGEN DIOXIDE	PPB
4	WATER VAPOR	PPM
5	NITRIC ACID	PPB
6	GEOPOTENTIAL HEIGHT	KM

TABLE VI-3

LIMS MAT-SMAT Time Coverage Code

<u>Value</u>	<u>MAT</u>	<u>SMAT</u>
1	Daily map centered at synoptic time	Not Used
2	Not used	Monthly average
3	Not used	Quarterly average

TABLE VI-2

ALTITUDE PRESSURE/UNIT CODES

<u>CODE</u>	<u>VALUE</u>	<u>CODE</u>	<u>VALUE</u>
1	400 mb	33	.003 mb
2	300 mb	34	.001 mb
3	255 mb	35	.0003 mb
4	200 mb	36	.0001 mb
5	140 mb	37	08-12 KM
6	100 mb	38	12-20 KM
7	90 mb	39	20-28 KM
8	76	40	8 KM (340 mb)
9	70 mb	41	9.2 KM (300 mb)
10	56 mb	42	10.0 KM (255 mb)
11	50 mb	43	11.8 KM (200 mb)
12	40 mb	44	14.0 KM (140 mb)
13	30 mb	45	16.2 KM (100 mb)
14	20 mb	46	17.0 KM (90 mb)
15	16 mb	47	18.0 KM (76 mb)
16	15 mb	48	18.5 KM (70 mb)
17	10 mb	49	20.0 KM (56 mb)
18	7 mb	50	23.9 KM (20 mb)
19	5 mb	51	26.6 KM (20 mb)
20	4 mb	52	28.0 KM (16 mb)
21	3 mb	53	31.2 KM (10 mb)
22	2 mb	54	TROPOPAUSE
23	1.5 mb	55	ANGSTROM UNITS
24	1.0 mb	56	WATTS/METER <sup>2</sup> STER. CM <sup>1</sup> )
25	0.7 mb	57	WATTS/CM <sup>2</sup>
26	0.5 mb	58	KM
27	0.4 mb	59	NM
28	0.3 mb	60	UMB
29	0.2 mb	61	K
30	0.1 mb	62	PPM
31	0.03 mb	63	PPB
32	0.01 mb		

NOTE: The characters in this table are not to be used as the film nomenclature.

\$NOP  
\$NOP  
\$NOP  
\$NOP  
\$NOP ::::::::::: LIST OF FILE ONE ON BO 30 :::::::::::  
\$EXE TPLIST BS

INPUT PARAMETERS ARE: ED AL 1

TAPE NO. 1 FILE NO. 1  
RECORD 1 LENGTH 630  
NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00005A3 LIMS IPD TO 28 START 1979 091 000000 TO 1979 121  
000000 GEN 1985 152 085930 NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00005A2 LIMS LARC TO IPD START 1  
979 091 000000 TO 1979 121 000000 GEN 1985 072 151327

LAMAT REPLACEMENT  
D-54170 C-22818  
04/01/79 - 05/01/79

Received 6/14/85

TAPE NO. 1 FILE NO. 1  
RECORD 2 LENGTH 630  
NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00005A3 LIMS IPD TO 28 START 1979 091 000000 TO 1979 121  
000000 GEN 1985 152 085930 NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00005A2 LIMS LARC TO IPD START 1  
979 091 000000 TO 1979 121 000000 GEN 1985 072 151327

\*\*\*\*\* JOB DONE.  
\$WEO LPS

\$NOP \*\*\*\*\* B0-20 \*\*\*\*\*

\$EXE TPLIST BS

INPUT PARAMETERS ARE: ED AL 1

TAPE NO. 1 FILE NO. 1  
RECORD 1 LENGTH 630

NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00004A3 LIMS IPD TO 28 START 1979 068 000000 TO 1979 091  
000000 GEN 1985 152 090645 NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00004A2 LIMS LARC TO IPD START 1  
979 068 000000 TO 1979 091 000000 GEN 1985 071 160708

LAMAT REPLACEMENT

D-54169 C-22817

03/09/79 - 04/01/79

Received 6/14/85

TAPE NO. 1 FILE NO. 1  
RECORD 2 LENGTH 630

NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00004A3 LIMS IPD TO 28 START 1979 068 000000 TO 1979 091  
000000 GEN 1985 152 090645 NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00004A2 LIMS LARC TO IPD START 1  
979 068 000000 TO 1979 091 000000 GEN 1985 071 160708

\*\*\*\*\* JOB DONE.  
\$WEO LPS

\$NOP  
\$NOP  
\$NOP  
\$NOP \*\*\*\*\* LIST OF FILE 1 ON B03 \*\*\*\*\*  
\$EXE IPLIST BS

INPUT PARAMETERS ARE: ED AL 1

TAPE NO. 1 FILE NO. 1  
RECORD 1 LENGTH 630  
NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00008A3 LIMS IPD TO 28 START 1978 327 000000 TO 1978 353  
000000 GEN 1985 149 114928 NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00008A2 LIMS LARC TO IPD START 1  
978 327 000000 TO 1978 353 000000 GEN 1985 078 110846

LAMAT  
27 Files  
11/23/78 - 12/19/78  
D-54164  
C-22812

TAPE NO. 1 FILE NO. 1  
RECORD 2 LENGTH 630  
NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00008A3 LIMS IPD TO 28 START 1978 327 000000 TO 1978 353  
000000 GEN 1985 149 114928 NIMBUS-7 NOPS SPEC NO T554141 SQ NO EP00008A2 LIMS LARC TO IPD START 1  
978 327 000000 TO 1978 353 000000 GEN 1985 078 110846

This replacement  
received 6/12/85

\*\*\*\*\* JOB DONE.  
\$WEO LPS

INOP  
INOP  
INOP \*\*\*\*\* LIST OF FILE 1 ON BR-27 \*\*\*\*\*  
SEXE TPLIST BS

INPUT PARAMETERS ARE: ED AL

TAPE NO. 1 FILE NO. 1  
RECORD 1 LENGTH 650  
NIMBUS-7 NOPS SPEC NO T554141 SS NO EP00007-3 LIMS LARC TO IPD START 1978 298 000000 TO 1978 327  
000000 GEN 1984 384 020210 NIMBUS-7 NOPS SPEC NO T554141 SS NO EP00007-2 LIMS LARC TO IPD START 1  
978 298 000000 TO 1978 327 000000 GEN 1984 384 182419

NIMBUS 7  
LIMS MAT (LAMAT)  
10/25/78 -

TAPE NO. 1 FILE NO. 1  
RECORD 2 LENGTH 650  
NIMBUS-7 NOPS SPEC NO T554141 SS NO EP00007-3 LIMS LARC TO IPD START 1978 298 000000 TO 1978 327  
000000 GEN 1984 384 020210 NIMBUS-7 NOPS SPEC NO T554141 SS NO EP00007-2 LIMS LARC TO IPD START 1  
978 298 000000 TO 1978 327 000000 GEN 1984 384 182419

\*\*\*\*\* JOB DONE.  
\$WEO LPS

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DUMP OF TAPE BR-27

INPUT TAPE BR-27 ON T81  
 DATA INPUT: BR NF 30 BR 2 1 1 CR 30 LAST 1

FILE	INPUT RECS.	DATA INPUT	RECORDS	MAX. SIZE	READ ERROR SUMMARY				INPUT RETRIES		
					PERM	ZERO B	SHORT	UNDEF.	#RECS.	TOTAL#	
1	2	2	2	230	0	0	0	0	0	0	
FILE	2	RECORDS	1	LENGTH	7954BYTES						
( 0)	00100001	8B340158	3EC18C12	0189C001	8C5F018A	F401896C	01888D01	89E30189	1F018B41	018A6F01	
( 40)	8718018E	8801884D	5185A011	88A00156	AC018840	0186A001	8EAA00189	61018CA4	018AAF01	8D54018D	
( 80)	6B018A8B	81848A01	8C71018B	8F018809	0188E901	8B7D018A	5E018985	0189DE01	89150188	EA018C4D	
( 120)	018F9901	815D018F	890188F5	0188C701	8C92018C	F5918C37	01882701	8C6A0187	74018A50	0188AF01	
( 160)	89140184	80018AC3	0186A011	86A00186	A0018640	0186AC01	8BAC018A	0D01906F	01915501	9024018B	
( 200)	83118817	018C18C1	89D018F5	08018618	0184A501	896C0188	7F0188A2	01885401	8810018C	90018CCD	
( 240)	018C9101	8830018B	82018C9C	018C1901	8864018F	3F0188C5	018A1001	8ADC0189	5501894F	01889801	
( 280)	88E01857	08018840	0185A011	88A00187	65018A4C	0184DC01	8D82018C	DA018BD3	018C1301	8A84018B	
( 320)	0F018A8B	018A4001	8A090189	8F018914	0186A601	88610188	A8000000	00000000	00000000	00000000	
( 360)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 400)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 440)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 480)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 520)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 560)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 600)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 640)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 680)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 720)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 760)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 800)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 840)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 880)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 920)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 960)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1000)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1040)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1080)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1120)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1160)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1200)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1240)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1280)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1320)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1360)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1400)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1440)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1480)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1520)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1560)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1600)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1640)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1680)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1720)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1760)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1800)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1840)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1880)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	
( 1920)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	0004EDC5	017E4E01
( 1960)	5740018E	A801751F	01850101	84579187	5E018591	00000000	00000000	00000000	04ECC301	7ABD0161	
( 2000)	470175F1	017D8101	84200182	1001881D	01819800	00000000	00000000	00000004	ED410180	60016735	
( 2040)	01808801	78D8018E	83018418	0183A001	8A080000	00000000	00000000	000004E5	E80181AD	016B3D01	

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( 2100)	017F1F01	89000184	78018749	0189A900	00000000	00000000	00000004	D403017F	DE017D98	018AF701
( 2200)	87E00188	41018480	01863F01	89030000	00000000	00000000	000004CB	50017D2F	01814701	89C10186
( 2240)	40010800	01850001	85570188	38000000	00000000	00000000	00048E66	017C4B01	85560189	820189C5
( 2280)	01288001	86A80185	0F018718	00000000	00000000	00000000	04837E01	7C050187	62018918	01852301
( 2320)	8AF70187	47018674	01853F00	00000000	00000000	00000004	AA26017C	95018753	0189B001	88290189
( 2360)	08018300	01854001	85980000	00000000	00000000	0000049F	F0018229	0185A501	89E10189	00000000
( 2400)	08000000	00000000	00000000	00000000	00000000	00049883	01848R01	83210000	00000000	00000000
( 2440)	00000000	00000000	00000000	00000000	00000000	04959B01	86A00182	50000000	00000000	00000000
( 2480)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2520)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2560)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2600)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2640)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2680)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2720)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 2760)	00000000	00000000	00000000	04988B01	85400183	92000000	00000000	00000000	00000000	00000000
( 2800)	00000000	00000000	00000004	5L000189	FD018303	0188F801	85E00000	00000000	00000000	00000000
( 2840)	00000000	00000000	00000440	F1018534	01854001	86A20189	8001865D	01869300	00000000	00000000
( 2880)	00000000	00000000	00048E5F	01809801	89ADC018A	40018C07	0188EA01	87E70189	FD01865E	00000000
( 2920)	00000000	00000000	04019001	894FC190	400189FA	01800001	87C10188	86018861	01886C00	00000000
( 2960)	00000000	00000004	88A90187	80019143	01889F01	84E80185	C8018814	01865301	8A270000	00000000
( 3000)	00000000	00000001	27017F72	01910401	84370183	07018509	018AF301	89500185	1A000000	00000000
( 3040)	00000000	00040878	01708E01	80140180	8301817F	0180EB01	8D6E0187	2E018CF1	00000000	00000000
( 3080)	00000000	04080871	79A5018A	470188AE	01829901	7FC00185	9F018514	018EA200	00000000	00000000
( 3120)	00000004	0386017D	38018748	01808201	83F10181	F6018FFA	01831E01	8D8B0000	00000000	00000000
( 3160)	00000404	01017F2A	01840691	88F00187	84018197	018FBA01	8432018C	9E000000	00000000	00000000
( 3200)	000408AE	01810001	83870188	34018948	01A22601	8F750183	CE01899A	00000000	00000000	00000000
( 3240)	04008801	85AF0182	02018A38	0189F901	8267018D	000188F3	01886500	00000000	00000000	00000004
( 3280)	00000188	81018371	01394401	89E30182	5801897D	01868501	86A00000	00000000	00000000	000004CC
( 3320)	80018854	01830001	8A000189	87018455	01878201	874A0186	AC000000	00000000	00000000	0004C7C1
( 3360)	01804601	84480186	03018744	01839F01	87220186	DR0186C4	00000000	00000000	00000000	04C20401
( 3400)	8E170183	8E01828C	01872C01	86690188	8E018649	0185A200	00000000	00000000	00000004	EA58017A
( 3440)	8C018818	01840181	82200186	74018722	01871001	87F40000	00000000	00000000	000004EC	07017D59
( 3480)	01808001	80080178	F3018710	01808F11	89E40188	5F000000	00000000	00000000	0004EBFF	017E2C01
( 3520)	88010181	80617730	01848501	87300187	27018011	00000000	00000000	00000000	04E77D01	80E6016B
( 3560)	88018400	017A8001	88930187	8F0187C4	018D7200	00000000	00000004	E2560181	00017198	00000000
( 3600)	01800001	70700187	87218659	01867001	8D9A0000	00000000	00000000	000004D8	10017EA8	0179CC01
( 3640)	88F00180	1901880A	01858901	80080186	8E000000	00000000	00000000	0004D082	017C6501	7EA5018A
( 3680)	80018418	01827001	84290184	AA018476	00000000	00000000	00000000	04C58901	7C2A0182	30018AA9
( 3720)	01503901	8E3FC087	86018358	01878E50	00000000	00000000	00000004	87F9017A	28018737	018B1001
( 3760)	86A20188	090184F8	00000000	00000000	00000000	00000000	000004AD	6C017C96	018AD201	88A30188
( 3800)	60018700	01808001	85800184	8E000000	00000000	00000000	0004A168	01809001	89930189	A9018660
( 3840)	01869101	86880000	00000000	00000000	00000000	00000000	0499FA01	83300185	7E0189AA	01875000
( 3880)	00000000	00000000	00000000	00000000	00000000	00000004	935C0189	050181F9	00000000	00000000
( 3920)	00000000	00000000	00000000	00000000	00000000	00000490	38018A21	0182E000	00000000	00000000
( 3960)	00000000	00000000	00000000	00000000	00000000	00049180	00000000	00000000	00000000	00000000
( 4000)	00000000	00000000	00000000	00000000	00000000	048F6C00	00000000	00000000	00000000	00000000
( 4040)	00000000	00000000	00000000	00000000	00000004	80830000	00000000	00000000	00000000	00000000
( 4080)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 4120)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 4160)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 4200)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 4240)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 4280)	00000000	00000000	00000000	00049480	01846401	83F90188	04018868	00000000	00000000	00000000
( 4320)	00000000	00000000	00000000	04A18F01	8C4A018F	DF018A7A	018A2201	87030185	88000000	00000000
( 4360)	00000000	00000000	00000004	AA000180	0E01883A	01885001	8A850187	0F0187A9	01897E01	886F0000
( 4400)	00000000	00000000	00000480	A0016C10	01907A01	89E00189	0A018385	0188FC01	870C0188	84000000
( 4440)	00000000	00000000	00043968	01874701	8FC00188	AF018383	01823001	88000188	F1018E78	00000000
( 4480)	00000000	00000000	048F6F01	84E00185	DC018906	01838401	7DEB018E	800187EA	018FBE00	00000000
( 4520)	01800000	00000004	09E00182	02018802	01800001	0149017E	720190F4	01880801	90200000	00000000
( 4560)	00000000	00000400	85017E3F	01870801	8AF00180	C4018074	0190CC01	84E9018D	EE000000	00000000
( 4600)	00000000	00040188	01804801	82090180	740184FD	01818001	90D00183	01018AB4	00000000	00000000
( 4640)	00000000	04060101	82380181	A7018856	01860201	813A0190	1F01826E	0188DE00	00000000	00000000
( 4680)	00000004	058F0184	78018189	01844701	86000181	0F0180E7	01832301	891A0000	00000000	00000000

MOORE BUSINESS FORMS, INC. 27

( 4805)	04CC6231	8FC70185	59018872	01881801	85480186	7E0186A7	01858C00	00000000	00000000	00000004
( 4843)	07520181	03018520	01878101	87000188	40018674	0183A801	85EA0000	00000000	00000000	000004C4
( 4880)	20018071	01883A01	86960187	3E01862E	01868901	86E80186	C1000000	00000000	00000000	0004EB54
( 4921)	01782401	18E23184	23017F36	01883801	8E900188	66018658	01874601	85640185	25018655	00000000
( 4958)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	04EBD401	7A4A0160
( 5003)	00017E0F	01782101	83A0185	84018283	01837701	87E50182	0E0187C1	0186C000	00000000	00000000
( 5040)	00000000	00000000	00000000	00000000	00000000	00000000	00000004	EBE4017D	860167E1	01811A01
( 5087)	78580187	8E018733	01874301	8A410187	A701832D	0188F401	87920000	00000000	00000000	00000000
( 5125)	00000000	00000000	00000000	00000000	00000000	000004F8	4E017FF5	016AEB01	84980179	AE01879C
( 5162)	01885001	87070188	80018800	01884301	88580188	73000000	00000000	00000000	00000000	00000000
( 5200)	00000000	00000000	00000000	00000000	00000000	0180AC01	72490188	83017873	0188F401	85870185
( 5247)	8E11808E	01883701	83270185	8FC1880F	00000000	00000000	00000000	00000000	00000000	00000000
( 5284)	00000000	00000000	00000000	040A0801	7E69017A	88018B46	017FE001	89A80184	FA018639	0189E701
( 5321)	878E0183	7501858D	0185DA7D	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 5358)	00000000	00000004	1103017D	8F0175FE	01880501	835F0187	570183EC	01848001	89D10186	3E01841B
( 5405)	01881001	88F0038C	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 5442)	00000407	00017080	0183E101	8A880186	77018762	0183FE01	838A0187	7E018583	01842E01	880D0185
( 5480)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	0004BAAC
( 5517)	01782101	88180184	02018947	0188FA01	85640184	000184DA	01844601	866E0187	C9018512	00000000
( 5554)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	04AF6B01	7D93018A
( 5591)	07018AC0	01888101	83080185	190183BC	0184C801	85410188	EC0187D8	01840700	00000000	00000000
( 5628)	00000000	00000000	00000000	00000000	00000000	00000000	00000004	A4E80180	49018A53	01897A01
( 5665)	87E70188	84018E11	01888E01	88E0018A	8E01891F	0186FC01	83870000	00000000	00000000	00000000
( 5702)	00000000	00000000	00000000	00000000	00000000	0000049C	C8018399	01883501	89320187	9501877D
( 5739)	01880901	84880183	8F01859C	11588000	00000000	00000000	00000000	00000000	00000000	00000000
( 5776)	01880000	00000000	00000000	00000000	00000000	01865101	83B30189	3101879C	0185C001	85470000
( 5813)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 5850)	00000000	00000000	00000000	04919201	88AA0183	730187CE	01865900	00000000	00000000	00000000
( 5887)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 5924)	00000000	00000004	99F00189	12018474	01875801	86530000	00000000	00000000	00000000	00000000
( 5961)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6008)	0000048F	00018578	0184E100	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6045)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00048F5E
( 6082)	01885001	85880000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6119)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	04901E01	898E0185
( 6156)	77000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6193)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6230)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6267)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6304)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6341)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6378)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6415)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6452)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6489)	00000000	00000000	00000000	0497A501	871E0184	480185E3	01854301	86470182	EE000000	00000000
( 6526)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6563)	00000000	00000004	847E0189	A901841C	018A7801	38530185	F901835A	01879E01	84810187	630188A0
( 6600)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6637)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6674)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 6711)	48000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00044989
( 6748)	0188F001	893A0186	0001891F	01873F01	87920188	190186D3	0186E801	88920187	980189AD	00000000
( 6785)	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	04B2EF01	8D05018E
( 6822)	48018978	0188F401	83F80186	000186AC	01899701	2394018A	C1018720	0187AD00	00000000	00000000
( 6859)	00000000	00000000	00000000	00000000	00000000	00000000	00000004	E976018C	85C18DAA	01859301
( 6896)	84800183	A00183AE	01873401	8F460182	1A0186E6	C1890001	879A0000	00000000	00000000	00000000
( 6933)	00000000	00000000	00000000	00000000	00000000	00000401	D4018246	018EF901	88A10180	AF0180F7
( 6970)	0188A101	88680188	07018469	01879F01	87290186	46000000	00000000	00000000	00000000	00000000
( 7007)	00000000	00000000	00000000	00000000	00000000	017F8501	8C73018A	7E018029	017F3F01	8F200188
( 7044)	3F018E90	0188A101	84840185	A00187EF	00000000	00000000	00000000	00000000	00000000	00000000
( 7081)	00000000	00000000	00000000	040E0F01	78E70185	1F018A5E	01811601	80AE0190	0D01864B	018EEB01
( 7118)	88000184	A0018832	01877F00	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 7155)	00000000	00000004	337C017F	30018691	01869E01	83A70182	33018094	01839801	8D970183	710186C5
( 7192)	01881801	87490180	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000
( 7229)	00000404	80018704	01848E01	86530186	FE018238	01904401	8387018C	72018743	01881701	86180186
( 7266)	87000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	00000000	000405DB
( 7303)	01888A01	8E20018A	8A01879A	01821701	8F460182	F8018A12	01874001	88110185	8E01874E	00000000







( 7160) 00000000 00000002 8E410188 14018700 01868901 85290186 260186EC 01870101 86A00186 B4018686  
 ( 7200) 01868901 86A00186 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000  
 ( 7240) 00000280 040186A8 01870101 87000186 08018601 0186E501 86EC0186 B90186B1 0186E101 86A20186  
 ( 7280) 77000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00028C98  
 ( 7320) 01869101 86800187 88018600 0186A601 86800186 470186AE 01867A01 86C60186 AF018669 00000000  
 ( 7360) 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 02885C01 89800188  
 ( 7400) 10018783 01862801 86C40186 8401869E 01864201 86750186 8F0186A4 01867C00 00000000 00000000  
 ( 7440) 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000002 2A900189 AE01878B 01878101  
 ( 7480) 86460186 8E1186A3 01866011 86000186 740186A0 01868801 86B90000 00000000 00000000 00000000  
 ( 7520) 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 0186801 87420186 1B01860B  
 ( 7560) 01867501 86640186 4018660 0186A401 86A40186 62000000 00000000 00000000 00000000 00000000  
 ( 7600) 00000000 01000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000  
 ( 7640) 840186A7 01867801 86601186 86018693 00000000 00000000 00000000 00000000 00000000 00000000  
 ( 7680) 00000000 00000000 00000000 028E7701 87600187 290186E5 01862801 86930186 8E0186A0 0186A801  
 ( 7720) 86A30186 800186AE 0186A410 00000000 00000000 00000000 00000000 00000000 00000000 00000000  
 ( 7760) 00000000 00000000 00000000 028E7701 87600187 290186E5 01862801 86930186 8E0186A0 0186A801  
 ( 7800) 0003E800 03E80003 280003E8 0003E800 03E80003 280003E8 0003E800 03E80003 280003E8 0003E800  
 ( 7840) 03E80003 03E80003 280003E8 0003E800 03E80003 280003E8 0003E800 03E80003 280003E8 0003E800  
 ( 7880) 280003E8 0003E800 03E80003 03E80003 280003E8 0003E800 03E80003 280003E8 0003E800 03E80003  
 ( 7920) 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000

Start

Stop

FILE	INPUT	DATA RECORDS	PERM	ZERO	SHORT	UNDEF.	INPUT	TOTAL#
	RECS.	INPUT	SIZE	PERM	ZERO	SHORT	UNDEF.	#RECS. TOTAL#
SC	88	89	798E	0	0	0	0	0

EGU DUMP STOPPED AFTER FILE SC # OF PERMANENT READ ERRORS 0

START TIME 01/16/85 09:02:55 STOP TIME 01/16/85 09:10:10