

Data Set catalog #58
OGO-3 Cosmic Ray Spectra & Fluxes

66-049A-03C 5 tapes

OGO-1 Cosmic Ray Spectra & Fluxes

64-054A-18C 2 tapes

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1. INTRODUCTION:

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

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

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

2. ERRATA/CHANGE LOG:

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

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

Version	Date	Person	Page	Description of Change
01				
02				

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

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

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

4. CATALOG MATERIALS:

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

- b. Core Catalog Materials

OGO-1

PROTON-ALPHA TELESCOPE PHA DATA

64-054A-18C

THIS DATA SET HAS BEEN RESTORED. THERE WERE ORIGINALLY THREE MIXED 7-TRACK, 800 BPI TAPES. THERE IS ONE RESTORED TAPE. THE RESTORED TAPE IS BINARY, EXCEPT FILES 1, 352 AND 732 WHICH ARE ASCII HEADERS. THE DR TAPE IS A 3480 CARTRIDGE AND THE DS TAPE IS 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON A 930 COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR003857	DS003857	D005523	1-351	09/04/66 - 12/08/66 *
		D005524	352-731	03/03/67 - 06/05/67
		D005525	732-1030	09/03/67 - 11/25/67

* READ ERRORS OCCURRED IN RECORD 25, FILE 1; RECORD 17, FILE 8; RECORDS 8 & 14, FILE 11; RECORD 6, FILE 13; AND RECORD 9, FILE 16

OGO 3

PROTON-ALPHA TELESCOPE PHA DATA

66-049A-03C

THIS DATA SET HAS BEEN RESTORED. ORIGINALLY THERE WERE 27 MIXED 7-TRACK, 800 BPI TAPES. THERE ARE SEVEN RESTORED TAPES. THE RESTORED TAPES ARE BINARY, HOWEVER THERE ARE SEVERAL FILES ON EACH RESTORED TAPE THAT HAS AN EBCDIC HEADER. THESE FILES ARE NOTED BELOW. THE DR TAPES ARE 3480 CARTRIDGES AND THE DS TAPES ARE 9-TRACK, 6250 BPI. THE ORIGINAL TAPES WERE CREATED ON AN XDS COMPUTER. THE DR AND DS NUMBERS ALONG WITH THE CORRESPONDING D NUMBERS AND TIME SPANS ARE AS FOLLOWS:

DR#	DS#	D#	FILES	TIME SPAN
DR003132	DS003132	D000178	1-614	06/09/66 - 07/01/66 (a)
		D000179	615-1028	07/01/66 - 07/23/66
		D005411	1029-1494	08/03/66 - 09/19/66
		D005412	1495-1732	08/24/66 - 09/17/66

EBCDIC HEADER FILES 1, 615, 1029, 1495

DR003133	DS003133	D005413	1-417	09/19/66 - 10/17/66
		D005414	418-744	10/16/66 - 11/12/66 (b)
		D005415	745-1070	11/12/66 - 12/10/66 (c)
		D005416	1071-1492	12/10/66 - 01/05/67 (d)

EBCDIC HEADER FILES 1, 418, 745, 1071

DR003134	DS003134	D005417	1-419	01/05/67 - 02/02/67
		D005898	420-549	01/06/67 - 02/02/67
		D005418	550-985	02/02/67 - 02/28/67
		D005899	986-1093	02/02/67 - 02/08/67
		D005419	1094-1479	03/01/67 - 03/29/67 (e)

EBCDIC HEADER FILES 1, 420, 550, 986, 1094

66-049A-03C

DR#	DS#	D#	FILES	TIME SPAN
DR003135	DS003135	D005420	1-367	03/28/67 - 04/23/67
		D005421	368-736	04/23/67 - 05/20/67
		D005422	737-1119	05/21/67 - 06/16/67

EBCDIC HEADER FILES 1, 368, 737

DR003153	DS003153	D005423	1-819	06/17/67 - 08/10/67
		D005424	820-1457	08/10/67 - 10/03/67

EBCDIC HEADER FILES 1, 820

DR003148	DS003148	D005425	1-486	10/03/67 - 11/11/67
		D005426	487-803	10/29/67 - 11/26/67
		D005427	804-1151	12/23/67 - 01/19/68
		D005428	1152-1486	01/19/68 - 02/14/68

EBCDIC HEADER FILES 1, 487, 804, 1152

DR003149	DS003149	D005429	1-606	02/14/68 - 04/09/68
		D005894	607-805	05/06/68 - 06/02/68
		D005895	806-1002	06/02/68 - 06/28/68
		D005896	1003-1253	06/29/68 - 07/25/68
		D005897	1254-1483	07/26/68 - 08/16/68

EBCDIC HEADER FILES 1, 607, 806, 1003, 1254

- (a) ERROR ON RECORD 2, FILE 48
- (b) ERROR ON RECORD 2, FILE 496
- (c) ERROR ON RECORDS 2 and 3, FILE 1035
- (d) ERROR ON RECORDS 3 and 4, FILE 1106
- (e) ERROR ON RECORD 3, FILE 1147

PROTON-ALPHA TELESCOPE PHA DATA

66-049A-03C

This data set has been restored. There was originally 27 Mixed 7-Track, 800 BPI tapes. There are 7 restored tapes. The restored tapes are Binary, however there are several files on each restored tape that is an EBCDIC header. On the following page is a list of the files that are EBCDIC headers and their associated DR and DS numbers. The DR tapes are 3480 cartridges and the DS tapes are 9-track, 6250 BPI. The tapes were created on an XDS 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
DR03132	DS03132	D00178	1-614	06/09/66 - 07/01/66
		D00179	615-1028	07/01/66 - 07/23/66
		D05411	1029-1494	08/03/66 - 09/19/66
		D05412	1495-1732	08/24/66 - 09/17/66
DR03133	DS03133	D05413	1-417	09/19/66 - 10/17/66
		D05414	418-744	10/16/66 - 11/12/66
		D05415	745-1070	11/12/66 - 12/10/66
		D05416	1071-1492	12/10/66 - 01/05/67

**** DR#

DS#

FILES

DR03132
DR03133
DR03134
DR03135
DR03153
DR03148
DR03149

DS03132
DS03133
DS03134
DS03135
DS03153
DS03148
DS03149

1, 615, 1029, 1495
1, 418, 745, 1071
1, 420, 550, 986, 1094
1, 368, 737
1, 820
1, 487, 804, 1152
1, 607, 806, 1003, 1254

OGO-3 COSMIC RAY SPECTRA & FLUXES
66-049A-03C
PHA DATA

800 BPI, 7-track, Binary tape, XDS 930 COMPUTER

D#	C#	PULSE RATE TAPE #	FILES	START - STOP
D-00178	C-03620	1318	614	6/09/66 - 7/01/66
D-00179	C-03621	1819	414	7/01/66 - 7/23/66
D-05411	C-03622	1820	466	8/03/66 - 9/19/66
D-05412	C-03623	1821	238	8/24/66 - 9/17/66
D-05413	C-03624	1822	417	9/19/66 - 10/17/66
D-05414	C-03625	1823	327	10/16/66 - 11/12/66
D-05415	C-03626	1824	326	11/12/66 - 12/10/66
D-05416	C-03627	1825	422	12/10/66 - 1/05/67
D-05417	C-03628	1826	419	1/05/67 - 2/02/67
D-05418	C-03629	1827	436	2/02/67 - 2/28/67
D-05419	C-03630	1828	386	3/01/67 - 3/29/67
D-05420	C-03631	1829	367	3/28/67 - 4/23/67
D-05421	C-03632	1830	369	4/23/67 - 5/20/67
D-05422	C-03633	1831	383	5/21/67 - 6/16/67
D-05423	C-03634	1832	819	6/17/67 - 8/10/67
D-05424	C-03635	1834	639	8/10/67 - 10/03/67
D-05425	C-03636	1836	486	10/03/67 - 11/11/67
D-05426	C-03637	1837	317	10/29/67 - 11/26/67
D-05427	C-03638	1839	348	12/23/67 - 1/19/68
D-05428	C-03639	1840	335	1/19/68 - 2/14/68
D-05429	C-03640	1841	606	2/14/68 - 4/09/68
D-05430	C-03641	9826	237	1/05/67 - 2/08/67
D-05526	C-03904	9826	237	1/05/67 - 2/08/67

NOTE: Tape D-05417 was bad so we used Bob Johnson's program, dupe & compare, which removed the parity error on the tape. The program disregarded record 10 of file 15.

OGO-1 COSMIC RAY SPECTRA & FLUXES
64-054A-18C
PHA DATA

800 BPI, 7-track, Binary tape.

XDS 930 COMPUTER

D#	C#	PULSE RATE TAPE #	FILES	START/STOP
D-05523	C-03901	1821	351	09/04/66-12/08/66
D-05524	C-03902	1828	380	3/03/67 - 6/05/67
D-05525	C-03903	1834	299	09/03/67-11/25/67

66-049A-03C

D-5894	C-4871	1344	199	5/1/66 - 6/2/68
D-5895	C-4872	1845	197	6/2/68 - 6/28/68
D-5896	C-4873	1846	251	6/29/68 - 7/25/68
D-5897	C-4874	1847	230	7/26/68 - 8/14/68
D-5898	C-4875	9826	130	1/6/67 - 2/2/67
D-5899	C-4876	9827	108	2/3/67 - 2/10/67

TO:

FROM:

SUBJECT:

D-0542

have

sent

has

to

files

ignore

D-04910

Chicago

D-05900

as

186 and

April 23, 1971

TO: J. Johns, KNS

FROM: J. Brecht, NSSDC

SUBJECT: Magnetic tapes from U of Chicago Experiment on OGO 3
(data set 66-049A-03C) and (66-049A-03A)

This memo is to serve as a release for magnetic tapes D-05430 and D-05526 (and associated C numbers) both of which have the U of Chicago code number 9826. Tape D-05898 was sent by the U of Chicago to replace these two tapes and also has U of Chicago code number 9826. This latter tape appears to also have count rate data following the 130 physical files of pulse height data. The count rate data should be ignored.

This memo is also to serve as a release for magnetic tapes D-04813 and D-04814 (and associated C numbers) which have U of Chicago code numbers 1844 and 1846, respectively. Magnetic tapes D-05900 and D-05902 have been sent to NSSDC by the U of Chicago as replacements for these two tapes. The replacement tapes contain 150 and 251 files, respectively.

66-049A-03C

64-054A-18C

OGO-A/B

PULSE HEIGHT TAPE DESCRIPTION

Jan., 1970

THESE TAPES WERE GENERATED
ON A XDS 930 COMPUTER. THIS WAS
VERIFIED BY A PHONE CALL TO UNIVERSITY
OF CHICAGO BY JULIUS BRACHT.

03C

1BC

CONTENTS

- I. General Note
- II. Pulse Height Tape Preparation
 - A. General Scheme
 - B. Details of Algorithm
 - C. Output Tape Accounting
 - 1. Log
 - 2. Tapes
- III. Pulse Height Tape Description

FOR DATE

JOHN SCHNEIDER

OGO PULSE HEIGHT TAPE

I. general note

The Pulse Height Tape is essentially a copy of the pulse height information on the extracted data tapes. Also included are the time and quality of data.

Each output file corresponds to one extract data file. The output files are not necessarily time ordered. Because the compaction is great, more than one solar rotation will appear on a Pulse Height Tape. If there is insufficient good, non-fill, or non-zero data in a given file, that file will not appear on the Pulse Height Tape.

(II. A.,B.) Details of Algorithm and General Scheme

Each subcom sequence or physical record of an extract file has 128 frames. These are tested in pairs for noise accordingly: the 1 st and 2 nd, the 3 rd and 4 th, etc.

The following tests are made on each non-fill frame pair to detect telemetry noise.

1. Spacecraft clock. The entire 27 bits of the spacecraft clock are tested. The low order 12 bits change by 0 or 1 for 8 kb or 64 kb data or by 1 or 2 for 1 kb and playback data. If the change is greater than 2, the pair is considered noisy. The high order 13 bits must not change.

2. Frame I. D. The frame number must be correct or the frame pair is considered noisy.

3. Opep Angle. The maximum permitted changes in the opep angle is ten degrees.

Thus about 84 bits in each frame pair are checked for single bit errors, and any such error causes rejection of the frame pair.

The entire subcom sequence is rejected if the number of bad frame pairs times ten is greater than the number of good frame pairs.

The same occurs if the number of zeros or fill pairs total more than 122 (out of a possible 128).

Details of Algorithm (continued)

If the file has none of the extracted subcom sequences accepted, the file is omitted from the Pulse Height Tape.

Upon passing these tests, if the digital rate bits are zero for either frame pair, the number of zeros is incremented by 2.

After this the frame pair is examined for events. If there is no event, the number of resets is incremented by 1; if there is an event, it is stored in a buffer.

(II.C. 1) The Pulse Height Tape Log

Figure 1 is a sample of the Pulse Height Log. The top line gives the spacecraft name and Pulse Height Tape number. The items in the columns are:

EXTRACT RUN, TAPE, FILE. The run number, extracted tape and file numbers.

BIT RATE. The type of telemetry in the original data file.

1 KB (1 kb real-time)
8 KB (8 kb real-time)
64 KB (64 kb real-time)
PLAY (Storage Playback- 1 kb frame rate)

START, END TIMES. The start time for each file is obtained from the extract file header. The end time is that of the last good record of data included in the file. If the end day is less than the start day, add 1 to the start year to get the end year.

The times are given in year, days (Jan 1=1), hours, minutes, and hundredths of a minute.

Pulse Height Tape Log (continued)

Frames Bookkeeping Information.

- GOOD. Total number of frames that are not fill, bad, or zero.
- BAD. The total number of noisy frames. The relation of BAD to GOOD is used to determine whether the data in a given record is to be included on the Pulse Height Tape.
- FILL. The total number of frames with at least one fill.
- RESETS. Given the total number of good frames, the number of frames in which no event is registered is the number of resets.
- ZERO. The total number of non-fill, not bad, frames in which the digital rate bits were all zero in at least one frame of the pair checked. For real-time data, a large number here indicates that the experiment was off during part of the file. For playback, a large number here reflects missing digital pulse height information due to concurrent real-time transmissions (usually) or indicates that the experiment was off during some of the time covered by the file (rarely).

Pulse Height Tape Log (continued)

EXTRACT SCS. The total number of subcom sequences or physical records for a given Run, Tape, File.

SCS ACCEPTED. The total number of subcom sequences of the extract sos that were included on the Pulse Height Tape. These subcom sequences were not mostly fill, zero, or had a ratio of bad to good frame pairs in a given record greater than ten percent.

OUTPUT FILE. The number of the output file on the Pulse Height Tape. This should count consecutively from 1.

This number is one less than the physical file number on the tape.

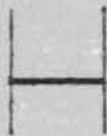
800-8

EXTRACT RUN	TAPE	FILE	BIT RATE	START YEAR	DAY	TIME	END DAY	TIME	FRAMES		
									GOOD	BAD	FILL
414	1	10	1KB	1967	179	23:20.68	180	11:3.91	5384	104	16
414	1	11	1KB	1967	180	11:6.35	180	2:54.51	5348	102	54
414	1	12	1KB	1967	180	2:56.96	180	4:45.10	5478	116	38
414	1	13	1KB	1967	180	4:47.54	180	6:40.60	5806	106	104
414	1	14	1KB	1967	180	6:40.60	180	7:56.79	3724	74	42
422	1	15	1KB	1967	180	8:19.6	180	9:49.84	4674	238	80
422	1	1	1KB	1967	186	22:10.24	186	23:48.55	4816	158	18
422	1	2	1KB	1967	186	23:52.6	187	1:41.64	5210	172	122
422	1	3	1KB	1967	187	1:48.96	187	3:12.53	4344	88	48
422	1	4	8KB	1967	187	3:15.6	187	5:4.73	26594	662	2
422	1	5	8KB	1967	187	5:5.4	187	6:55.63	30268	700	2
422	1	6	8KB	1967	187	7:45.38	187	9:36.90	38096	784	32
422	1	7	8KB	1967	187	9:36.89	187	11:27.80	42872	1028	132
422	1	8	8KB	1967	187	11:27.49	187	13:18.70	45584	784	96
422	1	9	8KB	1967	187	13:18.38	187	14:9.70	21154	350	0
422	1	10	64KB	1967	187	14:10.14	187	14:24.2	45270	62	108
422	1	11	64KB	1967	187	14:23.98	187	14:37.96	45324	60	56
422	1	12	64KB	1967	187	14:37.23	187	14:50.94	44518	24	2
425	1	1	64KB	1967	189	15:41.14	189	15:55.14	46636	18	66
425	1	2	64KB	1967	189	15:55.16	189	16:8.96	46074	6	0
425	1	3	64KB	1967	189	16:8.11	189	16:22.9	46368	4	52
425	1	4	64KB	1967	189	16:22.13	189	16:35.96	7936	0	0
425	1	5	64KB	1967	189	16:35.26	189	16:49.28	46692	2	154
425	1	6	64KB	1967	189	16:49.23	189	17:2.95	45800	4	20
425	1	7	64KB	1967	189	17:2.24	189	17:15.1	42514	8	102
425	1	8	64KB	1967	189	17:15.3	189	18:10.0	16454	6	180
425	1	9	64KB	1967	189	18:10.31	189	18:24.97	15570	2	44
425	1	10	64KB	1967	189	18:24.98	189	18:48.93	33224	18	38
425	1	11	8KB	1967	189	18:48.99	189	20:37.91	46056	18	58
425	1	12	8KB	1967	189	20:38.21	189	22:28.81	46050	24	134
425	1	13	8KB	1967	189	22:29.11	190	0:19.71	46186	22	0
425	1	14	8KB	1967	190	0:20.31	190	1:59.85	41428	16	156
425	1	15	1KB	1967	190	2:0.24	190	3:49.32	5662	112	114
408	1	1	1KB	1967	190	3:51.73	190	5:39.87	5242	108	28
OMITTED DUE TO LACK OF GOOD DATA											
408	1	2	1KB	1967	171	9:5.98	171	10:46.76	5272	104	0
408	1	3	64KB	1967	171	10:50.3	171	11:4.64	46516	54	150
408	1	4	64KB	1967	171	11:16.49	171	11:30.48	45666	86	72
408	1	5	64KB	1967	171	11:43.99	171	11:54.98	36722	4	10
408	1	6	1KB	1967	172	0:36.58	172	2:17.35	5106	134	8
408	1	7	1KB	1967	172	2:22.26	172	4:10.40	5490	102	40
408	1	8	1KB	1967	172	4:12.84	172	6:0.99	5618	132	10
408	1	9	1KB	1967	172	6:10.81	172	7:54.4	5240	168	76
408	1	10	1KB	1967	172	7:54.3	172	8:38.27	1962	60	26
408	1	11	1KB	1967	172	8:45.64	172	10:28.87	5316	156	32
408	1	12	1KB	1967	172	10:31.31	172	12:21.92	5630	174	84
408	1	13	1KB	1967	172	12:29.28	172	14:12.51	5242	206	56
408	1	14	1KB	1967	172	14:19.88	172	16:8.1	5582	160	16
408	1	15	1KB	1967	172	16:30.13	172	17:53.69	840	66	116

PULSE HEIGHT TAPE NUMBER 2

	FRAMES GOOD	BAD	FILL	RESETS	PLAY INT.	EXTRACT SCS	SCS ACCEPTED	OUTPUT FILE
	5384	104	16	3253	0	43	43	50
	5348	102	54	3198	0	43	43	51
	5478	116	38	3530	0	46	44	52
	5806	106	104	3976	0	47	47	53
	3724	74	42	2334	0	31	39	54
	4674	238	80	3278	0	42	39	55
	4816	158	18	1928	0	41	39	56
	5210	172	122	2086	0	46	43	57
	4344	88	48	1539	0	35	35	58
	26594	662	8	22718	0	359	213	59
	30268	700	8	26669	0	362	242	60
	38096	784	32	33701	0	364	304	61
	42872	1028	132	35806	0	362	344	62
	45584	784	96	23265	0	363	363	63
	21154	350	0	2152	0	168	168	64
	45270	62	108	30571	0	362	355	65
	45324	60	56	33837	0	365	355	66
	44918	24	2	34658	0	358	348	67
	48636	18	66	46450	0	365	365	68
	46074	6	0	45885	0	360	360	69
	46368	4	92	46137	0	365	363	70
	7936	0	0	7898	0	62	62	71
	46692	2	154	46496	0	366	366	72
	45800	4	20	45598	0	359	358	73
	42514	8	102	42235	0	334	333	74
	16454	6	180	3343	0	130	130	75
	15570	2	44	10384	0	122	122	76
	33224	18	38	32986	0	260	260	77
	46056	18	6	43970	0	360	360	78
	46050	24	134	43848	0	361	361	79
	46186	22	0	43759	0	362	361	80
	41428	16	156	39130	0	325	325	81
	5662	112	114	3604	0	46	46	82
	5242	108	26	3184	0	45	42	83
	5272	104	0	51	0	43	42	84
	46516	54	150	1892	0	381	365	85
	45666	86	72	5645	0	365	358	86
	36722	4	10	6638	0	288	287	87
	5106	134	8	175	0	43	41	88
	5490	102	40	1133	0	45	44	89
	5618	132	10	1142	0	46	45	90
	5240	188	76	1069	0	43	43	91
	1962	60	26	367	0	16	16	92
	5316	156	32	1067	0	44	43	93
	5630	174	84	1085	0	46	46	94
	5242	206	56	1093	0	43	43	95
	5582	160	18	1239	0	46	45	96
	840	66	118	176	0	38	8	97

(II. C. 2.) Tape Structure.



A logical division greater
than one physical record.



A logical division corresponding
to a physical record boundary.

OGO PULSE HEIGHT TAPE

Beginning of tape.



Tape Header Record (56 characters) (I)

Data Files (II)

number of files variable

lengths variable

(II)

DATA FILE



File Header Record (25 characters) (A)

Data Records (1096 characters) (B)
number of records variable

(II. A.) File Header Record

chars.

1-4	decimal integer (run number)
5-6	" " (tape number)
7-8	" " (file number)
9-10	" " (year)
	Year of start of data (less 1900).
11-12	decimal integer (type of data)
0	1 kb real-time
1	8 kb real-time
2	64 kb real-time
3	Playback recorded at 1 kb
13-15	decimal integer (day)
	Day of year (Jan 1=1) of start of file.
16-20	decimal integer (seconds of day)
	Start time in seconds of the day for this file.
21-25	decimal integer (output file number)
	This is the physical file plus 1.
26-40	blank

(II. B.) Pulse Height Data Record

4096 Characters

chars.

1-4052 One or more Pulse Height Blocks followed by
36 binary 1 bits.

4053-4064 blank

4065-4096 Bookkeeping information for log purposes.

Pulse Height Block

III.

chars.

1-5 36-bit integer (milliseconds of day)

This is obtained from the subcom sequence header,

7-8 12-bit integer (good pairs)

9-10 " (bad ")

11-12 " (fill ")

13-14 " (resets ")

15-16 " (zero ")

17-272 From 0 to 128 sets of 12-bit integers. Each set is the channel number of the event that occurred, the range being 1-511, right justified.

Following the data is a 12 to 24-bit string of 1's.

Begins at first full four character word boundary after last set of data.

III. Pulse Height Tape Description.

(I) Tape Header Record

14 characters

chars.

- 1-24 BCD text "OGO-A_PULSE_HEIGHT_TAPE_" for OGO-A,
and "OGO-B_PULSE_HEIGHT_TAPE_" for OGO-B.
- 25-28 decimal integer (Pulse Height Tape number)
- 29-32 blank
- 33-44 BCD text "COLLECTED_^^"
- 45-52 blank

Bookkeeping Information

The last 32 characters of each data record after Pulse Height Tape File Headers. This is a running account of the time and character of data from the start of the file.

chars.

4065-70 36-bit integer (milliseconds of day)

This is obtained from the last good subcom sequence read before writing a given data record.

4071-72 12-bit integer (day of year)

4073-76 24-bit integer (good frame pairs)

4077-80 " (bad " ")

4081-84 " (fill " ")

4085-88 " (resets " ")

4089-92 " (zero " ")

4093-94 12 " (extracted scs)

4095-96 12 " (subcom sequences accepted)

807009

MAGNETIC TAPE FORMAT DESCRIPTION
FOR DATA SETS
64-054A-18C (OGO. 1) and 66-049A-03C (OGO 3)

February 1971



NATIONAL SPACE SCIENCE DATA OF
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • GPO: 1971 SPACE FLIGHT CENTER

MAGNETIC TAPE FORMAT DESCRIPTION FOR DATA SETS

64-054A-18C (OGO 1) and 66-049A-03C (OGO 3)

This document contains a description of the preparation of the University of Chicago proton-alpha telescope pulse height analyzer data on magnetic tape from the OGO 1 and OGO 3 experiments. The document also contains a detailed description of the data format used. This unpublished description was provided by W. Schroeder at the University of Chicago.

OGO - A/3

PULSE HEIGHT TAPE DESCRIPTION

January 1971

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- II. Pulse Height Tape Preparation
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I. General note

The pulse height tape description is to be added to the description of the counting rate procedure and resulting data by Wm. Nixon and B. McKibben.

II. Pulse Height Tape Preparation

A. General Scheme

An OGO-A/B Chicago Pulse Height Tape is a subcom by subcom sequence summary of pulse height data recorded by the proton-alpha telescope of the University of Chicago experiment, which responds primarily to protons and alpha particles in the energy range 1.5 to 30 MeV/nucleon.

The tapes are generated from the OGO-A/B extracted tapes described elsewhere in this document. Each file on the output tape corresponds to one file of the extracted tape which corresponds to one ground station pass. Each file on the output tape contains a file header and one or more physical records 4096 characters in length. The file header contains the time found in the extracted file header. Within each record, the unit of data is the pulse height block, which corresponds to the subcom sequence on the extracted tape.

In each block are recorded the time of day at which the sequence started, a list of non-null pulse height events from the sequence, a count of the number of frames found to contain telemetry noise, the number of frames found free of such noise, the number of null pulse-height events (called resets below), the number of frames containing fill, and the number of frames in which data were not transmitted from the instrument (called zeros below).

The files on an output tape are not time ordered within the tape, but all files containing data from a given solar rotation are collected onto one, or at most, four tapes. Some tapes may contain data from more than one solar rotation.

B. Details of Algorithm

Each subcom sequence or physical record of an extract data file has 128 frames. These frames are tested for noise in pairs accordingly: the 1st. and 2nd, the 3rd and 4th, etc.

Although tests are made on pairs of frames, bookkeeping refers to the number of frames - not number of frame pairs.

The following tests are made on each non-fill frame pair to detect telemetry noise.

1. Spacecraft clock. The low order 18 bits of the spacecraft clock reading must change by 0 or 1 for 8 kb and 64 kb data, 1 or 2 for 1 kb and playback data. If the change is greater than 2, the pair is considered noisy. This amounts to a test on about 32 bits in the frame pair.

2. Frame I.D. The frame number must be correct or the frame pair is considered noisy. This is a test on ...

3. Opep Angle. The maximum permitted changes in the opep angle is ten degrees. This amounts to a test of about 12 bits.

Thus about 58 bits in each frame pair are checked for single bit errors, and any such error causes rejection of the frame pair.

The entire subcom sequence is rejected if the number of bad frames times ten is greater than the number of good frames, or if the number of zero frames or fill frames total more than 122 (out of a possible 128). The subcom sequence is rejected if a read error occurs.

If the file has none of the extracted subcom sequences accepted, the file is omitted from the pulse height tape.

Upon passing these tests, if the digital rate bits are zero for either frame of a frame pair, the number of zeros is incremented by 2.

If no event occurs ($D1'$ channel number equals zero) in a frame, and the rate bits are not zero, the number of resets is incremented by 1; if the $D1'$ channel number is greater than zero, the channel number is added to the sequence list of events. (Channel numbers less than 256 are assigned to $D1'$ $\overline{D2'}$ $\overline{D4'}$ and channel numbers greater than 256 are assigned to $D1'$ $D2'$ $\overline{D4'}$.) In either case, the number of good frames is incremented by 1.

C. Output Tape Accounting

The data for a solar rotation is found on one or more pulse height tapes. Tables 1 and 2 give the pulse height tapes containing data from a given solar rotation for CGO-A and CGO-B, respectively.

Table 1, CGO-A, gives the pulse height tapes for the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212th, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 300th, 301st, 302nd, 303rd, 304th, 305th, 306th, 307th, 308th, 309th, 310th, 311st, 312th, 313th, 314th, 315th, 316th, 317th, 318th, 319th, 320th, 321st, 322nd, 323rd, 324th, 325th, 326th, 327th, 328th, 329th, 330th, 331st, 332nd, 333rd, 334th, 335th, 336th, 337th, 338th, 339th, 340th, 341st, 342nd, 343rd, 344th, 345th, 346th, 347th, 348th, 349th, 350th, 351st, 352nd, 353rd, 354th, 355th, 356th, 357th, 358th, 359th, 360th, 361st, 362nd, 363rd, 364th, 365th, 366th, 367th, 368th, 369th, 370th, 371st, 372nd, 373rd, 374th, 375th, 376th, 377th, 378th, 379th, 380th, 381st, 382nd, 383rd, 384th, 385th, 386th, 387th, 388th, 389th, 390th, 391st, 392nd, 393rd, 394th, 395th, 396th, 397th, 398th, 399th, 400th, 401st, 402nd, 403rd, 404th, 405th, 406th, 407th, 408th, 409th, 410th, 411st, 412th, 413th, 414th, 415th, 416th, 417th, 418th, 419th, 420th, 421st, 422nd, 423rd, 424th, 425th, 426th, 427th, 428th, 429th, 430th, 431st, 432nd, 433rd, 434th, 435th, 436th, 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723rd, 724th, 725th, 726th, 727th, 728th, 729th, 730th, 731st, 732nd, 733rd, 734th, 735th, 736th, 737th, 738th, 739th, 740th, 741st, 742nd, 743rd, 744th, 745th, 746th, 747th, 748th, 749th, 750th, 751st, 752nd, 753rd, 754th, 755th, 756th, 757th, 758th, 759th, 760th, 761st, 762nd, 763rd, 764th, 765th, 766th, 767th, 768th, 769th, 770th, 771st, 772nd, 773rd, 774th, 775th, 776th, 777th, 778th, 779th, 780th, 781st, 782nd, 783rd, 784th, 785th, 786th, 787th, 788th, 789th, 790th, 791st, 792nd, 793rd, 794th, 795th, 796th, 797th, 798th, 799th, 800th, 801st, 802nd, 803rd, 804th, 805th, 806th, 807th, 808th, 809th, 810th, 811st, 812th, 813th, 814th, 815th, 816th, 817th, 818th, 819th, 820th, 821st, 822nd, 823rd, 824th, 825th, 826th, 827th, 828th, 829th, 830th, 831st, 832nd, 833rd, 834th, 835th, 836th, 837th, 838th, 839th, 840th, 841st, 842nd, 843rd, 844th, 845th, 846th, 847th, 848th, 849th, 850th, 851st, 852nd, 853rd, 854th, 855th, 856th, 857th, 858th, 859th, 860th, 861st, 862nd, 863rd, 864th, 865th, 866th, 867th, 868th, 869th, 870th, 871st, 872nd, 873rd, 874th, 875th, 876th, 877th, 878th, 879th, 880th, 881st, 882nd, 883rd, 884th, 885th, 886th, 887th, 888th, 889th, 890th, 891st, 892nd, 893rd, 894th, 895th, 896th, 897th, 898th, 899th, 900th, 901st, 902nd, 903rd, 904th, 905th, 906th, 907th, 908th, 909th, 910th, 911st, 912th, 913th, 914th, 915th, 916th, 917th, 918th, 919th, 920th, 921st, 922nd, 923rd, 924th, 925th, 926th, 927th, 928th, 929th, 930th, 931st, 932nd, 933rd, 934th, 935th, 936th, 937th, 938th, 939th, 940th, 941st, 942nd, 943rd, 944th, 945th, 946th, 947th, 948th, 949th, 950th, 951st, 952nd, 953rd, 954th, 955th, 956th, 957th, 958th, 959th, 960th, 961st, 962nd, 963rd, 964th, 965th, 966th, 967th, 968th, 969th, 970th, 971st, 972nd, 973rd, 974th, 975th, 976th, 977th, 978th, 979th, 980th, 981st, 982nd, 983rd, 984th, 985th, 986th, 987th, 988th, 989th, 990th, 991st, 992nd, 993rd, 994th, 995th, 996th, 997th, 998th, 999th, 1000th, 1001st, 1002nd, 1003rd, 1004th, 1005th, 1006th, 1007th, 1008th, 1009th, 1010th, 1011st, 1012th, 1013th, 1014th, 1015th, 1016th, 1017th, 1018th, 1019th, 1020th, 1021st, 1022nd, 1023rd, 1024th, 1025th, 1026th, 1027th, 1028th, 1029th, 1030th, 1031st, 1032nd, 1033rd, 1034th, 1035th, 1036th, 1037th, 1038th, 1039th, 1040th, 1041st, 1042nd, 1043rd, 1044th, 1045th, 1046th, 1047th, 1048th, 1049th, 1050th, 1051st, 1052nd, 1053rd, 1054th, 1055th, 1056th, 1057th, 1058th, 1059th, 1060th, 1061st, 1062nd, 1063rd, 1064th, 1065th, 1066th, 1067th, 1068th, 1069th, 1070th, 1071st, 1072nd, 1073rd, 1074th, 1075th, 1076th, 1077th, 1078th, 1079th, 1080th, 1081st, 1082nd, 1083rd, 1084th, 1085th, 1086th, 1087th, 1088th, 1089th, 1090th, 1091st, 1092nd, 1093rd, 1094th, 1095th, 1096th, 1097th, 1098th, 1099th, 1100th, 1101st, 1102nd, 1103rd, 1104th, 1105th, 1106th, 1107th, 1108th, 1109th, 1110th, 1111st, 1112th, 1113th, 1114th, 1115th, 1116th, 1117th, 1118th, 1119th, 1120th, 1121st, 1122nd, 1123rd, 1124th, 1125th, 1126th, 1127th, 1128th, 1129th, 1130th, 1131st, 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1257th, 1258th, 1259th, 1260th, 1261st, 1262nd, 1263rd, 1264th, 1265th, 1266th, 1267th, 1268th, 1269th, 1270th, 1271st, 1272nd, 1273rd, 1274th, 1275th, 1276th, 1277th, 1278th, 1279th, 1280th, 1281st, 1282nd, 1283rd, 1284th, 1285th, 1286th, 1287th, 1288th, 1289th, 1290th, 1291st, 1292nd, 1293rd, 1294th, 1295th, 1296th, 1297th, 1298th, 1299th, 1300th, 1301st, 1302nd, 1303rd, 1304th, 1305th, 1306th, 1307th, 1308th, 1309th, 1310th, 1311st, 1312nd, 1313rd, 1314th, 1315th, 1316th, 1317th, 1318th, 1319th, 1320th, 1321st, 1322nd, 1323rd, 1324th, 1325th, 1326th, 1327th, 1328th, 1329th, 1330th, 1331st, 1332nd, 1333rd, 1334th, 1335th, 1336th, 1337th, 1338th, 1339th, 1340th, 1341st, 1342nd, 1343rd, 1344th, 1345th, 1346th, 1347th, 1348th, 1349th, 1350th, 1351st, 1352nd, 1353rd, 1354th, 1355th, 1356th, 1357th, 1358th, 1359th, 1360th, 1361st, 1362nd, 1363rd, 1364th, 1365th, 1366th, 1367th, 1368th, 1369th, 1370th, 1371st, 1372nd, 1373rd, 1374th, 1375th, 1376th, 1377th, 1378th, 1379th, 1380th, 1381st, 1382nd, 1383rd, 1384th, 1385th, 1386th, 1387th, 1388th, 1389th, 1390th, 1391st, 1392nd, 1393rd, 1394th, 1395th, 1396th, 1397th, 1398th, 1399th, 1400th, 1401st, 1402nd, 1403rd, 1404th, 1405th, 1406th, 1407th, 1408th, 1409th, 1410th, 1411st, 1412nd, 1413rd, 1414th, 1415th, 1416th, 1417th, 1418th, 1419th, 1420th, 1421st, 1422nd, 1423rd, 1424th, 1425th, 1426th, 1427th, 1428th, 1429th, 1430th, 1431st, 1432nd, 1433rd, 1434th, 1435th, 1436th, 1437th, 1438th, 1439th, 1440th, 1441st, 1442nd, 1443rd, 1444th, 1445th, 1446th, 1447th, 1448th, 1449th, 1450th, 1451st, 1452nd, 1453rd, 1454th, 1455th, 1456th, 1457th, 1458th, 1459th, 1460th, 1461st, 1462nd, 1463rd, 1464th, 1465th, 1466th, 1467th, 1468th, 1469th, 1470th, 1471st, 1472nd, 1473rd, 1474th, 1475th, 1476th, 1477th, 1478th, 1479th, 1480th, 1481st, 1482nd, 1483rd, 1484th, 1485th, 1486th, 1487th, 1488th, 1489th, 1490th, 1491st, 1492nd, 1493rd, 1494th, 1495th, 1496th, 1497th, 1498th, 1499th, 1500th, 1501st, 1502nd, 1503rd, 1504th, 1505th, 1506th, 1507th, 1508th, 1509th, 1510th, 1511st, 1512nd, 1513rd, 1514th, 1515th, 1516th, 1517th, 1518th, 1519th, 1520th, 1521st, 1522nd, 1523rd, 1524th, 1525th, 1526th, 1527th, 1528th, 1529th, 1530th, 1531st, 1532nd, 1533rd, 1534th, 1535th, 1536th, 1537th, 1538th, 1539th, 1540th, 1541st, 1542nd, 1543rd, 1544th, 1545th, 1546th, 1547th, 1548th, 1549th, 1550th, 1551st, 1552nd, 1553rd, 1554th, 1555th, 1556th, 1557th, 1558th, 1559th, 1560th, 1561st, 1562nd, 1563rd, 1564th, 1565th, 1566th, 1567th, 1568th, 1569th, 1570th, 1571st, 1572nd, 1573rd, 1574th, 1575th, 1576th, 1577th, 1578th, 1579th, 1580th, 1581st, 1582nd, 1583rd, 1584th, 1585th, 1586th, 1587th, 1588th, 1589th, 1590th, 1591st, 1592nd, 1593rd, 1594th, 1595th, 1596th, 1597th, 1598th, 1599th, 1600th, 1601st, 1602nd, 1603rd, 1604th, 1605th, 1606th, 1607th, 1608th, 1609th, 1610th, 1611st, 1612nd, 1613rd, 1614th, 1615th, 1616th, 1617th, 1618th, 1619th, 1620th, 1621st, 1622nd, 1623rd, 1624th, 1625th, 1626th, 1627th, 1628th, 1629th, 1630th, 1631st, 1632nd, 1633rd, 1634th, 1635th, 1636th, 1637th, 1638th, 1639th, 1640th, 1641st, 1642nd, 1643rd, 1644th, 1645th, 1646th, 1647th, 1648th, 1649th, 1650th, 1651st, 1652nd, 1653rd, 1654th, 1655th, 1656th, 1657th, 1658th, 1659th, 1660th, 1661st, 1662nd, 1663rd, 1664th, 1665th, 1666th, 1667th, 1668th, 1669th, 1670th, 1671st, 1672nd, 1673rd, 1674th, 1675th, 1676th, 1677th, 1678th, 1679th, 1680th, 1681st, 1682nd, 1683rd, 1684th, 1685th, 1686th, 1687th, 1688th, 1689th, 1690th, 1691st, 1692nd, 1693rd, 1694th, 1695th, 1696th, 1697th, 1698th, 1699th, 1700th, 1701st, 1702nd, 1703rd, 1704th, 1705th, 1706th, 1707th, 1708th, 1709th, 1710th, 1711st, 1712nd, 1713rd, 1714th, 1715th, 1716th, 1717th, 1718th, 1719th, 1720th, 1721st, 1722nd, 1723rd, 1724th, 1725th, 1726th, 1727th, 1728th, 1729th, 1730th, 1731st, 1732nd, 1733rd, 1734th, 1735th, 1736th, 1737th, 1738th, 1739th, 1740th, 1741st, 1742nd, 1743rd, 1744th, 1745th, 1746th, 1747th, 1748th, 1749th, 1750th, 1751st, 1752nd, 1753rd, 1754th, 1755th, 1756th, 1757th, 1758th, 1759th, 1760th, 1761st, 1762nd, 1763rd, 1764th, 1765th, 1766th, 1767th, 1768th, 1769th, 1770th, 1771st, 1772nd, 1773rd, 1774th, 1775th, 1776th, 1777th, 1778th, 1779th, 1780th, 1781st, 1782nd, 1783rd, 1784th, 1785th, 1786th, 178

D. The Pulse Height Tape Log

Figure 1 is a sample of the pulse height log. The top line gives the spacecraft name and pulse height tape number. The items in the columns are:

EXTRACT RUN, TAPE, FILE. The run number, extracted tape and file numbers.

BIT RATE. The type of telemetry in the original data file.

1 KB (1kb real-time)

8 KB (8 kb real-time)

64 KB (64 kb real-time)

PLAY (Storage Playback - 1 kb frame rate)

START, END TIMES. The start time for each file is obtained from the extracted file header. The end time is that of the last good record of data included in the file. If the end day is less than the start day, add 1 to the start year to get the end year.

The times are given in year, days (Jan 1 = 1), hours, minutes, and hundredths of a minute.

GOOD Total number of frames that are not fill, bad, or zero.

BAD The total number of detectably noisy frames. The relation of BAD to GOOD is used to determine whether the data in a given record is to be included on the pulse height tape.

FILL The total number of frames with at least one frame fill in the pair tested.

RESETS. Given the total number of good frames, the total number of frames in which no event is registered is the number of resets.

ZERO. The total number of non-fill, non-noisy(not bad frames)in which the digital rate bits were all zero in at least one frame of the

pair checked. For real-time data, a large number here indicates that the experiment was off during part of the file. For playback, a large number here reflects missing digital pulse height information due to concurrent real-time transmissions (usually) or indicates that the experiment was off during some of the time covered by the file (rarely).

EXTRACT SCS.

The number of subcom sequences in the original data file.

SCS ACCEPTED.

The number of subcom sequences that were included on the pulse height tape.

OUTPUT FILE.

The number of the output file on the pulse height tape. This should count consecutively from 1. This number is one less than the physical file number on the tape.

Table 1 - OGO-A/I Pulse Height Tapes containing data from a given solar rotation.

SOLAR ROTATION	PULSE HEIGHT TAPES
1821	1821
1822	1821
1823	1821
1824	1821
1828	1828
1829	1828
1830	1828
1831	1828
1834	1834
1835	1834
1836	1834
1837	1834

Table Z - OGO-B/ Pulse Height Tapes containing data from a given solar rotation.

SOLAR ROTATION

1818
1819

1820
1821

1822
1823

1824
1825

1826

1827

1828
1829

1830
1831
1832
1833
1834
1835
1836

1837

1838

PULSE HEIGHT TAPES

1818
1818 (12 hours P. B. Data
1819 from Day 182
1820
1820 (40% of coverage)
1821 (60% of coverage)
1822
1823
1824 (2 hours P. B. Data
from Day 316)
1824
1824 (3 hours P. B. Data
1825 from Day 344)
1826 (1 hour P. B. Data
from Day 5)
1826
1826
1827
1827
1828
1828
1828 (2 hours P. B. Data from
1829 Day 88)
1830 (9 hours P. B. Data from
Day 113)
1830
1831
1832
1832
1834
1834
1834
1834 (1 hour R. T. Data from
Day 276)
1836 (40% of coverage)
1837 (60% of coverage)
1837 (1 hour P. B. Data from
1838 Day 330)

1839
1840

1841
1842
1843
1844
1845

1846
1847

1839
1839 (2 hours P. B. Data from
1840 Day 19)
1841 (1 hour P. B. Data
from Day 45)
1841
1841
1843
1844
1844 (1 hour P. B. Data from
1845 Day 154)
1846
1847

800-0

PULSE HEIGHT TAPE ALPHEA TUDY

RETRACT	MAN TAPE FILE	EST	START	END	TIME	SEC	TIME	PHASE	FILL	RESULTS	JEOP	RETRACT	SEC	ACCEPTED	OUTPUT
FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE	FILE
100	1	6400	1507	23	01 01 01	23	0120 00	3518	434	318	3232	1	367	371	1
101	2	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	2	131	14	2
102	3	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	3	131	14	3
103	4	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	4	131	14	4
104	5	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	5	131	14	5
105	6	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	6	131	14	6
106	7	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	7	131	14	7
107	8	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	8	131	14	8
108	9	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	9	131	14	9
109	10	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	10	131	14	10
110	11	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	11	131	14	11
111	12	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	12	131	14	12
112	13	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	13	131	14	13
113	14	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	14	131	14	14
114	15	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	15	131	14	15
115	16	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	16	131	14	16
116	17	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	17	131	14	17
117	18	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	18	131	14	18
118	19	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	19	131	14	19
119	20	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	20	131	14	20
120	21	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	21	131	14	21
121	22	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	22	131	14	22
122	23	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	23	131	14	23
123	24	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	24	131	14	24
124	25	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	25	131	14	25
125	26	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	26	131	14	26
126	27	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	27	131	14	27
127	28	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	28	131	14	28
128	29	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	29	131	14	29
129	30	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	30	131	14	30
130	31	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	31	131	14	31
131	32	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	32	131	14	32
132	33	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	33	131	14	33
133	34	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	34	131	14	34
134	35	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	35	131	14	35
135	36	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	36	131	14	36
136	37	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	37	131	14	37
137	38	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	38	131	14	38
138	39	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	39	131	14	39
139	40	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	40	131	14	40
140	41	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	41	131	14	41
141	42	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	42	131	14	42
142	43	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	43	131	14	43
143	44	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	44	131	14	44
144	45	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	45	131	14	45
145	46	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	46	131	14	46
146	47	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	47	131	14	47
147	48	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	48	131	14	48
148	49	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	49	131	14	49
149	50	6400	1507	23	0120 00	23	0120 00	3518	434	318	3232	50	131	14	50

III Pulse Height Tape Description

OGO pulse height tapes are standard IBM-compatible 7-channel magnetic tapes recorded with odd (binary) parity at 800 BPI. The description of the contents of the tape uses the following convention:



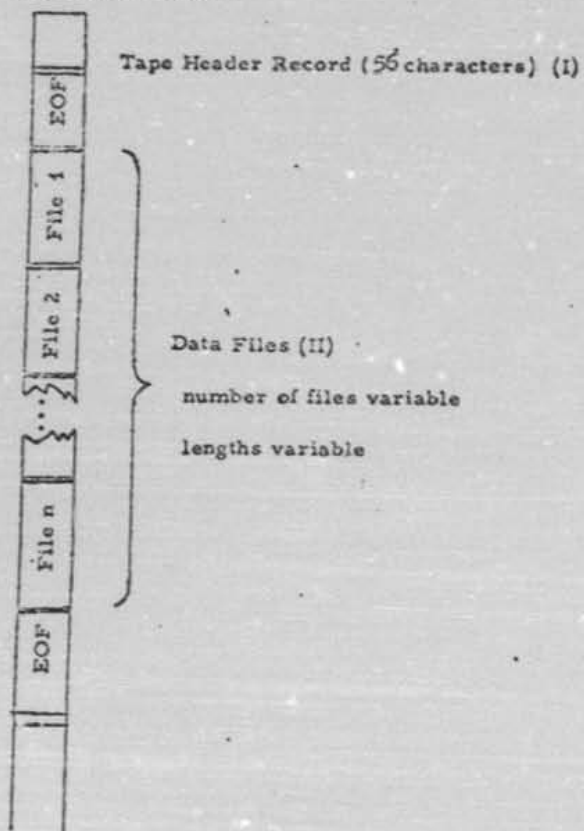
A logical division greater than one physical record.



A logical division corresponding to a physical record boundary.

CGO PULSE HEIGHT TAPE

Beginning of tape.



(1)

cha

1-24

25-2

29-3

33-4

45-5

(I) TAPE HEADER RECORD

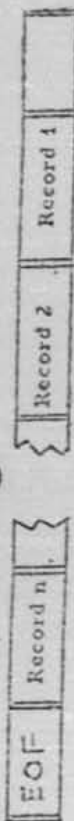
56 Characters

chars.

1-24	BCD text "OGO-A PULSE HEIGHT TAPE " for OGO-A, and "OGO-B PULSE HEIGHT TAPE " for OGO-B.
25-28	decimal integer (Pulse Height, Tape number)
29-32	blank
33-44	BCD text "COLLECTED _{AAA} "
45-56	blank

(II)

DATA FILE



File Header Record (40 characters, (A)

Data Records (4096 characters) (B)
numbers of records variable

(II. A.) FILE HEADER RECORD

Chars.

1-4 decimal integer (run number)
5-6 " " (tape number)
7-8 " " (file number)
9-10 " " (year)

Year of start of data (less 1900).

11-12 decimal integer (type of data)

0 1 kb real-time
1 8 kb real-time
2 64 kb real-time
3 Playback recorded at 1 kb

13-15 decimal integer (day)

Day of year (Jan 1 = 1) of start of file.

16-20 decimal integer (seconds of day)

Start time in seconds of the day for this file.

21-25 decimal integer (output file number)

This is the physical file minus 1.

26-40 blank

(II. B.) PULSE HEIGHT DATA RECORD

4096 Characters

Chars.

1-4052 One or more PULSE HEIGHT BLOCKS (20 to 278 characters)
followed by 36 binary 1 bits.

4053-4064 Blank

4065-4096 Bookkeeping information for log purposes.

(II. B. 1) PULSE HEIGHT BLOCK

Chars. 20 to 278 characters

1-6 36-bit integer (milliseconds of day)

This is obtained from the subcom sequence header on the extracted tapes.

7-8 12-bit integer (good frames)

9-10 " (bad ")

11-12 " (fill ")

13-14 " (resets ")

15-16 " (zero ")

17-272 From 0 to 128 12-bit integers. Each integer is the channel number of a pulse height event. Channels 1 to 255 are assigned to $D1' \overline{D2'} \overline{D4'}$ events and channels 257 to 511 to $D1' D2' \overline{D4'}$ events.

After each block is a 24-bit string of 1's starting at the first full 4-character word boundary. After the last block in the record, there are three words composed of 24-bit strings of 1's.

(II. B. 2) BOOKKEEPING INFORMATION

The last 32 characters of each output data record contains a running account of the time and character of the data from the beginning of the output file. The time is that of the last good subcom sequence read before writing the data record. The frames information is a running total from the beginning of the output file.

Chars.

4065-70 36-bit integer (milliseconds of day)

4071-72 12-bit integer (day of year)

4073-76 24-bit integer (good frames)

4077-80 " (bad ")

4081-84 " (fill ")

4085-88	24-bit integer	(resets frames)
4089-92	"	(zero ")
4093-94	12 "	(extracted subcom sequences examined)
4095-95	12 "	(subcom sequences accepted)

FILE 0001 REC 0001 CH 0056

FILE 0002 REC 0001 CH 0056

FILE 0002 REC 0002 CH 0056

0001 00021112=C01 016400140000 015307000177 035703760011 001300200021 002001
0045 001000000100 000000000000 001200120123 001200250017 777777770002 111124
0067 001300130012 001200150012 001500130013 001477777777 000211160050 020000
0145 002000120012 000077777777 000211164450 020000000000 017200000012 012100
0102 105000200000 000001700000 003400200012 011300150012 001200137777 777700
0241 001200140012 001400130015 001300170015 000077777777 000211202050 020000
0235 777777770002 112044500020 0000000000170 000000130016 001500120011 001500
0337 000000000170 000000110016 001200140013 001200150014 777777770002 112124
0380 017500140030 020000120012 777777770002 112304500164 001400000152 000000
0433 002000127777 777700021131 205001600012 000001500000 001200130011 002200
0481 000211314450 020000000000 016300000014 005400120014 010100210012 002600
0525 000211320050 017500000000 016200000023 001400150001 001502200357 001400
0577 744701760002 000001500000 00200110012 002100220016 001300130015 014000
0625 777777770002 113240470200 000000000155 000000420033 001200140011 001200
0673 000211340447 020000000000 016500000022 022200120013 001200120015 011600
0721 004702000000 000001750000 001200110014 777777770002 11350473200 000000
0769 002000120013 000077777777 000211352447 020000000000 015500000014 001700
0817 001700007777 777700021136 704702000000 000211373447 020000000000 001400200031 001100
0865 001400120016 000077777777 000211373447 004702000000 000001710000 001100140014 00130020
0913 001100007777 777700021140 000001500012 000000000000 001301320017 001400110014 015100
1005 444702000000 000001500000 001201150012 000000000000 000001120013 001300170144 017100
1053 777777770002 114110470200 000000000016 000000000000 000001130111 004400130033 001400
1101 777777770002 114154470200 000000000013 001201340020 0013000670323 015400
1149 000211422047 017600002000 015500000013 001201340020 0013000670323 015400
1201 777777770002 114264470200 000000000017 000000000000 000002000011 007600110055 003277
1249 016300000016 001201410013 001400140111 002250160016 001301000202 000077
1297 016500000076 001400140012 001300150016 001200120062 003700210014 003300
1345 000211444047 020000000000 016200000056 001100160011 001400500013 001200
1393 000211450447 020000000000 016300000012 001300130015 007600120016 001100
1441 000211455047 020000000000 017000000013 000500130013 001300270116 001277
1489 016000000013 020022200013 001100160125 0246000160226 001300130015 00130020
1537 000000000016 000001520025 002600120012 001200730014 001301570012 001200
1585 000000000016 000000110012 001300130012 001300120013 002000160012 001300127777 777700
1633 001200110012 001300130012 001100140014 001600150012 013200220113 007777
1681 016300000014 023500140014 001600170015 002000140021 003300150203 000077
1729 017200000013 001101450016 001400170053 010277777777 000211514447 020000
1777 001300160012 001300130000 777777770002 115213470172 000500000161 000000
1825 001200007777 777700021152 544701740004 000001500000 001600130016 001400
1873 044601660012 000001500000 001200160014 001204140014 001400007777 777700
1921 001400130012 002100110105 015501100021 002000120016 001200147777 777700
1969 001300120012 001400130013 006700137777 777700021163 104607000000 000000
2017 020000140012 001400150014 012000007777 777700021163 544602000000 000001
2065 0012000510014 001400120011 001200110012 001177777777 000211542045 020000
2113 001100110015 001730130244 001400250030 000077777777 000211544446 020000
2161 001200110016 001377777777 000211653945 020000000000 016600000064 004400
2209 777777770002 116574450020 000000000170 000000130047 002002000012 001400
2257 000000000160 000000140012 001200130012 012500120046 001600110035 001300
2305 044002000000 000001620000 001300230012 001300410151 001200150011 001500
2353 004602000000 000001700000 001100120017 001600140014 002000127777 777700
2401 001500530015 001400120070 001202110013 001200130030 777777770002 117064
2449 002000150010 001400140170 001701230113 002377777777 000211712446 020000
2497 001500120013 001300210203 001700120015 002101500000 777777770002 117104
2545 001200120012 001400070016 00120100120 00200130134 001200127777 777700
2593 001400120013 001700550012 001100120014 001400130012 777777770002 117200
2641 001400130036 002100770011 001300130014 001277777777 000211734445 020000
2689 001300120013 014230200064 001200140020 014400130012 777777770002 1174104

2-05894

PH 1844

G-4871

Partial dump

of jms, 199

476443422560 302531273063 606321472550 000034446060 000323444343 252363257460 006060606060

000000000000 010502033511 050200000000 010000000000 000000000000 000000000000

016420140000	015300000177	035703760011	001300200021	002001570000	777777770002	111470500170
000000260033	001200120123	001200250017	777777770002	111424500200	000000000164	000001540012
001200150012	001500130013	001477777777	000211180050	020000000000	017100000045	001100130114
000077777777	000211184450	020000000000	017200000012	012100150015	001500127777	777700021117
000001700000	003400200012	011300150012	001200137777	777700021117	545002000000	000001670000
001400130013	001300170035	000077777777	000211202050	020000000000	017400000014	012601470016
112044500200	000000000170	000000130016	001500120011	001500330012	777777770002	112130500200
000000110015	001200140013	001200150014	777777770002	112174500176	000000000165	000000110106
020000120212	777777770002	112304500164	001400000152	000003760367	034703750014	013700230012
777700021131	205001660012	000001500000	001200130011	002200110040	001100140042	000077777777
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FILE 0002 REC 0002 CH 4095

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153

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FILE 0001 REC 00

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