#557

PIONEER VENUS

S-BAND & X-BAND RADIO OCCULTATION

78-051A-20A

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

PIONEER VENUS 1

S-BAND,X-BAND RADIO OCCULTATION

78-051A-20A PSPA-00345

This data set has been restored. There were originally three 9-track, 1600 BPI tapes written in Binary. 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 a 1100 computer and the restored tapes were created on an IBM 9021 computer. The DR and DS numbers along with the corresponding D numbers are as follows:

DR#	DS#	D#	FILES	TIME SPAN
DR005050	DS005050	D045278	1 - 26	12/05/78 - 01/08/79
		D045279	27 - 52	01/10/79 - 02/04/79
		D045280	53 - 68	02/05/79 - 02/22/79

REQ. AGENT	RAND NO.	ACQ. AGENT
GLS	V0157	WSC

PIONEER VENUS

S-BAND & X-BAND RADIO OCCULTATION

78-051A-20A

This data set catalog contains 3 magnetic tapes. Each tape is 1600 BPI, binary, 9 track and multi-filed. The files are formatted in Fortran I/O. The tapes were created on a UNIVAC 1100/81 computer. The following list the D#'s, C#'s, number of files and the time span of each tape.

D#	C#	FILES	TIME SPAN
D-45278	C-22769	26	12/05/78 - 01/08/79
D-45279	C-22770	26	01/10/79 - 02/04/79
D-45280	C-22771	16	02/05/79 - 02/27/79

OOCC

Pioneer Venus Orbiter Radio Occultation

NSSDC Data Delivery Plan

78-051A-20A
Kliore

I. Introduction

This plan presents a summary of reduced data from the Pioneer Venus Orbiter Radio Occultation Experiment that will be delivered to the Pioneer Venus Project for submittal to the NSSDC and inclusion in the UADS.

It is our intention to submit two types of data:

1) Processed Radio Science Data, which will consist of tables of observed S-band and X-band frequencies, frequency residuals, and signal strength data as functions of time for each occultation entry and exit for orbits that have been processed as of December 1980. These data will allow interested investigators to analyze the data using their own inversion methods - but will not require them to repeat the laborious and expensive signal processing procedure. It is assumed that trajectory information will be provided by the project in the form of SEDR's.

2) Reduced Radio Science Data, which will include tables of derived geophysical parameters, such as refractitiy electron density in the ionosphere, and temperature and pressure in the neutral atmosphere as functions of radial distance from the center of Venus. These data are the end result of our analysis.

II. Description of Data

Data will be delivered on Fortran formatted files written on 9-track 1600 bpi magnetic tapes. Data from several orbits will be written on a single magnetic tape. The contents of the various files for each orbit will be as follows:

1) Processed Data Files (File 50)

Two such files will be provided for each entry and exit of each processed orbit. One will contain the open-loop (O/L)

and the other the closed-loop (C/L) data. The contents are as follows:

FILE 50 O/L and 50 C/L

	Line 1	SCID	REV NO	MODE	DOY	
	Line 2	XTR	DSS	IW		
	Line 3	TSFRQ	FSSCT			
	Line 4	0	0			
Data Point 1 Though N	Line 5	YRNO	DOY	SPM	SFRQ	SRES
	Line 6	SPWR	XPWR	XFRQ	XRES	

The meaning of the symbols is given in the Glossary.

2) Ionosphere File (File 14 CL)

One File 15 CL will be provided for each entry for which closed-loop (C/L) data are available. The contents are as follows:

	Line 1	(same as File 50)						
	Line 2	(same as File 50)						
	Line 3	(same as File 50)						
	Line 4	6200.	LAT	SZN				
Data Point 1 - N	Line 5	SPM	RAD	RAYDIS,	$N_e/10^5$,	BND,	REF,	LAT*, SZN*
	⋮							

(* ON ORBITS PAST ORBIT 656)

3) Atmosphere File (File 16 OL)

This file contains the important geophysical parameters of the neutral atmosphere from which other parameters can be derived. The contents are:

	Line 1	NPTS	DOY	DSS	BD	MOD	
Data Pts. 1 to IPTS for $T_o=T_{o1}$	Line 2	IPTS	TO1				
	Line 3	RAD	REF	TEMP	PRESS	INDEX	
	⋮						
	Line N						
Data Pts. 1 to IPTS for $T_o=T_{o2}$	Line N+1	IPTS	TO2				
	Line N+2	RAD	REF	TEMP	PRESS	INDEX	
	⋮						
	Line 2N+2						
Data Pts. 1 to IPTS for $T_o=T_{o3}$	Line 2N+3	IPTS	TO3				
	Line 2N+4	RAD	REF	TEMP	PRESS	INDEX	
	⋮						
	Line 3N+4						

III. Glossary

BD	=	1 for S-band, 2 for X-band
BND	=	refraction angle (rad)
DOY	=	Day of year
DSS	=	Number of Receiving DSN Station
FSSCT	=	Spacecraft downlink frequency
INDEX	=	Consecutive numbering of points
IPTS	=	Number of points for $T_o = T_i$ (three values of T_o are normally chosen)
IW	=	One way = 1, Two way = 2, three way = 3
LAT	=	Latitude of occultation point (deg)
MODE	=	Entry = 1, Exit = 2
Ne	=	Electron density (cm^{-3})
PRESS	=	Pressure (mb)
PWR	=	Relative power (open-loop only) dBm
RAD	=	Distance of closest approach point of refracted ray from center of Venus (km)
RAYDIS	=	Ray asymptote distance (km)
REF	=	Refractivity = $(n-1) \times 10^6$ (n-units)
REV NO	=	Orbit number
SCID	=	Spacecraft Indentification (PVO = 12)
SFRQ	=	S-band received frequency (Hz)
SPM	=	Time in seconds past midnight
SPWR	=	Relative S-band power, (dBm)
SRES	=	S-band frequency residual (Hz)
SZN	=	Solar zenith angle at occ. pt. (deg)
TEMP	=	Temperature (K)
TO	=	Initial value of temperature (K)
TSFRQ	=	DSN station VCO reference frequency
XFRQ	=	X-band received frequency (hz)
XPWR	=	Relative X-band power, (dBm)
XRES	=	X-band frequency residual (Hz)
XTR	=	Number of transmitting DSN Station
YRNO	=	XX where year is 19XX

A. J. Kliore
PV Radio Science Team (ORO)
FTS 792-6164

I. R. Patel
ORO Data Analyst
FTS 792-5834

Pioneer Venus Project

Radio Science Team

Venus Occultation Experiment

Reduced Data - Explanatory Document

Submitted to The

National Space Science Data Center

NASA/Goddard Space Flight Center

Greenbelt, Maryland 20771

By

Arvydas J. Kliore

Radio Science Team Member

and

Indu Patel

Data Analyst

Jet Propulsion Laboratory

4800 Oak Grove Drive

Pasadena, California 91109

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Pioneer Venus Orbiter Occultation Data

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1. Introduction

The Pioneer Venus orbiter was launched on May 20, 1978 and was inserted into the orbit around Venus on December 4, 1978. Since then the orbiter spacecraft has returned some 200 closed-loop and open-loop S- and X-band radio occultation measurements, covering diverse latitudes from near-equatorial to polar. The data received from the S/C were then analyzed for the Venus atmosphere. The data submitted herewith on the magnetic tapes is the reduced data in the form of Data Files from the first occultation season (up to orbit 85).

2. Data Files

The Pioneer (Venus) data files are created by Processing Pioneer 12 radio occultation data using the subset of occultation software. A brief description of the software and the data files is given below.

The occultation software consists of computer programs called RODAN, RPP, DIP1PCP, DIP2 and ATMOS. The functions of these programs are as follows.

RODAN: (1) To read ODA-frequencies (open-loop) or Doppler count (closed-loop) and computer RF-frequencies.

(2) To read predicted frequency file (ACCUME) and compute residual frequencies.

(3) To create a file 50 (Sec. 3.3) consisting of S, X RF-frequencies, residual frequencies, signal strength and time.

RPP: This program reads file 50 created by RODAN and removes drift and bias from frequency residuals. It also writes a file for DIPIPCP.

DIP1PCP: This program computes bending angle, ray-asymptote distance and power correction from frequency residuals (from which drift and bias has been taken out).

DIP2: This program reads DIP1PCP output file and computes

(i) Refractivity as a function of radius to the center of Venus.

(ii) Electron-density as a function of radius.

(iii) And writes file 15 (see Sec. 3.3) for ATMOS.

ATMOS: This program computes atmospheric parameters (temperature, pressure etc.) as a function of radius to the center of planet, and writes this parameters on file 16 (Sec. 3.3).

The files written on the magnetic tapes are files 50, 15 and 16 for each orbit are Input/Output (Standard formated Fortran I/O) files obtained by executing the above programs on the Univac 1100/81 computer.

Tapes A6412, P2135 and A5040 are 9-trk tapes and have all data files from orbit 1 to orbit 85. The files on the tapes are written using the EZIO-processor (5.5) at JPL on the Univac 1100/81 computer using density 1600 BPI.

3. List of Data Files

3.1 Conventions

Data files from orbit-1 to orbit-85 are written on tapes A6412, P2135 and A5040. The following conventions are used to write the tapes.

(1) The files are written on tapes using the EZIO processor (see Ref. 5.5) at JPL on the Univac 1100/81 computer.

(2) The tapes are 9-trk and the density is 1600 BPI.

(3) Each file on the tape is a collection of data files created using an INSERT-processor (Ref. 5.6) for a particular orbit.

e.g. File-19 on tape A6412 is a file called ORB25 (for orbit-25), and file ORB25 contains files 15XCL, 50XCL.

(4) Definitions:

(i) ORBNN = Contains all the files for orbit No.=NN

(ii) MMRRIB = File No.=MM, consisting of RR-receiver data of mode I and Band B

RR = CL - for closed-loop data

OL - for open-loop data

I = N - for ENTRY

X - for EXIT

B = S - for S-Band (or none)

X - for X-Band

none for closed-loop data

Example: File 16NOLS - is a file 16, consisting of OL - S-Band ENTRY data.

3.2 List of Files on Tapes

TAPE NO.	FILE SEQ NO.	ORBIT NO.	FILES/ORBIT NO.
A6412	1	1	50CLN,15CLN
	2	3	50CLN,15CLN,50CLX,15CLX
	3	4	50CLN,15CLN
	4	5	50CLN,15CLN
	5	6	50XOL,15XOL,16XOL
	6	8	50NCL,15NCL
	7	9	50NOL,16NOL
	8	10	50NCL,15NCL
	9	13	50NCL,15NCL
	10	14	50NCL,15NCL
	11	17	50NCL,15NCL,50XCL,15XCL
	12	18	50NCL,15NCL,50NOL,16NOL, 16NOLX,50XOL,15XOL,16XOL
	13	19	50NCL,15NCL,50XCL,15XCL, 50NOL,16NOLS,16NOLX, 50XOL,16XOLS,16XOLX
	14	20	50NCL,15NCL
	15	21	50NCL,15NCL,16NOL, 16XOL,15XOL
	16	22	50NCL,15NCL,50XCL,15XCL, 50NOL,16NOL
	17	23	50NCL,15NCL,50XCL,15XCL
	18	24	50NCL,15NCL
	19	25	15XCL,50XCL
	20	26	50NCL,15NCL
	21	29	50NCL,15NCL,50NOL,16NOL
	22	30	50XOL,16XOL
	23	31	50NCL,15NCL
	24	33	50NCL,15NCL
	25	34	50NCL,15NCL
	26	35	50NCL,15NCL
P2135	1	37	50NCL,15NCL
	2	38	50NCL,15NCL
	3	39	50NCL,15NCL
	4	40	50NCL,15NCL
	5	41	50NCL,15NCL,50XCL,15XCL
	6	42	50NCL,15NCL,50XCL,15XCL
	7	43	50NCL,15NCL
	8	44	50NCL,15NCL
	9	45	50NCL,15NCL,50XCL,15XCL, 50XOL,16XOL
	10	46	50NCL,15NCL,50XCL,15XCL
	11	47	50NCL,15NCL
	12	48	50NCL,15NCL,50XCL,15XCL
	13	49	50NCL,15NCL,50XCL,15XCL
	14	50	50NCL,15NC1,50XCL,15XCL

TAPE NO.	FILE SEQ. NO.	ORBIT NO.	FILES/ORBIT NO.
	15	51	50NCL,15NCL,50XCL,15XCL
	16	52	50NCL,15NCL,50XCL,15XCL
	17	53	50NCL,15NCL,50XCL,15XCL
	18	54	50NCL,15NCL,50XCL,15XCL
	19	55	50NCL,15NCL
	20	56	50NOL,16NOL,15NOL
	21	57	50NCL,15NCL,50XCL,15XCL
	22	58	50NCL,15NCL,50XCL,16XCL
	23	59	50NCL,15NCL,50NOL,16NOL
	24	60	50NCL,15NCL,50NOL,15NOL, 16NOL
	25	61	50NOL,15NOL,16NOL
	26	62	50NCL,15NCL
A5040	1	63	50NCL,50XCL,15XCL,15NCL, 16NOL
	2	65	50NCL,15NCL
	3	66	50XCL,15XCL
	4	67	50NCL,15NCL,50NOL,16NOL
	5	68	50NCL,15NCL
	6	69	50XCL,15XCL,50XOL,16XOL
	7	71	50NCL,15NCL,50XCL,15XCL
	8	72	50NCL,15NCL,50XCL,15XCL
	9	74	50NCL,15NCL
	10	77	50NCL,15NCL
	11	79	50NCL,15NCL,50XCL,15XCL
	12	80	15NCL,50NCL,50XCL,15XCL
	13	81	50NCL,15NCL,50XCL,15XCL
	14	82	50NCL,15NCL,50XCL,15XCL
	15	84	50NCL,15NCL,50XCL,15XCL
	16	85	50XCL,15NCL

3.3 Description of Data Files

1. File 50:

This file is created by executing the program RODAN, and is to be used as an input file to RPP. The file is a standard formatted Fortran I/O file created on the UNIVAC 1100/81 computer. Each line corresponds to one record and the format statement corresponds to the label (e.g. 5*) is in Section 4. The description of the file with the definition and type of the variable is as follows.

	NPTS	SCID	REVNO	MODE	DOY	(RECORD 1) 1*
	XTR	DSS	IW	BAND		(RECORD 2) 1*
	TSFRQ	FSSCT				(RECORD 3) 2*
	0	0				(RECORD 4) 2*
DATA	YR	DOY	SPM	SFRQ	SRES	(RECORD 5) 3*
PT-1	SPWR	XPWR	XFRQ	XSRES		(RECORD 6) 4*
.	.	.	.	.	.	
.	.	.	.	.	.	
.	.	.	.	.	.	
DATA	YR	DOY	SPM	SFRQ	SRES	(RECORD (N-1)) 3*
PT-N	SPWR	XPWR	XFRQ	XRES		(RECORD (N)) 4*

where

NPTS	=	number of Data Points in the file	(Integer)
SCID	=	S/C ID number (= 12 for PVO)	(Integer)
REVNO	=	Orbit number	(Integer)
MODE	=	1 for entry, 2 for exit	(Integer)
DOY	=	Day of the year for the orbit	(Integer)
XTR	=	Transmitting station number (If the data is 1-way then = 0)	(Integer)
DSS	=	Receiving Deep Space Station number	(Integer)
IW	=	1-way, 2-way, 3-way data	(Integer)
BAND	=	1 for S-Band, 2 for X-Band, 3 for both	(Integer)
TSFRQ	=	Ground station synth. freq.	(D.P.)
FSSCT	=	S/C downlink frequency	(D.P.)
YR	=	Year of the sample	(Integer)
DOY	=	Day of the year of the sample	(Integer)
TIME	=	Time of sample in seconds past midnight	(Real)
SFRQ	=	S-Band frequency in Hz	(D.P.)
SRES	=	S-Band frequency residuals in Hz	(D.P.)
SPWR	=	S-Band power in dbm	(D.P.)
XPWR	=	X-Band power in dbm	(D.P.)
XFRQ	=	X-Band frequency in Hz	(D.P.)
XRES	=	X-Band frequency residuals in Hz	(D.P.)

2. <u>File 15</u>

This file is created by executing DIP2 Program. The parameters computed in DIP1PCP are also included in this file. The file is an input file to ATMOS Program. This file is also a standard formatted Fortran I/O file. The definition and type of variables are described as follows.

NPTS	SCID	REVNO	MODE	DOY	(RECORD 1) 1*
XTR	DSS	IW	BAND		(RECORD 2) 1*
TSFRQ	FSSCT				(RECORD 3) 2*
6200	LAT	SZN			(RECORD 4) 5*

DATA PT-1	SPM	RADIUS	RDIS	KM	BND	REF	PWR	LATT+	SZNN+	(RECORD 5) 6*
	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
DATA PT-N	SPM	RADIUS	RDIS	KM	BND	REF	PWR	LATT+	SZNN+	(RECORD N) 6*

where

NPTS	=	Number of Data Points in the file	(Integer)
SCID	=	S/C ID number (= 12 for PVO)	(Integer)
REVNO	=	Orbit number	(Integer)
MODE	=	1 for ENTRY, 2 for EXIT	(Integer)
DOY	=	Day of the year for this orbit	(Integer)
XTR	=	Transmitting station number	(Integer)
DSS	=	Receiving station number	(Integer)
IW	=	1-way, 2-way or 3-way data	(Integer)
BAND	=	1 for S-Band, 2 for X-Band, 3 for Differential Doppler	(Integer)
TSFRQ	=	Ground station synth. frequency	(DP)
FSSCT	=	S/C downlink frequency	(DP)
6200	=	Radius (km) at which LAT, SZN are defined	(DP)
LAT	=	Latitude (deg) at 6200 radius	(DP)
SZN	=	Solar-Zenith angle (deg)	(DP)
SPM	=	Time, in seconds pat midnight, of the data point	(DP)
RADIUS	=	Closest approach distance of ray from center of planet	(DP)
RDIS	=	Asymptotic ray-distance in km	(DP)
KM	=	For O/L - Range from S/C to the center of planet (km)	(DP)
		For C/L - Electron Density n_i $(n_i/10^5)/cm^{-3}$	(DP)
BND	=	Refractive Bending angle (radians)	(DP)
REF	=	Refractivity in N-units	(DP)
PWR	=	Signal-level in dbm	(DP)
LAT	=	Latitude (deg) at RADIUS	(DP)
SZN	=	Solar Zenith angle (deg) at RADIUS	(DP)

+Only for recently reduced data, otherwise given at a radius of 6200 km in RECORD 4.

3. <u>File 16</u>

This file is the output file of the ATMOS program. The file is a standard formatted Fortran I/O file, and consists of temperature, pressure and refractivity as a function of radial distance. The description of the file is as follows.

	SCID	ORB	DOY	DSS	BND	MODE	(RECORD 1) 7*
	IPS1	T_1					(RECORD 2) 8*
DATA PT-1	RAD	REF		TEMP	PRESS	INDEX	(RECORD 3) 9*
(For $T_o = T_1$)	.	.		.	.	.	.
	.	.		.	.	.	.
	.	.		.	.	.	.
DATA PT-N	RAD	REF		TEMP	PRESS	INDEX	(RECORD N+3) 9*
(For $T_o = T_1$)							
	IPS2	T_2					(RECORD N+4) 8*
DATA PT-1	RAD	REF		TEMP	PRESS	INDEX	(RECORD N+5) 9*
(For $T_o = T_2$)	.	.		.	.	.	.
	.	.		.	.	.	.
	.	.		.	.	.	.
DATA PT-M	RAD	REF		TEMP	PRESS	INDEX	(RECORD N+M+5) 9*
(For $T_o = T_2$)	IPS3	T_3					(RECORD N+M+6) 8*
DATA PT-1	RAD	REF		TEMP	PRESS	INDEX	(RECORD N+M+7) 9*
(For $T_o = T_3$)	.	.		.	.	.	.
	.	.		.	.	.	.
	.	.		.	.	.	.
DATA PT-K	RAD	REF		TEMP	PRESS	INDEX	(RECORD N+M+7) 9*
(For $T_o = T_3$)							

where

SCID	=	S/C ID number (= 12 for PVO)	(Integer)
ORB	=	Orbit number for this data	(Integer)
DOY	=	Day of the year for the orbit	(Integer)
DSS	=	Receiving station number	(Integer)
BND	=	1 for S-Band, 2 for X-Band	(Integer)
MODE	=	1 for ENTRY, 2 for EXIT	(Integer)
IPS_i	=	No. of Data Points for Initial temperature $T_i (i = 1,2,3)$	(Integer)
T_i	=	Initial Temperature - K	(DP)
RAD	=	Radial distance from the center of planet (km)	(DP)
REF	=	Refractivity in N-Units	(DP)
TEMP	=	Temperature at radius RAD (K)	(DP)
PRESS	=	Pressure (mb) at radius RAD	(DP)
INDEX	=	Data Point number	(Integer)

4. Format

The following formats are referred in the preceeding sections.

	FORMAT STATEMENT	REFERENCED IN FILE NO.
1*	FORMAT (5I10)	50,15
2*	FORMAT (2D26.18)	50,15
3*	FORMAT (I2,I5,F12.4,2D26.18)	50
4*	FORMAT (F9.4,F10.4,2D26.18)	50
5*	FORMAT (3F10.4)	15
6*	FORMAT (F10.3,3F12.5,2D24.17,F12.5,2x,F8.3,2x,F8.3)	15
7*	FORMAT (6I10)	16
8*	FORMAT (2I10)	16
9*	FORMAT (1x,F12.3,E15.7,F15.3,F17.6,I6)	16

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(10224)	050505057560	606060050505	050575606060	600505057567	676464666161	666762636760	606060606142	606160050541
(10272)	756166706771	656065666671	636265657160	614260606305	001414100000	677005056363	710505656461	716275716560
(10320)	600505057562	616162616666	706263626160	606060606042	606160050541	756466616560	656564666070	656563666470
(10368)	604260606205	001414100000	050505057560	606060050505	050575606060	600505057567	676464666161	667065606271
(10416)	717171717142	606160050541	756166716271	626063636566	706062646663	507000000000	654260606305	001414100000
(10464)	677005056363	710505656461	716375606560	600505057562	616162616666	706267616160	606060606142	606160050541
(10512)	756465706371	707165616664	657164606564	614260606205	001414100000	050505057560	606060050505	050575606060
(10560)	600505057567	676464666161	667171616771	717171717142	606160050541	756166706360	627164707166	666662626365
(10608)	624260606305	001414100000	677005056363	710505656461	716375616560	600505057562	616162616666	706360656571
(10656)	717171717142	606160050541	756465717060	636071706162	636562606661	624260606205	001414100000	050505057560
(10704)	606060050505	050575606060	600505057567	676464666161	676161646360	606060606042	606160050541	756166716261
(10752)	677060626662	616462646171						

DK/DS 00 5050

REGULAR OCTAL DUMP OF CN1111

FILE 1 RECORD 5 10764 BYTES

YEAR DAY

7 8 3 3 9

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(96)	624260606205	001414100000	050505057560	606060050505	050575606060	600505057567	676464666161	676264626660
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(192)	710505656461	716375636560	600505057562	616162616666	706367706171	717171717142	606160050541	756465716064
(240)	636661656160	666471636263	644260606205	001414100000	050505057560	606060050505	050575606060	600505057567
(288)	676464666161	676370616671	717171717142	606160050541	756166707061	716362656562	616570706362	654260606305
(336)	001414100000	677005056363	710505656461	716375646560	600505057562	616162616666	706461636160	507000000000
(384)	606060606142	606160050541	756466606067	717170656567	676661636161	654260606205	001414100000	050505057560
(432)	606060050505	050575606060	600505057567	676464666161	676561676660	606060606142	606160050541	756166706460
(480)	657171646762	706260676570	704260606305	001414100000	677005056363	710505656461	716375656560	600505057562
(528)	616162616666	706464676371	717171717142	606160050541	756466616762	676071676766	607070657165	644260606205
(576)	001414100000	050505057560	606060050505	050575606060	600505057567	676464666161	676664636171	717171717142
(624)	606160050541	756166716062	666660626471	616763666461	624260606305	001414100000	677005056363	710505656461
(672)	716375666560	600505057562	616162616666	706470646060	606060606042	606160050541	756466616070	647165616166
(720)	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000
(768)	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000
(816)	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500100000000	000000000200
(864)	507000000000	626363706265	664260606205	001414100000	050505057560	606060050505	050575606060	600505057567
(912)	676464666161	676767666060	606060606042	606160050541	756166707163	616164706763	676666707171	614260606305
(960)	001414100000	677005056363	710505656461	716375676560	600505057562	616162616666	706562607060	606060606042
(1008)	606160050541	756466606265	636564657163	717162626363	624260606205	001414100000	050505057560	606060050505
(1056)	050575606060	600505057567	676464666161	677160676360	606060606042	606160050541	756166707170	716663636562
(1104)	627162676766	614260606305	001414100000	677005056363	710505656461	716375706560	600505057562	616162616666
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(1200)	050505057560	507000000000	606060050505	050575606060	600505057567	676464666161	706063676160	606060606142
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(1296)	716375716560	600505057562	616162616666	706571606760	606060606042	606160050541	756466626362	627166606662
(1344)	666363637165	624260606205	001414100000	050505057560	606060050505	050575606060	600505057567	676464666161
(1392)	706167626660	606060606042	606160050541	756166707064	706461707067	666562706764	604260606305	001414100000
(1440)	677005056363	710505656461	716475606560	600505057562	616162616666	706662717171	717171717142	606160050541
(1488)	756465716062	636770606466	707065616362	704260606205	001414100000	050505057560	606060050505	050575606060

D-45280
C-22771

(9216)	616162616665	647066616371	717171717142	606160050505	756060606060	606060606060	606060606060	600505050505
(9264)	001400000000	050505057560	606060050505	050576606060	600505057567	676464666066	677105050563	717171717142
(9312)	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	677105050563	660505676261
(9360)	656275706560	600505057562	616162616665	647071656371	717171717142	606160050505	756060606060	606060606060
(9408)	606060606060	600505050505	507000000000	001400000000	050505057560	606060050505	050576606060	600505057567
(9456)	676464666066	677164717060	606060606142	606160050505	756060606060	606060606060	606060606060	600505050505
(9504)	001400000000	677105050563	660505676261	656275716560	600505057562	616162616665	647162716171	717171717042
(9552)	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	050505057560	606060050505
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(9648)	606060606060	600505050505	001400000000	677105050563	660505676261	656375606560	600505057562	616162616665
(9696)	647166616660	606060606342	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000
(9744)	050505057560	606060050505	050576606060	507000000000	600505057567	676464666066	706171616471	717171716742
(9792)	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	677105050563	660505676261
(9840)	656375616560	600505057562	616162616665	647171606571	717171717142	606160050505	756060606060	606060606060
(9888)	606060606060	600505050505	001400000000	050505057560	606060050505	050576606060	600505057567	676464666066
(9936)	706271716060	606060606042	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000
(9984)	677105050563	660505676261	656375626560	600505057562	616162616665	656062606360	606060606142	606160050505
(10032)	756060606060	606060606060	606060606060	600505050505	001400000000	050505057560	606060050505	050576606060
(10080)	600505057567	676464666066	706461616760	606060606142	507000000000	606160050505	756060606060	606060606060
(10128)	606060606060	600505050505	001400000000	677105050563	660505676261	656375636560	600505057562	616162616665
(10176)	656065656471	717171717142	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000
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(10320)	600505057562	616162616665	656070646471	717171717042	606160050505	756060606060	606060606060	606060606060
(10368)	600505050505	001400000000	050505057560	606060050505	050576606060	600505057567	676464666066	706665506171
(10416)	717171717142	606160050505	756060606060	606060606060	606060606060	507000000000	600505050505	001400000000
(10464)	677105050563	660505676261	656375656560	600505057562	616162616665	656162626360	606060606042	606160050505
(10512)	756060606060	606060606060	606060606060	600505050505	001400000000	050505057560	606060050505	050576606060
(10560)	600505057567	676464666066	706767716460	606060606242	606160050505	756060606060	606060606060	606060606060
(10608)	600505050505	001400000000	677105050563	660505676261	656375666560	600505057562	616162616665	656164716760
(10656)	606060606042	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	050505057560
(10704)	606060050505	050576606060	600505057567	676464666066	707070637071	717171717142	606160050505	756060606060
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FILE 1 RECORD 5 LENGTH 10764BYTES

YEAR 79 DAY 36 02/05/79-02/27/79

(0)	000000003600	000000000000	600505050505	001400000000	677105050563	660505676261	507000000000	656375676560
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(96)	600505050505	001400000000	050505057560	606060050505	050576606060	600505057567	676464666066	707170717060
(144)	606060606142	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	677105050563
(192)	660505676261	656375706560	600505057562	616162616665	656261647171	717171717042	606160050505	756060606060
(240)	606060606060	606060606060	600505050505	001400000000	050505057560	606060050505	050576606060	600505057567
(288)	676464666066	716161676371	717171716742	606160050505	756060606060	606060606060	606060606060	600505050505
(336)	001400000000	677105050563	660505676261	656375716560	600505057562	616162616665	656264636060	507000000000
(384)	606060606242	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	050505057560
(432)	606060050505	050576606060	600505057567	676464666066	716262707160	606060606442	606160050505	756060606060
(480)	606060606060	606060606060	600505050505	001400000000	677105050563	660505676261	656475606560	600505057562
(528)	616162616665	656267716571	717171717142	606160050505	756060606060	606060606060	606060606060	600505050505
(576)	001400000000	050505057560	606060050505	050576606060	600505057567	676464666066	716365616271	717171717142
(624)	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	677105050563	660505676261
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(720)	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000
(768)	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000
(816)	500000000000	500000000000	500000000000	500000000000	500000000000	500000000000	500100000000	000000000200
(864)	507000000000	606060606060	600505050505	001400000000	050505057560	606060050505	050576606060	600505057567
(912)	676464666066	716466637160	606060606042	606160050505	756060606060	606060606060	606060606060	600505050505
(960)	001400000000	677105050563	660505676261	656475626560	600505057562	616162616665	656363716260	606060606042
(1008)	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	050505057560	606060050505
(1056)	050576606060	600505057567	676464666066	716567626560	606060606042	606160050505	756060606060	606060606060
(1104)	606060606060	600505050505	001400000000	677105050563	660505676261	656475636560	600505057562	616162616665
(1152)	656367626171	717171717042	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000
(1200)	050505057560	507000000000	606060050505	050576606060	600505057567	676464666066	716671667171	717171717042
(1248)	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000	677105050563	660505676261
(1296)	656475646560	600505057562	616162616665	656460616060	606060606142	606160050505	756060606060	606060606060
(1344)	606060606060	600505050505	001400000000	050505057560	606060050505	050576606060	600505057567	676464666066
(1392)	717060716360	606060606042	606160050505	756060606060	606060606060	606060606060	600505050505	001400000000
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