#245

MARINER 9

INFRARED RADIOMETER

71-051A-01A

(1 Tape)

Table of Contents

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1. INTRODUCTION:

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 This inventory information is now no longer maintained in the DSCs, but is now managed in the inventory part of the NSSDC information system.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

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

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

2. ERRATA/CHANGE LOG:

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

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

Version	Date	Person	Page	Description of Change
01				
02				

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

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

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

4. CATALOG MATERIALS:

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

b. Core Catalog Materials

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10 & 20 MICRON BRIGHT TEMP-MTAPE

71-051A-01A

This data set has been restored. Originally there was one 9-track, 1600 BPI tape, written in Binary. There is one restored tape. The original tape was created on an IBM 370 computer, and the restored tape was created on an IBM 9021 computer. The DR tape is a 3480 cartridge and the DS tape is 9-track, 6250 BPI. The DR and DS number along with their corresponding D number and time span is as follows:

DR#	DS#	DD#	FILES	ORBITS	TIME SPAN
DR-005474	DS-005474	DD-012610	13	1-270	11/14/71 - 03/27/72

REQ. AGENT	RAND NO.	ACQ. AGENT
WPP	RB4685	CDW

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INFRARED RADIOMETER

71-051A-01A

This data set consists of one 1600 BPI, 9 track, binary, unlabeled tape containing 13 files of data. The 'C' tape has been duped at 800 BPI, 7 track, binary with 13 files. The tape is unformated fortran binary, created on an IBM 370/155 computer which has single precision words consisting of four 8 - bit bytes.

D#	C#	FILES	ORBITS	TIME SPAN
D-12610	C-09731	13	1-270	11/14/71 - 03/27/72

INFRARED RADIOMETER REDUCED DATA RECORD FOR MARS MARINER '71

General description of tape:

The tape is unformatted fortran binary, created on an IBM 370/155 computer which has single precision words consisting of four 8-bit bytes.

ntent :

The tape is divided, as described below, into logical records, each of which contains 14 4-byte integer words:

Word number	Quantity	Unit	Remarks
1	DAS time of measurement	count	1
2	10* brightness temperature at 10 μ	^{o}K	2
3	10* brightness temperature at 20 μ	^{o}K	2
4	10* latitude on Mars	degrees	
5	10* longitude on Mars	degrees	3
7	10* local time on Mars	hours	4
	Field of view correction for 10 μ	percent	5
8	Field of view correction for 20 μ	percent	5
9	100* limb angle	degrees	6
10	Scale factor indicating average linear dimension at surface	km	
11	Incidence angle	degrees	
12	Emission angle	degrees	
13	Phase angle	degrees	
14	Number of measurements used to get temperature in this record		

All geometrical quantities are as specified in JPL document no. 900-558, dated September 30, 1972.

Remarks:

1. DAS count = 1.2 seconds of time. The DAS count given is that of the first measurement in the set used to arrive at the average

brightness temperature.

2. If the temperature measurement is missing or has been removed because the absolute field of view correction is greater than 10 percent, the temperature is set to zero.

3. Longitude increases westward.

4. Zero hours local time is defined at local midnight.

5. The field of view correction represents the increase/decrease in energy necessary, on the basis of best fit thermal models, to make the field into an infinite homogeneous temperature field. Only measurements with this correction less than or equal to 10 percent are included in the tape. If the absolute field of view correction of one channel only exceeds 10 percent the field of view correction is set to 99 percent.

6. Only measurements with limb angle less than or equal to -5° are included in this tape.

Each record contains the parameters of an averaged number of data points. Six different tests listed below were made for each point to be added to an averaged group. If any one of these tests was true, the current group was terminated and the current point pointed to start a new group.

Tests for start of a new group:

1. Data path crossed the boundary of one of the 1/5M quadrangles.

2. A time gap greater than 4.8 sec without data.

3. The total data number variation in either channel exceeded 3. (The data numbers DN are proportional to the energy; at 250 K, DN (10 μ) $\approx$ 223 and DN (20 μ) $\approx$ 494.)

4. Distance test: The length of the path for this group would exceed 0.7 times the nominal field of view.

5. The field of view correction for 20 μ changed by more than 0.5%.

6. The data path crossed the midnight meridian.

Orbit ordering:

The data are contained in 13 files:

File Number	Orbit Number
1	1-20, except 4, 17, 19
2	20-40
3	41-60, except 52
4	61-80
5	81-100, except 94, 96
6	101-120
7	121-140
8	141-160
9	161-180
10	181-200
11	201-220, except 218
12	221-240
13	241-244
	258
	260-262
	270

11/14/71

3/27/72

The first logical record of each orbit contains the orbit number in the first word followed by 13 words of fill. Next are the logical records of data as described above. The last logical record of each orbit contains the integer -99 in the first word followed by 13 full words of fill.

Physical characteristics of tape:

Density: ~~1600~~ 6250 b.p.i., 9-track.

Labels: The tape is not labelled.

Files: The tape contains 13 files.

Blocking: The tape has variable length spanned blocked records, with a maximum physical record length of 7204 bytes, including the 4-byte block descriptor word. The last physical record of a file may be shorter than 7204 bytes. A physical record is defined as a record, or group of logical records or segments, separated from another record, or group of logical records or segments, by an inter-record gap and a block descriptor word. Each physical record contains a maximum of 120 logical records of 60 bytes, including the 4-byte segment descriptor word, each. A logical record is a segment defined as a record that is separated from another record by a segment descriptor word only. On this tape, logical records are contained within the physical records. The block descriptor word is the first word of each physical record. The first 2 bytes of the block descriptor word contain the physical record length. The segment descriptor word is the first word of each logical record. The segment (or logical record) length is in the first 2 bytes of the segment descriptor word. The segment code, which indicates the position of each logical record within the physical record, is in bits 6 and 7 (i.e. last two bits) of the third byte of the segment descriptor word.

The code is defined as follows:

Code	Meaning
00	this is the only segment in this physical record.
01	this is the first segment in this physical record.
10	this is the last segment in this physical record.
11	this is neither the last nor the first segment in this physical record.

D- 12610 Partial dump file 1

orbit 1

REC 1. LENGTH 7204

```
1C240000003C0000000000001000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000003C0000001986F5000008D6000008DDFFFFFD3A000002BC000000540000000100000009
FFFFFE030000003C0000003900000003C000000300000C003003C0000001986FB000008D9000008DBFFFFFD35000002AF0000
0055000000010000009FFFFFDEB0000003A000000390000003C000000300000000006003C00000019870100000 8DC00008DD
FFFFFD30000002A1000000560000000100000009FFFFFDD4000000390000003B000000300000000006003C00000019
707000008E0000008E5FFFFFD2B000002900000057000000010000009FFFFFDBC000000370000003900000003A00000030
0000000 3003C0000001987 0D000008E6000008ECFFFFFD270000028300000058000000010000009FFFFFDA4000000360000
0039000000 3A000000300000000 5003C0000001987 12000008EC000008F2FFFFFD2300000274000000590000000100000009
FFFFFD9100000035000000390000003900000030000000060003C0000001987 18000008F1000008F8FFFFFD1E000002620000
005A000000010000009FFFFFD7900000033000000380000003800000030000000030003C0000001987 1E000008F1000008FB
FFFFFD1A000002530000005B000000010000009FFFFFD62000000320000003800000038000000300000000060003C00000019
8724000008F4000008FFFFFFFD1600000241000000 5C000000010000009FFFFFD4A000000310000003800000037000000 30
0000000 6003C0000001987 2A000008F900000904FFFFFD110000022E0000005E000000010000009FFFFFD330000002F0000
0038000000370000003000000003003C0000001987300000008FF0000090AFFFFFD0E0000021D0000005F000000010000009
FFFFFD1D0000002F000000380000003600000030000000060003C0000001987360000090300000 90FFFFFFD0A000002080000
0060000000010000009FFFFFD080000002E000000380000003600000030000000060003C0000001987 3F000009080000917
FFFFFD05000001EF000000620000000100000009FFFFFCE80000002C000000380000003500000030000000060003C00000019
87450000090F00000919FFFFFD02000001DB000000630000000100000009FFFFFCD3000002C000000380000003400000030
0000000 6003C0000001987 4B000009110000091CFFFFFD00000001CB000000640000000100000009FFFFFCBC000002B0000
0038000000340000003000000003003C0000001987510000091500000 91FFFFFFFCFC000001AF000000660000000100000009
FFFFFCA5000002A0000003800000033000000300000006003C0000001987570000091800000920FFFFFCFA000001990000
0068000000010000009FFFFFC8F000000290000003800000033000000300000000060003C0000001987 5D000009 1A00000923
FFFFFCF7000001840000006900000001000000 09FFFFFC7A000002800000038000000320000003000000003003C00000019
87630000091D0000092 5FFFFFCF6000001730000006A000000010000009FFFFFC6400000027000000380000003200000030
0000000 2003C0000001987650000092000000 90FFFFFFCF4000001650000006B000000010000006FFFFFC5D000000270000
0038000000320000003000000005003C0000001987 6A000009270000091 6FFFFFCF3000001500000006D000000010000006
FFFFFC4A000002700000038000000310000003000000005003C0000001987 6F000009 2D000091CFFFFFCF1000001300000006
006E000000010000006FFFFFC3900000027000000380000003100000030000000030003C0000001987750000092E0000091F
FFFFFCEF000001230000007000000001000000 06FFFFFC2400000026000000380000003100000030000000050003C00000019
877A000009280000091BFFFFFCEE000001 0C000000710000000100000006FFFFFC1100000025000000380000003000000030
0000006003C0000001987800000926000009 16FFFFFCED000000FC000000720000000100000006FFFFFBFE000002500000
0038000000300000003000000002003C0000001987850000924000009 13FFFFFCEC000000E4000000740000000100000006
FFFFFBED000000240000003800000030000000300000000 3003C0000001987880000092300000911FFFFFCEC000000D50000
0075000000010000005FFFFFBE2000000240000003800000002F000000300000000 4003C0000001987 8C000009240000091 4
FFFFFCEB000000BF000000760000000100000005FFFFFBD4000000230000003800000002F000000300000000 6003C00000019
879200000 91D0000090BFFFFFCEB000000AE000000780000000100000005FFFFFBBF000000230000003800000002F00000030
0000000 2003C0000001987970000091B0000090BFFFFFCEB000000940000007900000001000000 05FFFFFBAD000000230000
0038000000 2E000000300000000 4003C0000001987 9B000009210000091 1FFFFFCEB000000800000007800000001000000 05
FFFFFB9E000000220000003800000 02E000000300000000 5003C0000001987A000009230000091 3FFFFFCEB000006B0000
007C000000010000005FFFFF88D000000220000003800000002E000000300000000 5003C0000001987A8000009260000091 6
FFFFFCEB000000490000007E000000010000005FFFFFB7300000021000000380000002D000000300000000 5003C00000019
87AD000009260000091 6FFFFFCEB000000340000008000000010000005FFFFFB62000000210000003800000 02D00000030
0000005003C0000001987B2000009240000091 4FFFFFCEC0000001F000000810000000100000005FFFFFB4F000002100000
0038000002C000000300000000 5003C0000001987BA000009 1A000009 07FFFFFCED000000040000008300000001000000 05
FFFFFB3300000020000003900000002C000000300000000 2003C0000001987BC000009190000090 6FFFFFCED00000E060000
0084000000010000005FFFFFB2C000002000000039000002C000000300000000 5003C0000001987C10000091E0000090D
FFFFFCEE00000DF700000085000000010000005FFFFFB1C000002000000039000002C000000300000000 3003C00000019
87C4000009260000091 5FFFFFCEE00000DEB000008600000010000005FFFFFB11000001F000000390000002B000000 30
0000003003C0000001987C70000092B0000091BFFFFFCEF00000DE4000008600000001000000 05FFFFFB070000001F0000
0039000000280000003000000001003C0000001987CB000009390000092CFFFFFCF000000DD2000000880000000100000005
FFFFFAF70000001F000000390000002B000000300000000 2003C0000001987CD000009400000093 3FFFFFCF100000DC60000
0088000000010000005FFFFFAEF0000001F000000390000002B000000300000000 4003C0000001987D10000094700000093B
FFFFFCF200000DB500000089000000010000005FFFFFAE1000000 1F000000390000002A000000300000000 5003C00000019
87D60000094D0000094 3FFFFFCF300000DA5000000 8B000000010000005FFFFFACF0000001E000000390000002A00000030
0000000 4003C0000001987DD000009510000094 6FFFFFCF600000D8A0000008C000000010000005FFFFFAB50000001E0000
0039000000 2A000000300000000 5003C0000001987E2000009510000094 7FFFFFCF700000D790000008D000000010000005
FFFFAA4000001D000000390000002900000030000000 05003C0000001987E7000009530000094 8FFFFFCF900000D690000
008F000000010000005FFFFFA900000001D000000390000002900000030000000 04003C0000001987EE000009570000094F
FFFFFCFC00000D5100000900000001000000 05FFFFFA760000001C000000390000002900000030000000 05003C00000019
87F3000009590000095 3FFFFFCFE00000D4200000091000000010000005FFFFFA640000001C000000390000002800000030
0000005003C0000001987F8000009570000094FFFFFFD0000000D3300000092000000010000005FFFFFA510000001C0000
0039000000280000003000000005003C0000001988000000095200000 94BFFFFFD0300000D1D000000940000000100000005
FFFFFA360000001C000000390000002700000030000000 05003C0000001988050000095600000 952FFFFFD0500000D0F0000
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