

#374

GEOS-C

Xfer to CD115

S-BAND TRANSPONDER SYSTEM DATA

75-027A-02A *ESGP-00042*

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

GEOS 3

NASA S-BAND TRANSPONDER SYS. DATA

75-027A-02A

ESGP-00042

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY IT CONTAINED NINE 9-TRACK, 1600 BPI TAPES WRITTEN IN BINARY. THE FIRST THREE TAPES WERE THE ORIGINAL TAPES AND THE LAST SIX TAPES WERE REVISED TAPES AND SO THEY ARE STACKED IN THAT ORDER. THERE IS ONE RESTORED TAPE. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN IBM 360 COMPUTER AND THEY WERE RESTORED ON AN IBM 9021 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
DR004157	DS004157	D023711	1	06/02/75 - 10/01/75
		D023743	2	10/01/75 - 12/29/75
		D023744	3	01/05/76 - 03/14/76
		D027598	4	06/02/75 - 10/01/75
		D027599	5	10/01/75 - 12/29/75
		D027600	6	01/05/76 - 03/14/76
		D030529	7	03/15/76 - 09/17/76
		D030728	8	09/17/76 - 12/31/76
		D030729	9	01/01/77 - 06/30/77

REQ. AGENT
CMP

RAND NO.
RC6079
RC8284
GEOS-C

ACQ. AGENT
JRJ
RWP

S-BAND TRANSPONDER SYSTEM DATA

75-027A-02A

This data set consists of 9 tapes, 3 original versions and 6 revised versions. They are 9 track, Binary, 1600 BPI with one file. The format for this data set is the same as for the NASA LASER Data (75-027A-04A). A program is on file in the program library to convert a 9 track, 1600 BPI, Binary tape from this data set into a 7 track, 800 BPI, BCD tape. The format is on the following pages.

Original Version

<u>D#</u>	<u>C#</u>	<u>TIME SPANS</u>
D-23711	C-17804	6/02/75 - 10/01/75
D-23743	C-17844	10/01/75 - 12/29/75
D-23744	C-17845	1/05/76 - 3/14/76

Revised Version

<u>D#</u>	<u>C#</u>	<u>TIME SPANS</u>
D-27598	C-18483	6/02/75 - 10/01/75
D-27599	C-18484	10/01/75 - 12/29/75
D-27600	C-18485	1/05/76 - 3/14/76
D-30529	C-19493	3/15/76 - 9/17/76
D-30728	C-19657	9/17/76 - 12/31/76
D-30729	C-19642	1/1/77 - 6/30/77

GEOS-C BINARY FORMAT

(* Information pertains to Laser Data)

The GEOS-C satellite will be tracked by many different systems and networks of tracking stations. It is intended that this format will accommodate data taken from all tracking systems and networks as well as altimeter data taken by the satellite. As a consequence of its design characteristics, this format not only meets the specifications of the GEOS-C project, but also the precise orbit determination requirements of all currently existing satellites.

The FORTRAN variable types used in this format description are:

- I*2 - Half-Word Integer
- I - Single Word Integer
- R - Single Word Floating Point
- DP - Double Word Floating Point

Figure 4.7.14

Description of Bytes 1-28 for all measurement types.

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>
* 1-4	I	Satellite ID - This is the international satellite designation nnpppqq where: nn - last two digits of the year of launch (e.g., 1974-74, 1969-69). ppp - order of launch. Example: The 25th vehicle launch in a given year is designated with ppp = 025. qq - component identifier (e.g., component a-01, component l-12, etc.)
* 5-6	I*2	Measurement Type 10-14 Right Ascension and Declination 10 = Optical 11 = Laser Optical 15-19 Hour Angle and Declination 15 = DSN S-Band Radar 20-29 Range or Range Difference * 20 = Laser 21 = C-Band Radar 22 = C-Band VLBI Range Difference Radars 23 = DSN S-Band Radar 24 = USB Radar 25 = GRARR S-Band Radar 26 = GRARR ATS-F C-Band Radar 27 = GRARR VHF Radar

Figure 4.7.14

<u>Bytes</u>	<u>FORTRAN Variable Type</u>	<u>Description</u>
(5-6 cont'd)		
30-39		Range Rate or Range Rate Difference
30		= Combined DSN/USB Radars
31		= C-Band Radar
32		= C-Band VLBI Range Rate Difference Radars
33		= DSN S-Band Radar
34		= USB Radar
35		= GRARR S-Band Radar
36		= GRARR ATS-F C-Band Radar
37		= GRARR VHF Radar
38		= TRANET Doppler
39		= Geoeiver Doppler
40-44		Altimeter Height
40		= Long Pulse
41		= Short Pulse
45-49		Available for additional measure- ment types such as Altimeter Height Rate.
50-54		ℓ and m Direction Cosines
51		= Minitrack Equatorial Mode
52		= Minitrack Polar Mode
55-59		Available for additional angles or cosines
60-63		X-Y Angles (East-West)
60		= USB Radar

Figure 4.7.14

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>
(5-6 cont'd)		64-69 X-Y Angles (North-South)
		64 = USB Radar
		65 = GRARR S-Band Radar
		66 = GRARR ATS-F C-Band Radar
		67 = GRARR VHF Radar
		70-79 Azimuth and Elevation Angles
		* 70 = Laser
		71 = C-Band Radar
		73 = DSN S-Band Radar
		80-89 Available for additional Range type measurements
		90-99 Available for additional Range Rate type measurements
7-8	I*2	Time System Indicator (nm)
		<u>n value</u> <u>description</u>
		0 Ground Received Time
		*1 Satellite Transponder/Transmitter Time
		2 Ground Transmitted Time (Effec- tive Time for Averaged Altimeter Data, Types 40-44)
		3 Satellite Receiver Time

Figure 4.7.14

Bytes

FORTRAN
 Variable
 Type

(7-8 cont'd)

Description

m value description

0 UT-0

1 UT-1

2 UT-2

*3 UTC

4 A.1

5 A.3 (A.T. B.I.H.)

6 A-S (Smithsonian)

* 9-12

I

Station Number

0 Altimeter

1- 99 USB

500- 599 DSN

1000- 1999 NASA STADAN

1100- 1199 S-Band Radar (GRARR)

1500- 1599 Minitrack

1600- 1699 VHF Radar (GRARR)

2000- 2999 U. S. Navy TRANET Doppler

3000- 3999 U. S. Air Force Optical

4000- 4999 Interagency C-Band

5000- 5999 U. S. Army Secor

6000- 6999 Worldwide BC-4 Network

7000- 7999 NASA SPEOPT

8000- 8999 International Observers

Figure 4.7.14

	FORTTRAN Variable
<u>Bytes</u>	<u>Type</u>

(9-12 cont'd)

Description

9000- 9999 SAO

10000-99999 U. S. Navy GEOCEIVER Doppler

*13-16

I

Preprocessing Indicators/Report

The preprocessing indicators are bit switches packed into a single 32 bit word. The rightmost bit (bit 31) is of lowest order and the leftmost bit (bit 0) is of highest order.



0

31

The preprocessing bits are configured as follows:

<u>Bits</u>	<u>Value</u>	<u>Description</u>
*0		This bit should always be zero filled.
1 - 2		Format Indicator (Types 40-44)
	1	Format 1
	2	Format 2
	3	Format 3
3		Beacon Activity Indicator (Types 10-14)
	0	Beacon Inactive or No Beacon
	1	Beacon Active

Figure 4.7.14

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>
(13-16 cont'd)		
	<u>Bits</u>	<u>Value</u>
	4	Equator Designation (Types 10-14)
		0 Mean Equator and Equinox
		1 True Equator and Equinox
	5 - 6	Date of Equator and Equinox (Types 10-14)
		0 Standard Equator and Equinox (Jan 0.0 1950)
		1 Jan 0.0 of year of observation
		2 Equator and Equinox of Date (instant of observation)
		3 DODS Reference Date (0 hr. Sept. 19, 1957)
	7	Annual Aberration (Types 10-14)
		0 Data has been corrected
		1 Data has not been corrected
	8	Diurnal Aberration (Types 10-14)
		0 Data has been corrected
		1 Data has not been corrected
	9	Parallactic Refraction (Types 10-14)

Figure 4.7.14

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>		
(13-16 cont'd)		<u>Bits</u>	<u>Value</u>	<u>Description</u>
			0	Data has been corrected
			1	Data has not been corrected
	*10-12			Tropospheric Refraction (all but Types 10-14)
			0	Data has been corrected
			1	Data has not been corrected
			2	Data has been corrected using the correction formulas for international laser data. Correction value is for zero zenith.
			3	Data has not been corrected. Correction value is for zero zenith.
			>3	Data has not been corrected. Bytes 53-56 contains meteorological data.
	*13			Ionospheric Refraction (all but Types 10-14)
			0	Data has been corrected
			1	Data has not been corrected
	14			Transponder Delay (Types 20-29)
			0	Data has been corrected
			1	Data has not been corrected (correction is required)

Figure 4.7.14

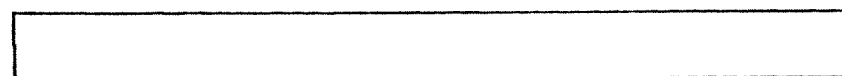
FORTRAN Variable		Description		
<u>Bytes</u>	<u>Type</u>	<u>Bits</u>	<u>Value</u>	<u>Description</u>
(13-16 cont'd)				
		*15		Antenna Axis Displacement (Types 20-29)
			0	Data has been corrected (or no correction required)
			1	Data has not been cor- rected (correction is required)
		*16-17		Receiver Mount Type (all but Types 10-14, and Types 38-59)
			0	X-Y (East-West)
			*1	X-Y (North-South)
			*2	Azimuth-Elevation
			3	Hour Angle-Declination
		18-19		Transmitter Mount Type (all but Types 10-14, and Types 38-59)
			0	X-Y (East-West)
			*1	X-Y (North-South)
			*2	Azimuth-Elevation
			3	Hour Angle-Declination
		20-21		Transponder Channel/Type (Radar Data Only) or Altimeter Mode (Data Types 40-44)

Figure 4.7.14

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>
(13-16 cont'd)		<u>Transponder Channel for GRARR</u>
	0	Channel A
	1	Channel B
	2	Channel C
		<u>Altimeter Mode</u>
	0	Global Track Mode
	1	Intensive Track Mode
	>1	Not in track mode
		<u>Transponder Type for Other Systems</u>
	0	Skin Track
	1	Coherent
	2	Non-coherent
22-25		<u>Range Ambiguity Levels</u>
		<u>For DSN S-Band</u>
	0	MARK 1A (824,809,582.0m)
	1	TAU (151,285,510.38518m)
		<u>For USB</u>
	1	824809582.0m
		<u>For GRARR S-Band</u>
	1	18737031.3m
	2	4684257.8m
	3	936851.6m

Figure 4.7.14

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>
(13-16 cont'd)		
		<u>Bits</u> <u>Value</u> <u>Description</u>
		26-31 Preprocessing Report
		0 Report not specified
		--- Other values to be assigned later
*17-20	I	Modified Julian Date (MJD) of observation. JD = MJD + 2400000.5
*21-28	DP	Fraction of Day Past Midnight (GMT)
29-68		These words have different uses for each of the measurement types, except for Bytes 53-56 which contains meteorological data for the troposphere if Bit 10 of the preprocessing indicator word (Bytes 13-16) has been set on. If Bit 10 of the preprocessing indicator word is on, the format of Bytes 53-56 is as follows:
53-56	I	Meteorological Data Report
		The pressure temperature and relative hu- midity are packed into a single 32-bit word. The rightmost bit (bit 31) is of lowest order and the leftmost bit (bit 0) is of highest order.



0 31

The meteorological bits are configured as follows:

<u>Bits</u>	<u>Values</u>	<u>Description</u>
0		This bit should always be zero filled.
1- 7	0-100	Relative humidity at the tracking site.

Figure 4.7.14

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>		
(53-56 cont'd)		<u>Bits</u>	<u>Values</u>	<u>Description</u>
		8-19	>0	Temperature in Degrees Kelvin
		20-31	>0	Atmospheric pressure in millibars.

Bytes 29-68 for Angle Measurements (Types 10-19, 60-79)

<u>Bytes</u>	<u>FORTTRAN Variable Type</u>	<u>Description</u>
*29-36	DP	Observation Value in Radians for Right Ascension, or Hour Angle, or Azimuth, or X-Angle
*37-44	DP	Observation Value in Radians for Declination, or Elevation, or Y-Angle
45-48	R	Standard Deviation in Radians for Observation in Bytes 29-36. For R.A. and H.A. sigma value is multiplied by cosine of the declination. For Azimuth sigma value is multiplied by cosine of elevation.
49-52	R	Standard Deviation in Radians for Observation in Bytes 37-44.
53-56	R	Tropospheric Refraction Correction in Radians for X-Angle
57-60	R	Tropospheric Refraction Correction in Radians for Y-Angle or Elevation
60-68		Not Used

Figure 4.7.14

Bytes 29-68 for Range and Range Rate Measurements (Types 20-39)

<u>Bytes</u>	<u>FORTAN Variable Type</u>	<u>Description</u>
*29-36	DP	Observation Value in Meters for Range (Types 20-29) and Meters/Second for Range Rates (Types 30-39)
37-40	I	Transmitting or Reference Station Number for Average Range Rate or VLBI Range Difference and Range Rate Difference
41-44	I	Relay Satellite ID for Satellite-to-Satellite Tracking Data
45-48	R	Standard Deviation of Observation in Same Units as Observation
49-52	I	Counting Internal in Microseconds for Average Range Rate Data (Types 30, 33, 34, and 38)
53-56	R	Tropospheric Refraction Correction in Same Units as Observation. For international observers, the value in this field is for a zenith angle of zero degrees.
57-60	R	Ionospheric Refraction Correction in Same Units as Observation
61-64	R	Receiver Antenna Axis Displacement in Meters
65-68	R	Transmitter Antenna Axis Displacement in Meters

Figure 4.7.14

GEOS-C DECIMAL FORMAT

(* Information Pertains to Laser Data)

Range and Range Difference

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
* 1- 7		Satellite - ID
* 8- 9		Measurement Type
	20-29	Range or Range Difference
	20=	Laser
	21=	C-Band Radar
	22=	C-Band VLBI Range Difference Radars
	23=	DSN S-Band Radar
	24=	USB Radar
	25=	GRARR S-Band Radar
	26=	GRARR ATS-F S-Band Radar
	27=	GRARR VHF Radar
*10-11		Time System Indicator
	*10	0 = Ground Received Time
		*1 = Satellite Transponder/Transmitter Time
		2 = Ground Transmitted Time
		3 = Satellite Receiver Time
	*11	0 = UT-0
		1 = UT-1
		2 = UT-2
		*3 = UT-C
		4 = A.1
		5 = A.3 (A.T. B.I.H.)
		6 = A-S (Smithsonian)
* 2-16		Station ID
* 7-32		GMT of Observation
	*17-18	Year
		YY

Figure 4.7.15

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
	*19-21	Day of Year DDD
	*22-26	Time of Day (Seconds from midnight GMT)
	*27-32	Fractional Part of Seconds (in microseconds)
3-35		<u>Preprocessing Indicators</u>
	*33	0 = Data has been corrected for ionospheric refraction effects. 1 = Data not corrected for ionospheric refraction.
	*34	0 = Data has been corrected for tropospheric refraction effects. 1 = Data not corrected for tropospheric refraction. 2 = Data has been corrected for tropospheric refraction using the correction formulas for international laser data (see Cols. 76-80). 3 = Data not corrected for tropospheric refraction. Cols. 76-80 contain coefficient for use with international laser formulas.
	35	0 = Data has been corrected for transponder delay effects. 1 = Data not corrected for transponder delay.
36-54		<u>Observation Data</u>
	*36-45	Range or Range Difference (Km)
	*46-54	Range or Range Difference XXX.XXXXXX Meters (NOTE: In this format, XX.XX - Decimal Point is implied.)

Figure 4.7.15

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
55-56		<u>Preprocessing Indicators</u>
	55	Preprocessing Report 0 = Report not indicated 1-9, A-Z values to be assigned.
	56	Transponder type for pulse radars. 1 - coherent 2 - non-coherent or Transponder Channel for GRARR 1 = Channel A or 1st sidetone 2 = Channel B or 2nd sidetone 3 = Channel C or 3rd sidetone
57-61		Reference station number for range differencing or transmitting station number for station-to-satellite-to-satellite-to-station data.
62-68		Relay satellite-ID for satellite-to-satellite data.
69-73		Measurement standard deviation XX.XXX Meters
74		Range ambiguity indicator For DSC S-Band 1 - MARK 1A (824809582.0 m) 2 - TAU (151285510.38518 m) For USB 1 - 824809582.0 m

Figure 4.7.15

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
		For GRARR S-Band
		1 - 18737031.3 m
		2 - 4684257.8 m
		3 - 936851.6 m
75		Not used
76-80		Tropospheric refraction correction XX.XXX Meters or Coefficient of Tropospheric Refraction for international lasers (see Col. 34) XX.XXX Meters

GEOS-C Decimal Azimuth/Elevation and X-Y Angles Format

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
* 1- 7		Satellite-ID
* 8- 9		Measurement Type
		60-63 X-Y Angles (East-West)
		60 = USB Radar
		64-69 X-Y (North-South)
		64 = USB Radar
		65 = GRARR S-Band Radar
		66 = GRARR ATS-F C-Band Radar
		67 = GRARR VHF Radar
		70-79 Azimuth and Elevation Angles
		*70 = Laser
		71 = C-Band Radar
		73 = DSN S-Band Radar
*10-11		Time System Indicator
	*10	0 = Ground Received Time
		*1 = Satellite Transponder/Transmitter Time
		2 = Ground Transmitted Time
		3 = Satellite Receiver Time

Figure 4.7.15

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
	*11	0 = UT-0 1 = UT-1 2 = UT-2 *3 = UT-C 4 = A.1 5 = A.3 (A.T. B.I.H.) 6 = A-S (Smithsonian)
*12-16		Station ID
*17-32		GMT of Observation
*17-18		Year
		YY
*19-21		Day of Year
		DDD
*22-26		Time of Day (seconds from midnight GMT)
*27-32		Fractional Part of Seconds (in microseconds)
*33-34		<u>Refraction Indicators</u>
	33	0 = Data has been corrected for ionospheric effects. 1 = Data not corrected for ionospheric effects.
	34	0 = Data has been corrected for tropospheric effects. 1 = Data not corrected for tropospheric effects.
35		Not used.
36-54		<u>Observation Data</u>
	*36-38	Azimuth or X angle (degrees). Sign of X angle appears in Col. 36.

Figure 4.7.15

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
	*39-40	Azimuth or X angle (arc minutes)
	*41-45	Azimuth or X angle XX.XXXX Arc Seconds
	46	Sign of Y angle
	47-48	Elevation or Y angle (degrees)
	49-50	Elevation or Y angle (minutes)
	51-54	Elevation or Y angle XX.XX Arc Seconds
55-57		Not Used.
58-61		Standard deviation in X angle or azimuth XX.XX Arc Minutes
62-65		Standard deviation in elevation or Y angle XX.XX Arc Minutes
66		Preprocessing Report 0 = Report not indicated 1-9, A-Z Values to be assigned
67-71		Tropospheric refraction correction to X angle XXX.XX Arc Minutes
72-76		Tropospheric refraction correction to Y angle or elevation XXX.XX Arc Minutes
77-80		Not used.

Figure 4.7.15

INTRODUCTION

The GEOS-C satellite will be tracked by many different systems and networks of tracking stations. It is intended that this format will accommodate data taken from all tracking systems and networks as well as altimeter data taken by the satellite. As a consequence of its design characteristics this format not only meets the specifications of the GEOS-C project but also the precise orbit determination requirements of all currently existing satellites. Enclosed is a portion of this format which pertains to laser data.

Since the format is a card image representation, it is ideally suited for transferring data between the different types of computer facilities supporting the GEOS-C project research. The only character images used by the format are:

integer numbers 0 - 9

letters of the alphabet A - Z

blanks, and

minus signs

All decimal points are implied, therefore eliminating the need for that character representation.

ptions of columns 1 - 32 for all measurement types

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
1-7	I	Satellite - ID
8-9	I	Measurement Type
		10-14 Right Ascension and Declination
		11 = Laser Optical
		20-29 Range or Range Difference
		20 = Laser
		64-69 X-Y Angles (North-South)
		68 = Laser
		70-79 Azimuth and Elevation Angles
		70 = Laser
10-11		Time System Indicator
	10	0 = Ground Received Time
		1 = Satellite Transponder/Transmitter Time
		2 = Ground Transmitted Time
	11	0 = UT-0
		1 = UT-1
		2 = UT-2
		3 = UT-C
		4 = A.1
		5 = A.3 (A.T. B.I.H.)
		6 = A-S (Smithsonian)
12-16		Station ID
17-32		GMT of Observation
	17-18	year YY
	19-21	Day of Year DDD
	22-26	Time of Day (Seconds from midnight GMT)
	27-32	Fractional Part of Seconds (in microseconds)

Columns 33-80 for laser range measurements (Data Type 20)

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
33-35		<u>Preprocessing Indicators</u>
	33	0 = Data has been corrected for ionospheric refraction effects. 1 = Data not corrected for ionospheric refraction.
	34	0 = Data has been corrected for tropospheric refraction effects. 1 = Data not corrected for tropospheric refraction. 2 = Data has been corrected for tropospheric refraction using the correction formulas for international laser data (see cols. 76-80). 3 = Data not corrected for tropospheric refraction. Columns 76-80 contain coefficient for use with international laser formulas. 4 = Data has been corrected for tropospheric refraction effects and meteorological data is present. 5 = Data not corrected for tropospheric refraction and meteorological data is present.
	35	0 = Data has been corrected for transponder delay effects. 1 = Data not corrected for transponder delay.
36-54		<u>Observation Data</u>
	36-45	Range or Range Difference (Km)
	46-54	Range or Range Difference XXX.XXXXXX Meters
55-56		<u>Preprocessing Indicators</u>
	55	Preprocessing Report 0 = Report not indicated 1 - 9, A - Z values to be assigned
	56	Not used

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
	57-60	Surface Pressure XXXX Millibars
	61-63	Surface Temperature XXX ^o KELVIN
	64-66	Relative Humidity at Surface XXX percent
	67-68	Not used
	69-73	Measurement standard deviation XX.XXX Meters
	74-75	Not used
	76-80	Tropospheric refraction correction XX.XXX Meters

Columns 33-80 for Laser X-Y angles and Laser Azimuth and Elevation angles (Types 68,70)

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
33-34		<u>Refraction Indicators</u>
	33	0 = Data has been corrected for ionospheric effects. 1 = Data not corrected for ionosphere
	34	0 = Data has been corrected for tropospheric effects. 1 = Data not corrected for troposphere
35		Not Used.
36-54		<u>Observation Data</u>
	36-38	Azimuth or X-angle (degrees). Sign of X-angle appears in column 36.
	39-40	Azimuth or X-angle (arc minutes)
	41-45	Azimuth or X-angle XX.XXX Arc Seconds
	46	Sign of Y-angle
	47-48	Elevation or Y-angle (degrees)
	49-50	Elevation or Y-angle (minutes)
	51-54	Elevation or Y-angle XX.XX Arc Seconds
55-57		Not Used.
58-61		Standard deviation in X-angle or azimuth XX.XX Arc Minutes
62-65		Standard deviation in elevation or Y-angle XX.XX Arc Minutes
66		Preprocessing Report 0 = Report not indicated 1 - 9, A - Z Values to be assigned.
67-71		Tropospheric refraction correction to X-angle XXX.XX Arc Minutes

TABLE 1

VALUES OF GEOS III RANGE CORRECTION FROM FORMULA*

γ°	$\Delta R-M$	$d\Delta R/d\theta$	γ°	$\Delta R-M$	$d\Delta R/d\theta$
0.	-1.3038		31.	-1.3629	.0035
1.	-1.3047	-.0008	32.	-1.3591	.0039
2.	-1.3084	-.0037	33.	-1.3548	.0043
3.	-1.3133	-.0049	34.	-1.3501	.0047
4.	-1.3188	-.0055	35.	-1.3450	.0051
5.	-1.3244	-.0056	36.	-1.3395	.0055
6.	-1.3301	-.0056	37.	-1.3337	.0059
7.	-1.3355	-.0055	38.	-1.3274	.0063
8.	-1.3409	-.0053	39.	-1.3207	.0067
9.	-1.3459	-.0050	40.	-1.3136	.0071
10.	-1.3507	-.0047	41.	-1.3061	.0075
11.	-1.3551	-.0044	42.	-1.2982	.0079
12.	-1.3592	-.0041	43.	-1.2899	.0083
13.	-1.3629	-.0037	44.	-1.2812	.0087
14.	-1.3663	-.0034	45.	-1.2722	.0091
15.	-1.3693	-.0030	46.	-1.2627	.0094
16.	-1.3719	-.0026	47.	-1.2529	.0098
17.	-1.3741	-.0022	48.	-1.2427	.0102
18.	-1.3759	-.0018	49.	-1.2321	.0106
19.	-1.3774	-.0014	50.	-1.2211	.0110
20.	-1.3784	-.0010	51.	-1.2098	.0113
21.	-1.3790	-.0006	52.	-1.1981	.0117
22.	-1.3793	-.0002	53.	-1.1861	.0121
23.	-1.3791	.0002	54.	-1.1737	.0124
24.	-1.3785	.0006	55.	-1.1609	.0128
25.	-1.3775	.0010	56.	-1.1478	.0131
26.	-1.3761	.0014	57.	-1.1343	.0135
27.	-1.3743	.0018	58.	-1.1205	.0138
28.	-1.3721	.0022	59.	-1.1063	.0142
29.	-1.3694	.0026	60.	-1.0918	.0145
30.	-1.3664	.0030	61.	-1.0770	.0148
			62.	-1.0619	.0151
			63.	-1.0464	.0155

* $\Delta R = [1.411 - 0.0036 (\frac{v}{v+3})] \cos (v - 22.473)$ meters

TABLE 2

Range Corrections for GEOS-III

Incidence Angle (Degrees)	Range Correction - Meters		
	Experimental	"Ratio" Program	Formula
0	-1.316	-1.303	-1.304
10	-1.355	-1.350	-1.350
20	-1.367	-1.379	-1.379
30	-1.356	-1.366	-1.366
40	-1.291	-1.314	-1.314
45	-1.273	-1.273	-1.272
50	-1.221	-1.219	-1.219
60	-1.084	-1.085	-1.085

TABLE 3

CROSS SECTION VS INCIDENCE ANGLE - GEOS III

Incidence Angle	Cross Section - Meters ² x 10 ⁶			
	Min.	Max.	Retro Program	Formula
0	1.86	1.86	4.40	2.0
10	1.86	5.56	7.20	3.1
20	9.27	18.6	14.3	9.4
30	18.6	29.7	23.2	20.2
40	24.1	46.4	30.1	28.7
45	27.8	46.4	30.9	30.0
50	27.8	37.1	27.5	28.7
60	9.27	18.6	17.4	20.2

8.3.5.1.2 Range and Range Difference*

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
1-7		Satellite - ID
8-9		Measurement Type
	20-29	Range or Range Difference
	20	- Laser
	21	- C-Band Radar
	22	- C-Band VLBI Range Difference Radars
	23	- DSN S-Band Radar
	24	- USB Radar
	25	- GRARR S-Band Radar
	26	- GRARR ATS-F S-Band Radar
	27	- GRARR VHF Radar
10-11		Time System Indicator
	10	0 - Ground Received Time
		1 - Satellite Transponder/Transmitter Time
		2 - Ground Transmitted Time
		3 - Satellite Receiver Time
	11	0 - UT-0
		1 - UT-1
		2 - UT-2
		3 - UT-C
		4 - A.1
		5 - A.3 (A.T. B.I.H.)
		6 - A-S (Smithsonian)

*Range Difference - Time Delay VLBI

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
12-16		Station ID
17-32		GMT of Observation
	17-18	Year YY
	19-21	Day of Year DDD
	22-26	Time of Day (Seconds from midnight GMT)
	27-32	Fractional Part of Seconds (in microseconds)
33-35		<u>Preprocessing Indicators</u>
	33	0 - Data has been corrected for ionospheric refraction effects. 1 - Data not corrected for ionospheric refraction.
	34	0 - Data has been corrected for tropospheric refraction effects. 1 - Data not corrected for tropospheric refraction. 2 - Data has been corrected for tropospheric refraction using the correction formulas for international laser data (see cols. 76-80). 3 - Data not corrected for tropospheric refraction. Columns 76-80 contain coefficient for use with international laser formulas.
	35	0 - Data has been corrected for transponder delay effects. 1 - Data not corrected for transponder delay.
36-54		<u>Observation Data</u>
	36-45	Range or Range Difference (Km)
	46-54	Range or Range Difference XXX.XXXXXX Meters

<u>Columna</u>	<u>Subact</u>	<u>Description</u>
55-56		<u>Preprocessing Indicators</u>
	55	Preprocessing Report
		0 = Report not indicated
		1 - 9, A - Z values to be assigned.
	56	Transponder type for pulse radars
		1 - coherent
		2 - non-coherent
		or
		Transponder Channel for GRARR
		1 = Channel A or 1st sidetone
		2 = Channel B or 2nd sidetone
		3 = Channel C or 3rd sidetone
57-61		Reference station number for range differencing or transmitting station number for station-to- satellite-to satellite-to-station data.
62-68		Relay satellite-ID for satellite-to-satellite data.
69-73		Measurement standard deviation XX.XXX Meters
74		Range ambiguity indicator
		For DSC S-Band ?
		1 - MARK 1A (824809582.0 m)
		2 - TAU (151285510.38518 m)
		For USB
		1 - 824809582.0 m
		For GRARR S-Band
		1 - 18737031.3 m
		2 - 4684257.8 m
		3 - 936851.6 m
75		Not used
76-80		Tropospheric refraction correction XX.XXX Meters
		or, Coefficient of Tropospheric Refraction for inter- national lasers (see Col. 34) XX.XXX Meters

3.5.1.3 Range Rate, and Range Rate Differences*

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
1-7		Satellite - ID
8-9		Measurement Type _
	30-37	Range Rate or Range Rate Difference
	30	- Combined DSN/USB Radars
	31	- C-Band Radar
	32	- C-Band VLBI Range Rate Difference Radars
	33	- DSN S-Band Radar
	34	- USB Radar
	35	- GRARR S-Band Radar
	36	- GRARR ATS-F C-Band Radar
	37	- GRARR VHF Radar
10-11		Time System Indicator
	10	0 - Ground Received Time
		1 - Satellite Transponder/Transmitter Time
		2 - Ground Transmitted Time
		3 - Satellite Receiver Time
	11	0 - UT-0
		1 - UT-1
		2 - UT-2
		3 - UT-C
		4 - A.1
		5 - A.3 (A.T. B.I.H.)
		6 - A-S (Smithsonian)

*Range Rate Differences - Fringe Rate VLBI

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
12-16		Station ID
17-32		GMT of Observation
	17-18	Year YY
	19-21	Day of Year DDD
	22-26	Time of Day (Seconds from midnight GMT)
	27-32	Fractional Part of Seconds (in microseconds)
33-35		<u>Preprocessing Indicators</u>
	33	0 = Data has been corrected for ionospheric refraction effects. 1 = Data not corrected for ionospheric refraction.
	34	0 = Data has been corrected for tropospheric refraction effects. 1 = Data not corrected for tropospheric refraction.
	35	<u>Receiver Mount Type</u> 1 = X-Y (East-West) 2 = X-Y (North-South) 3 = Azimuth-Elevation 4 = Hour angle-declination
36-42		Counting interval for average range rate data (Types 30, 33, 34). XXXXX.XX Seconds or, Tropospheric refraction correction for other range rate data types. XXXXX.XX cm/Second
43-55		<u>Observation Data</u>
	43-49	Range rate or range rate difference XXXX.XXX Km/Second
	50-55	Range rate or range rate difference XXX.XXX Millimeters/Second

ColumnsSubactDescription

56

Preprocessing Report

0 - Report not indicated.

1 - 9, A - Z Values to be assigned.

57-61

Reference station number for range differencing, or
transmitting station number for station-to-satellite-
to-satellite-to-station data or average range rate
data.

62-68

Relay satellite - ID for satellite-to-satellite data.

69-73

Measurement Standard deviation
XXX.XX millimeters/second

74

Transmitter or reference station Mount type

1 - X-Y (East-West)

2 - X-Y (North-South)

3 - Azimuth-Elevation

4 - Hour angle-declination

75-77

Receiver antenna axis displacement
XX.X Meters

78-80

Transmitter or reference station Antenna axis
displacement
XX.X Meters

8-67

GENS-C
Mission Plan
Revision 2 - 2 Sept. 1974

8.3.5.1.7 Azimuth/Elevation and X-Y Angles

<u>Columns</u>	<u>Subset</u>	<u>Description</u>
1-7		Satellite - ID
8-9		Measurement Type
		60-63 X-Y Angles (East-West)
		60 = USB Radar
		64-69 X-Y Angles (North-South)
		64 = USB Radar
		65 = GRARR S-Band Radar
		66 = GRARR ATS-F C-Band Radar
		67 = GRARR VHF Radar
		70-79 Azimuth and Elevation Angles
		70 = Laser
		71 = C-Band Radar
		73 = DSN S-Band Radar
10-11		Time System Indicator
	10	0 = Ground Received Time
		1 = Satellite Transponder/Transmitter Time
		2 = Ground Transmitted Time
		3 = Satellite Receiver Time
	11	0 = UT-0
		1 = UT-1
		2 = UT-2
		3 = UT-C
		4 = A.1
		5 = A.3 (A.T. B.I.H.)
		6 = A-S (Smithsonian)

<u>Columns</u>	<u>Subact</u>	<u>Description</u>
12-16		Station ID
17-32		GMT of Observation
	17-18	Year
		YY
	19-21	Day of Year
		DDD
	22-26	Time of Day (seconds from midnight GMT)
	27-32	Fractional Part of Seconds (in microseconds)
33-34		<u>Refraction Indicators</u>
	33	0 = Data has been corrected for ionospheric effects.
		1 = Data not corrected for ionosphere
	34	0 = Data has been corrected for tropospheric effects.
		1 = Data not corrected for troposphere
		Not Used.
35		
36-54		<u>Observation Data</u>
	36-38	Azimuth or X angle (degrees). Sign of X angle appears in column 36.
	39-40	Azimuth or X angle (arc minutes)
	41-45	Azimuth or X angle XX.XXXX Arc Seconds
	46	Sign of Y angle
	47-48	Elevation or Y angle (degrees)
	49-50	Elevation or Y angle (minutes)
	51-54	Elevation or Y angle XX.XX Arc Seconds

ColumnsSubsetDescription

55-57

Not Used.

58-61

Standard deviation in X angle or azimuth
XX.XX Arc Minutes

62-65

Standard deviation in elevation or Y angle
XX.XX Arc Minutes

66

Preprocessing Report

0 = Report not indicated

1 - 9, A - Z Values to be assigned.

67-71

Tropospheric refraction correction to X angle
XXX.XX Arc Minutes

72-76

Tropospheric refraction correction to Y angle or
elevation
XXX.XX Arc Minutes

77-80

Not Used.

IEF2371 332 ALLOCATED TO SYSPRINT
IEF2371 231 ALLOCATED TO SYSPRINT
IEF2371 232 ALLOCATED TO SYSPRINT
IEF2371 0C3 ALLOCATED TO FT08F001

D-23711

0000 0001 0000 0100 0000 00/0 0000 1101
111 1111

GEOS-C

S-BAND TRANSPONDER

75-007A-02A

June 2 - Oct 1, 1975

RECORD 1 OF FILE 1
LENGTH = 7180 BYTES

1C0C0000	00480000	0C727B6D	00220003	00000002	142D5400	0000A645	407886A3	14DBF800	C41A0076
C7AA09AE	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000
00727B6D	00400003	00000002	142C5400	0000A645	407886A3	14DBF800	41181717	F4449E2C	C0EE94EE
F05CC599	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B6D	00220003
00000002	142D5400	0000A645	407886A3	E38E3800	C419F76A	154642BC	00000002	00000000	00000000
00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400
0000A645	407886A3	E38E3800	411708FE	08488DF7	C08D3C24	C0828F3C	00000000	00000000	4D1293FD
00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400	0000A645	407895CE
B2407900	C419ED05	A24C2D0B	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666
41266666	00480000	0C727B6D	00400003	00000002	142C5400	0000A645	407895CE	B2407900	41179EC7
C7B7B12E	C08BCE25	E4FC489F	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000
00727B6D	00220003	00000002	142D5400	0000A645	40789D64	80F28900	C419E12A	628BA276	00000002
00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003
00000002	142C5400	0000A645	40789D64	80F28900	4117641E	F7A9B696	C08A5AA7	9A4EA5C0	00000000
00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400
0000A645	4078A4FA	4FA4FA00	C419D389	EB3750C6	00000002	00000000	00989680	4D1293FD	00000000
00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400	0000A645	4078A4FA
4FA4FA00	4117239E	C182C398	C086C308	765DC35F	00000000	00000000	4D1293FD	00000000	00000000
00000000	00480000	0C727B6D	00220003	00000002	142C5400	0000A645	4078AC90	1E573A00	C419C48F
43F3BC6E	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000
00727B6D	00400003	00000002	142C5400	0000A645	4078AC90	1E573A00	4116E44C	23838A3B	C0E71247
571D68FC	00000000	00000000	4D1293FD	00000000	00000000	00480000	00727B6D	00220003	00000000
00000002	142D5400	0000A645	4078B425	ED097B00	C419B384	87B0F07F	00000002	00000000	00000000
00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400
0000A645	4078B425	ED097B00	4116A207	89E100CE	C0853A41	1F30E315	00000000	00000000	4D1293FD
00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400	0000A645	4078B88B
88888800	C419A070	E380D780	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666
41266666	00480000	0C727B6D	00400003	00000002	142C5400	0000A645	4078B88B	88888800	41165FB6
5F40CFA4	C0834B74	1884586C	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000
00727B6D	00220003	00000002	142D5400	0000A645	4078C351	8A6DFC00	C4198B22	E26AB528	00000002
00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003
00000002	142C5400	0000A645	4078C351	8A6DFC00	41161823	270C7AB3	C0813AE1	6E250481	00000000
00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400
0000A645	4078CAE7	E92C3C00	C4157368	1487E4B7	00000002	00000000	00000000	00989680	4D1293FD
00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400	0000A645	4078CAE7
59203C00	4115D6C2	32CEC4B1	C0AF06F6	F75DEFD3	00000000	00000000	4D1293FD	00000000	00000000
00000000	00480000	0C727B6D	00220003	00000002	142D5400	0000A645	4078D27D	27D27D00	C4195904
F3ACE9EF	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000
00727B6D	00400003	00000002	142C5400	0000A645	4078D27D	27D27D00	411590B5	FCE0C7B7	C0ACA96C
385B3C61	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B6D	00220003
00000002	142D5400	0000A645	4078DA12	F6848D00	C4193BB6	41144612	00000002	00000000	00000000
00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400
0000A645	4078DA12	F6848D00	41154867	B95EA6F5	C0AA2F9B	3E9F21EE	00000000	00000000	4D1293FD
00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400	0000A645	4078E1A8
C536FE00	C4191B33	E57C00A0	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666
41266666	00480000	0C727B6D	00400003	00000002	142C5400	0000A645	4078E1A8	C536FE00	4114FE16
3D3CA917	C0A7812B	1EB4A435	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000
00727B6D	00220003	00000002	142D5400	0000A645	4078E93E	93E93E00	C418F72B	9A8868B7	00000002
00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003
00000002	142C5400	0000A645	4078E93E	93E93E00	4114849A	61F2CEB5	C0AA439E	47952579	00000000
00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400
0000A645	4078F0D4	629E7F00	C418CF3E	05BEF4EF	00000002	00000000	00000000	00989680	4D1293FD
00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400	0000A645	4078F0D4
629B7F00	411467AE	E14D16EB	C0A19784	C9182179	00000000	00000000	4D1293FD	00000000	00000000
00000000	00480000	0C727B6D	00220003	00000002	142D5400	0000A645	4078F86A	314DBF00	C418A301
8E8300F6	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000
00727B6D	00400003	00000002	142C5400	0000A645	4078F86A	314DBF00	411419E1	2ED193E9	C09E54D3
F4E346F5	00000000	00000000	4D1293FD	00000000	00000000	00480000	00000000	00727B6D	00220003
00000002	142D5400	0000A645	407C0000	00000000	C41871FC	D3D1C405	00000002	00000000	00000000
00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400
0000A645	407C0000	00000000	4113CB95	D26D838E	C09AD480	4C19B7EC	00000000	00000000	4D1293FD
00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400	0000A645	407C0795
CEB24000	C4183BA9	13D0E0D6	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666
41266666	00480000	0C727B6D	00400003	00000002	142C5400	0000A645	407C0795	CEB24000	41137821
8A709EE4	C0571812	CE92F01D	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000

40,960
1536
64
5

42565
2400000.5
8442565.5

00727B6D	00220003	00000002	142D5400	0000A645	407C0F2B	9D648000	C417FF6B	D2C3BF52	00000002
00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B5D	00400003
00000002	142C5400	0000A645	407C0F2B	9D648000	41132838	F0E8F781	C09309C7	0055E249	00000000
00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B6D	00220003	00000002	142D5400
0000A645	407C16C1	6C16C100	C4178C97	8AF27496	00000002	00000000	00000000	00989680	4D1293FD
00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400	0000A645	407C16C1
6C16C100	4112D3F0	7BA2F78E	C08EBA4A	FE3CB52E	00000000	00000000	4D1293FD	00000000	00000000
00000000	00480000	00727B6D	00220003	00000002	142C5400	0000A645	407C1E57	3AC90100	C4177265
9D490EC3	00000002	00000000	00000000	00989680	4D1293FD	00000000	41266666	41266666	00480000
00727B6D	00400003	00000002	142C5400	0000A645	407C1E57	3AC90100	41127E15	E6A8001B	C08A12D8
0C8D640D	00000000	00000000	4D1293FD	00000000	00000000	00000000	00480000	00727B5D	00220003
00000002	142D5400	0000A645	407C25ED	097B4200	C4171FF6	DFC2EC03	00000002	00000000	00000000
00989680	4D1293FD	00000000	41266666	41266666	00480000	00727B6D	00400003	00000002	142C5400
0000A645	407C25ED	057B4200	4112261E	F711DC14	C08518ED	9A415124	00000000	00000000	4D1293FD
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RECORD 2 OF FILE 1
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RECORD 355 OF FILE 1
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00000000	00000000	000C0000	00000000	00000000	41119999	00000000	00480000	00727B6D	00220003
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00989680	00000000	000C0000	41119999	41119999	00480000	00727B6D	00220003	00000029	140D5400
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00989680	00000000	000C0000	41119999	41119999	00480000	00727B6D	00220003	00000029	140D5400
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00989680	00000000	0C000000	41119999	41119999	00480000	0072786D	00220003	00000029	140D5400
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RECORD 355 OF FILE 1
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355 RECORDS IN FILE 1 OF TAPE

IEF142I - STEP WAS EXECUTED - COND CODE 0000
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IEF285I VOL SER NOS= K3SCR3.
IEF285I SYS76139.T155133.RV000.YZJRJMSB.S0000549 SYS IN
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS76139.T155133.RV000.YZJRJMSB.S0000549 DELETED
IEF285I VOL SER NOS= K3SCR2.
IEF285I SYS76139.T155133.SV000.YZJRJMSB.R0000545 SYS OUT
IEF285I VOL SER NOS= K3SCR4.
IEF285I SYS76139.T155133.SV000.YZJRJMSB.R0000546 DELETED
IEF285I VOL SER NOS= K3SCR4.
IEF285I SYS76139.T155133.SV000.YZJRJMSB.R0000547 DELETED
IEF285I VOL SER NOS= K3SCR5.
IEF285I SYS76139.T155133.RV000.YZJRJMSB.R0000548 KEPT
IEF285I VOL SER NOS= JJ0027.
IEF280E K 0C3.JJ0027.YZJRJMSB.GO
IEF373I STEP /GO / START 76139.2331
IEF374I STEP /GO / STOP 76139.2333 CPU 0MIN 05.62SEC MAIN 186K LCS OK
- STEP 03 - RETURN CODE = 0000
IO IN SECS. DISK= 2.45.DRUM= .34.TAPE= .25 MINS=(CPU= .09.IO= .16)
IEF285I SYS76139.T155133.RV000.YZJRJMSB.LODMCD DELETED
IEF285I VOL SER NOS= K3SCR3.
IEF375I JOB /YZJRJMSB/ START 76139.2329
IEF376I JOB /YZJRJMSB/ STOP 76139.2333 CPU 0MIN 09.36SEC
- SYSTEM=MVT-21 (11-21-73) K3
- JOB 0175-
TOTAL TIME = .62 MINS=(CPU= .15.IO= .47)
IO IN SECS. DISK= 13.20.DRUM= 1.06.TAPE= 14.40.CELL= .00.OTHR= .34
THERE WERE 03 TAPES MOUNTED FOR THIS JOB. TAPE MOUNT CHARGE WAS 00.0 MINUTES.