Orbit-by-Orbit

Microwave Derived Products (SDR)

Interface Control Document

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TABLE OF CONTENTS

LIST OF ACRONYMS

CEMSC	Central Environmental Satellite Computer System
DACU	Data Acquisition Control Unit
DEF	Data Exchange Format
EDR	Environmental Data Record
SDR	Sensor Data Record
TDR	Temperture Data Record
QDR	Quality Data Record
FNOC	Fleet Numerical Oceanography Center
HDS	Hitachi Data Systems
IDB	Intermediate Data Base
NESDIS	National Environmental Satellite, Data and Information Service
REV	Revolution
SSM/I	Special Sensor Microwave Imagery

1.0 INTRODUCTION

SDR data sets are formatted into the Shared Processing Data Exchange Format (DEF) at FNOC. They are transmitted to NESDIS via communication satellite, and given a data set name to identify it on the NESDIS Computer (CEMSCS). There are approximately 14 orbits acquired during a 24 hour period. Data for at least a 24 hour period but no more than a 48 hour period shoud be resident on the CEMSCS direct access storage devices at any given time. SDR data from three of the DMSP satellites F10, F11 and F13 is currently being keep on the CEMSCS.

The format of the near realtime and archived SDR files changed in April 1997. This document describes the new format., in use since that date.

The basic format of the SDR dataset is one SDR Output Header Record followed by a series of records which each contain one scanline of data. Section 2.1.1 describes the format of the SDR Output Header Record, record #1. Section 2.1.2 describes the format of the scanline data, records #2-EOF.

2.1. 2 HEADER RECORD DESCRIPTION

The SDR Output Header Record contains six description blocks which are defined in terms of words consisting of a combination of 32-bits, 16-bits, and 8-bits.

Description Blocks

1. SDR IDENTIFICATION BLOCK
2. SDR DATA SEQUENCE BLOCK
3. REV HEADER DATA DESCRIPTION BLOCK
4. SDR SCAN HEADER DATA DESCRIPTION BLOCK
5. SDR DATA DESCRIPTION BLOCK
6. REV HEADER DATA BLOCK FORMAT

SDR Product Identification Block

Data Word	Type	Contents	Comments
1	I*2	Block Length	Length of Block in Terms of I*2 words(14)
2	Byte	MODE	Binary 8-Bit Number(1)
3	Byte	SUBMODE	Binary 8-Bit Number(1)
4	C*4	Originator ID	Four Character(FNOC)
5	C*1	Classifcation	One Character(U)
6	Byte	File Lifetime	Binary 8-Bit Number(255)
7	C*10	Product Identifier	10 Characters TSMISDR 10
8	I*2	Year	Binary Number
9	Byte	Month	Binary 8-Bit Number
10	Byte	Day	Binary 8-Bit Number
11	Byte	Hour	Binary 8-Bit Number
12	Byte	Minute	Binary 8-Bit Number
13	I*2	Checksum	Binary Number

SDR PRODUCT IDENTIFICATION BLOCK

BYTES

0-1	BLOCK LENGTH 14		
2-3	MODE 1	SUBMODE 1	
4-5	CHAR. 1 F	CHAR. 2 N	
6-7	CHAR. 3 O	CHAR. 4 C	ORIGINATOR ID
8-9	CLASSIFICATION U	FILE LIFETIME 255	
10-11	FILE INDICATOR T	CHAR. 2 S	
12-13	CHAR. 3 M	CHAR. 4 I	
14-15	CHAR. 5 S	CHAR. 6 D	PRODUCT IDENTIFIER
16-17	CHAR. 7 R	CHAR. 8	
18-19	CHAR. 9 0	CHAR. 10 8	
20-21	YEAR (SET BY SMIDEF)		
22-23	MONTH (SET BY SMIDEF)	DAY (SET BY SMIDEF)	
24-25	HOUR (SET IN SMIDEF)	MINUTE (SET IN SMIDEF)	
26-27	CHECKSUM (CAL. IN SMIDEF)		

SDR Data Sequence Block

Data
Word Type Contents Comments

1 I*2 Block length Length of Block in Term of I*2 Words(13)

2 Byte MODE Binary 8-Bit Number(3)

3 Byte SUBMODE Binary 8-Bit Number(19)

4 I*2 Number of Loops Binary 8-Bit Number(3)

5 Byte Start Number Binary 8-Bit Number

6 Byte Loop Number Binary 8-Bit Number(1)

7 I*2 Number of Data Blocks Binary 16-Bit Number(1)

8 Byte End Number Binary 8-Bit Number

9 Byte Loop Number Binary 8-Bit Number

10 Byte Start Number Binary 8-Bit Number

11 Byte Loop Number Binary 8-Bit Number(2)

12 I*2 Number of Data Blocks Binary 16-Bit Number

13 Byte Start Number Binary 8-Bit Number

14 Byte Loop Number Binary 8-Bit Number(3)

15 I*2 Number of Data Blocks Binary 16-Bit Number(1)

16 Byte END Number Binary 8-Bit Number

17 Byte Loop Number Binary 8-Bit Number(3)

SDR Data Sequence Block

Data Word	Type	Contents	Comments

18 Byte End Number Binary 8-Bit Number

19 Byte Loop Number Binary 8-Bit Number(2)

20 I*2 Checksum Calc in SMIDEF

SDR DATA SEQUENCE BLOCK

BYTES

0-1	BLOCK LENGTH 13	

2-3	MODE 3	SUBMODE 23	
4-5	NUMBER OF LOOPS 3		
6-7	START {	LOOP NUMBER 1	REV HEADER BLOCK
8-9	NUMBER OF DATA BLOCKS 1		
10-11	END }	LOOP NUMBER 1	
12-13	START {	LOOP NUMBER 2	SCAN HEADER BLOCK
14-15	NUMBER OF DATA BLOCKS (SET IN SMIDEF)		
16-17	START {	LOOP NUMBER 3	SDR DATA BLOCK
18-19	NUMBER OF DATA BLOCKS 1		
20-21	END }	LOOP NUMBER 3	
22-23	END }	LOOP NUMBER 2	
24-25	CHECKSUM (CALC. IN SMIDEF)		

SDR Rev Header Data Description Block

Data
Word Type Contents Comments

1 I*2 Block length Length of Block in Terms of I*2 Words(95)

2 Byte Mode Binary 8-Bit Number(3)

3 Byte Submode Binary 8-Bit Number(17)

4 Byte Number Elements Binary 8-Bit Number(15)

5 Byte Bytes/Section Binary 8-Bit Number(24)

6 I*2 Number of Section Binary Number(1)

7 C*4 Spacecraft ID Character String "SCID"

8 Byte Start Byte Binary 8-Bit Number(4)

9 Byte Bytes/Element Binary 8-Bit Number(4)

10 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

11 Byte Mult. Mantissa Binary 8-Bit Number(1)

12 Byte Exponent Binary 8-Bit Number(0)

13 I*2 Additive Constant Binary Number(0)

14 C*4 Rev/Orbit Number Character String "REV#"

15 Byte Start Byte Binary 8-Bit Number(8)

16 Byte Bytes/Element Binary 8-Bit Number(4)

17 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

18 Byte Mult. Mantissa Binary 8-Bit Number(1)

SDR Rev Header Data Description Block

Data Word	Type	Contents	Comments
19	Byte	Exponent	Binary 8-Bit Number(0)
20	I*2	Additive Constant	Binary Number (0)

21 C*4 Julian Day Data Character String "BJLD"
Begins

22 Byte Start Byte Binary 8-Bit Number(12)

23 Byte Bytes/Element Binary 8-Bit Number(2)

24 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(51)

25 Byte Mult. Mantissa Binary 8-Bit Number(1)

26 Byte Exponent Binary 8-Bit Number(0)

27 I*2 Additive Constant Binary Number(0)

28 C*4 Hour of Day Data Character String "BHR "
Begins

29 Byte Start Byte Binary 8-Bit Number(14)

30 Byte Bytes/Element Binary 8-Bit Number(1)

31 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(50)

32 Byte Mult. Mantissa Binary 8-Bit Number(1)

33 Byte Exponent Binary 8-Bit Number(0)

34 I*2 Additive Constant Binary Number(0)

35 C*4 Minute of Hour Data Character String "BMN "

SDR Rev Header Data Description Block(continued)

Data
Word Type Contents Comments
Begins

36 Byte Start Byte Binary 8-Bit Number(15)

37 Byte Bytes/Element Binary 8-Bit Number(1)

38 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(49)

39 Byte Mult. Mantissa Binary 8-Bit Number(1)

40 Byte Exponent Binary 8-Bit Number(0)

41 I*2 Additive Constant Binary Number(0)

42 C*4 Second of Min. Data Character String "BSEC"
Begins

43 Byte Start Byte Binary 8-Bit Number(16)

44 Byte Bytes/Element Binary 8-Bit Number(1)

45 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(12)

46 Byte Mult. Mantissa Binary 8-Bit Number(1)

47 Byte Exponent Binary 8-Bit Number(0)

48 I*2 Additive Constant Binary Number (0)

49 C*4 Julian Day Data Ends Character String "EJLD"

50 Byte Start Byte Binary 8-Bit Number(17)

51 Byte Bytes/Element Binary 8-Bit Number(2)

52 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(51)

SDR Rev Header Data Description Block(continued)

Data Word	Type	Contents	Comments
53	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
54	Byte	Exponent	Binary 8-Bit Number(0)
55	I*2	Additive Constant	Binary Number(0)
56	C*4	Hour O Day Data Ends	Character String "EHR "
57	Byte	Start Byte	Binary 8-Bit Number(19)
58	Byte	Bytes/Element	Binary 8-Bit Number(1)
59	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(50)
60	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
61	Byte	Exponent	Binary 8-Bit Number(0)

62 I*2 Additive Constant Binary Number (0)

63 C*4 Minute of Hour Data Character String "EMN "
Ends

64 Byte Start Byte Binary 8-Bit Number(20)

65 Byte Bytes/Element Binary 8-Bit Number(1)

66 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(49)

67 Byte Mult. Mantissa Binary 8-Bit Number(1)

68 Byte Exponent Binary 8-Bit Number(0)

69 I*2 Additive Constant Binary Number (0)

70 C*4 Second of Minute Data Character String "ESEC" Ends

SDR Rev Header Data Description Block(continued)

Data Word	Type	Contents	Comments
71	Byte	Start Byte	Binary 8-Bit Number(21)
72	Byte	Bytes/Element	Binary 8-Bit Number(1)
73	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(12)
74	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
75	Byte	Exponent	Binary 8-Bit Number(0)
76	I*2	Additive Constant	Binary Number (0)
77	C*4	Day of Ascending Node	Character String "AJLD"
78	Byte	Start Byte	Binary 8-Bit Number(22)
79	Byte	Bytes/Element	Binary 8-Bit Number(2)
80	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(51)
81	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
82	Byte	Exponent	Binary 8-Bit Number(0)

83 I*2 Additive Constant Binary Number (0)

84 C*4 Hour of Ascending Node Character String "AHR "

85 Byte Start Byte Binary 8-Bit Number(24)

86 Byte Bytes/Element Binary 8-Bit Number(1)

87 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(50)

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88 Byte Mult. Mantissa Binary 8-Bit Number(1)

SDR Rev Header Data Description Block(continued)

Data Word	Type	Contents	Comments
89	Byte	Exponent	Binary 8-Bit Number(0)
90	I*2	Additive Constant	Binary Number (0)
91	C*4	Minute of Ascending Node	Character String "AMN "
92	Byte	Start Byte	Binary 8-Bit Number(25)
93	Byte	Bytes/Element	Binary 8-Bit Number(1)
94	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(49)
95	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
96	Byte	Exponent	Binary 8-Bit Number(0)
97	I*2	Additive Constant	Binary Number (0)
98	C*4	Second of Ascending Node	Character string "ASEC"
99	Byte	Start Byte	Binary 8-Bit Number(26)
100	Byte	Bytes/Element	Binary 8-Bit Number(1)
101	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(12)
102	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
103	Byte	Exponent	Binary 8-Bit Number(0)

104 I*2 Additive Constant Binary Number (0)

105 C*4 Logical Satellite Character String "LSI "

106 Byte Start Byte Binary 8-Bit Number(27)

SDR Rev Header Data Description Block(continued)

Data Word	Type	Contents	Comments
107	Byte	Bytes/Element	Binary 8-Bit Number(1)
108	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(19)
109	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
110	Byte	Exponent	Binary 8-Bit Number(0)
111	I*2	Additive Constant	Binary Number (0)
112	C*4	Checksum	Binary Number

REV HEADER DATA DESCRIPTION BLOCK

BYTES		BYTES					
0-1	BLOCK LENGTH 95			30-31	ADDITIVE CONSTANT 0		
2-3	MODE 3	SUBMODE 21		32-33	CHAR. 1 B	CHAR. 2 J	JULIAN DAY DATA BEGINS
4-5	NUMBER ELEMENTS 15	BYTES/ SECTION 24		34-35	CHAR. 3 L	CHAR. 4 D	
6-7	NUMBER OF SECTIONS 1			36-37	START BYTE 12	BYTES/ ELEMENTS 2	
8-9	CHAR. 1 S	CHAR. 2 C	SPACECRAFT ID	38-39	UNUSED 0	UNITS CODE 63	
10-11	CHAR. 3 I	CHAR. 4 D		40-41	MULT. MANTISSA 1	EXPONENT 0	
12-	START	BYTES/		42-	ADDITIVE		

13	BYTE 4	ELEMENTS 4		43	CONSTANT 0		
14-15	UNUSED 0	UNITS CODE 23		44-45	CHAR. 1 B	CHAR. 2 H	HOUR OF DAY DATA BEGINS
16-17	MULT. MANTISSA 1	EXPONENT 0		46-47	CHAR. 3 R	CHAR. 4	
18-19	ADDITIVE CONSTANT 0			48-49	START BYTE 14	BYTES/ ELEMENT 1	
20-21	CHAR. 1 R	CHAR. 2 E	REV/ORBIT NUMBER	50-51	UNUSED 0	UNITS CODE 62	
22-23	CHAR. 3 V	CHAR. 4 #		52-53	MULT. MANTISSA 1	EXPONENT 0	
24-25	START BYTE 8	BYTES/ ELEMENT 4		54-55	ADDITIVE CONSTANT 0		
26-27	UNUSED 0	UNITS CODE 23		56-57	CHAR. 1 B	CHAR. 2 M	MINUTE OF HOUR DATA BEGINS
28-29	MULT. MANTISSA 1	EXPONENT 0		58-59	CHAR. 3 N	CHAR. 4	

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REV HEADER DATA DESCRIPTION BLOCK (CONTINUED)

BYTES BYTES

60-61	START BYTE 15	BYTES/ ELEMENT 1		90-91	ADDITIVE CONSTANT 0		
62-63	UNUSED 0	UNITS CODE 61		92-93	CHAR. 1 E	CHAR. 2 H	HOUR OF DAY DATA BEGINS
64-65	MULT. MANTISSA 1	EXPONENT 0		94-95	CHAR. 3 R	CHAR. 4	
66-67	ADDITIVE CONSTANT 0			96-97	START BYTE 19	BYTES/ ELEMENTS 1	

68-69	CHAR. 1 B	CHAR. 2 S	SECOND OF MIN. DATA BEGINS	98-99	UNUSED 0	UNITS CODE 62	
70-71	CHAR. 3 E	CHAR. 4 C		100-101	MULT. MANTISSA 1	EXPONENT 0	
72-73	START BYTE 16	BYTES/ ELEMENTS 1		102-103	ADDITIVE CONSTANT 0		
74-75	UNUSED 0	UNITS CODE 14		104-105	CHAR. 1 E	CHAR. 2 M	MINUTE OF HOUR DATA BEGINS
76-77	MULT. MANTISSA 1	EXPONENT 0		106-107	CHAR. 3 N	CHAR. 4	
78-79	ADDITIVE CONSTANT 0			108-109	START BYTE 20	BYTES/ ELEMENT 1	
80-81	CHAR. 1 E	CHAR. 2 J	JULIAN DAY DATA BEGINS	110-111	UNUSED 0	UNITS CODE 61	
82-83	CHAR. 3 L	CHAR. 4 D		112-113	MULT. MANTISSA 1	EXPONENT 0	
84-85	START BYTE 17	BYTES/ ELEMENT 2		114-115	ADDITIVE CONSTANT 0		
86-87	UNUSED 0	UNITS CODE 63		116-117	CHAR. 1 E	CHAR. 2 S	SECOND OF MINUTE DATA ENDS
88-89	MULT. MANTISSA 1	EXPONENT 0		118-119	CHAR. 3 E	CHAR. 4 C	

REV HEADER DATA DESCRIPTION BLOCK (CONTINUED)

BYTES BYTES

120-121	START BYTE 21	BYTES/ ELEMENT 1		150-151	ADDITIVE CONSTANT 0		
122-123	UNUSED 0	UNITS CODE 14		152-153	CHAR. 1 A	CHAR. 2 M	MINUTE OF ASCENDING NODE

124-125	MULT. MANTISSA 1	EXPONENT 0		154-155	CHAR. 3 N	CHAR. 4	
126-127	ADDITIVE CONSTANT 0			156-157	START BYTE 25	BYTES/ ELEMENTS 1	
128-129	CHAR. 1 A	CHAR. 2 J	DAY OF ASCENDING NODE	158-159	UNUSED 0	UNITS CODE 61	
130-131	CHAR. 3 L	CHAR. 4 D		160-161	MULT. MANTISSA 1	EXPONENT 0	
132-133	START BYTE 22	BYTES/ ELEMENTS 2		162-163	ADDITIVE CONSTANT 0		
134-135	UNUSED 0	UNITS CODE 63		164-165	CHAR. 1 A	CHAR. 2 S	SECOND OF ASCENDING NODE
136-137	MULT. MANTISSA 1	EXPONENT 0		166-167	CHAR. 3 E	CHAR. 4 C	
138-139	ADDITIVE CONSTANT 0			168-169	START BYTE 26	BYTES/ ELEMENT 1	
140-141	CHAR. 1 A	CHAR. 2 H	HOUR OF ASCENDING NODE	170-171	UNUSED 0	UNITS CODE 14	
142-143	CHAR. 3 R	CHAR. 4		172-173	MULT. MANTISSA 1	EXPONENT 0	
144-145	START BYTE 24	BYTES/ ELEMENT 1		174-175	ADDITIVE CONSTANT 0		
146-147	UNUSED 0	UNITS CODE 62		176-177	CHAR. 1 L	CHAR. 2 S	LOGICAL SATELLITE ID
148-149	MULT. MANTISSA 1	EXPONENT 0		178-179	CHAR. 3 I	CHAR. 4	

REV HEADER DATA DESCRIPTION BLOCK (CONTINUED)

BYTES

180-181	START BYTE 27	BYTES/ ELEMENT 1
182-183	UNUSED 0	UNITS CODE 23
184-185	MULT. MANTISSA 1	EXPONENT 0
186-187	ADDITIVE CONSTANT 0	
188-189	CHECKSUM (CALC. IN SMIDEF)	

SDR Scan Header Data Description Block

Data Word	Type	Contents	Comment
1	I*2	Block length	Length of Block in Term of I*2 Words (17)
2	Byte	MODE	Binary 8-Bit Number(3)
3	Byte	SUBMODE	Binary 8-Bit Number(21)
4	Byte	Number of Elements	Binary 8-Bit Number(2)
5	Byte	Bytes/Section	Binary 8-Bit Number(6)
6	I*2	Number of Sections	Binary Number(1)
7	C*4	Counter	Character String "CNTR"
8	Byte	Start Byte	Binary 8-Bit Number(4)
9	Byte	Bytes/Element	Binary 8-Bit Number(2)
10	I*2	Unit Code	Combination of a Zero Filled Byte and the Unit code(19)
11	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
12	Byte	Exponent	Binary 8-Bit Number(0)

13 I*2 Additive Constant Binary Number

14 C*4 B-Scan Start Time Character String "BSTM"

15 Byte Start Byte Binary 8-Bit Number(6)

16 Byte Bytes/Element Binary 8-Bit Number(4)

17 I*2 Units Code Combination of a Zero Filled Byte and the Unit Code(12)

18 Byte Mult. Mantissa Binary 8-Bit Number(1)

SDR Scan Header Data Description Block

Data Word **Type** **Contents** **Comment**

19 Byte Exponent Binary 8-Bit Number(0)

20 I*2 Additive Constant Binary Number(0)

21 I*2 Checksum Calculated in SMIDEF

SDR SCAN HEADER DATA DESCRIPTION BLOCK

BYTES BYTES

0-1	BLOCK LENGTH 17			30-31	ADDITIVE CONSTANT 0		
2-3	MODE 3	SUBMODE 21		32-33	CHECKSUM (CAL. IN SMIDEF)		
4-5	NUMBER ELEMENTS 2	BYTES/ SECTION 6					
6-7	NUMBER OF SECTIONS 1						
8-9	CHAR. 1 C	CHAR. 2 N	COUNTER				
10-11	CHAR. 3 T	CHAR. 4 R					

12-13	START BYTE 4	BYTES/ ELEMENTS 2					
14-15	UNUSED 0	UNITS CODE 23					
16-17	MULT. MANTISSA 1	EXPONENT 0					
18-19	ADDITIVE CONSTANT 0						
20-21	CHAR. 1 B	CHAR. 2 S	B-SCAN START TIME				
22-23	CHAR. 3 T	CHAR. 4 M					
24-25	START BYTE 6	BYTES/ ELEMENT 4					
26-27	UNUSED 0	UNITS CODE 14					
28-29	MULT. MANTISSA 1	EXPONENT 0					

SDR Data Description Block

Data Word	Type	Contents	Comments
1	I*2	Block length	Length of Block in Terms of I*2 Words(185)
2	Byte	Mode	Binary 8-Bit Number(3)
3	Byte	Submode	Binary 8-Bit Number(17)
4	Byte	Number Elements	Binary 8-Bit Number(30)
5	Byte	Bytes/Selection	Binary 8-Bit Number(52)

6 I*2 Number of Sections Binary Number(64)

7 C*4 Counter Character String "CNTR"

8 Byte Start Byte Binary 8-Bit Number(4)

9 Byte Bytes/Element Binary 8-Bit Number(2)

10 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

11 Byte Mult. Mantissa Binary 8-Bit Number(1)

12 Byte Exponent Binary 8-Bit Number(0)

13 I*2 Additive Constant Binary Number(0)

14 C*4 Latitude Character String "LAT "

15 Byte Start Byte Binary 8-Bit Number(6)

16 Byte Bytes/Element Binary 8-Bit Number(2)

17 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(45)

SDR Data Description Block

Data Word	Type	Contents	Comments
18	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
19	Byte	Exponent	Binary 8-Bit Number(-2)
20	I*2	Additive Constant	Binary Number(0)
21	C*4	Longitude	Character String "LON "
22	Byte	Start Byte	Binary 8-Bit Number(8)
23	Byte	Bytes/Element	Binary 8-Bit Number(2)
24	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(48)
25	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
26	Byte	Exponent	Binary 8-Bit Number(-2)

27 I*2 Additive Constant Binary Number(0)

28 C*4 19 GHz V Brightness Character String "T19V"
Temp.

29 Byte Start Byte Binary 8-Bit Number(10)

31 Byte Bytes/Element Binary 8-Bit Number(2)

30 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(1)

32 Byte Mult. Mantissa Binary 8-Bit Number(1)

33 Byte Exponent Binary 8-Bit Number(-2)

34 I*2 Additive Constant Binary Number(0)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
35	C*4	19 GHz H Brightness	Character String "T19H" Temp.
36	Byte	Start Byte	Binary 8-Bit Number(12)
37	Byte	Bytes/Element	Binary 8-Bit Number(2)
38	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(1)
39	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
40	Byte	Exponent	Binary 8-Bit Number(-2)
41	I*2	Additive Constant	Binary Number(0)
42	C*4	22 GHz V Brightness	Character String "T22V" Temp.
43	Byte	Start Byte	Binary 8-Bit Number(14)
44	Byte	Bytes/Element	Binary 8-Bit Number(2)
45	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(1)
46	Byte	Mult. Mantissa	Binary 8-Bit Number(1)

47 Byte Exponent Binary 8-Bit Number(-2)

48 I*2 Additive Constant Binary Number (0)

49 C*4 37 GHz V Brightness Character String "T37V" Temp.

50 Byte Start Byte Binary 8-Bit Number(16)

51 Byte Bytes/Element Binary 8-Bit Number(2)

52 I*2 Units Code Combination of a Zero

Filled Byte and Unit Code(1)

53 Byte Mult. Mantissa Binary 8-Bit Number(1)

SDR Data Description Block(continued)

Data
Word Type Contents Comments

54 Byte Exponent Binary 8-Bit Number(-2)

55 I*2 Additive Constant Binary Number(0)

56 C*4 37 GHz H Brightness Character String "T37H"
Temp.

57 Byte Start Byte Binary 8-Bit Number(18)

58 Byte Bytes/Element Binary 8-Bit Number(2)

59 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(1)

60 Byte Mult. Mantissa Binary 8-Bit Number(1)

61 Byte Exponent Binary 8-Bit Number(-2)

62 I*2 Additive Constant Binary Number (0)

63 C*4 85 GHz V Brightness Character String "T85V"
Temp.

64 Byte Start Byte Binary 8-Bit Number(20)

65 Byte Bytes/Element Binary 8-Bit Number(2)

66 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(1)

67 Byte Mult. Mantissa Binary 8-Bit Number(1)

68 Byte Exponent Binary 8-Bit Number(-2)

69 I*2 Additive Constant Binary Number (0)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
70	C*4	85 GHz H Brightness Temp.	Character String "T85H"
71	Byte	Start Byte	Binary 8-Bit Number(22)
72	Byte	Bytes/Element	Binary 8-Bit Number(2)
73	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(1)
74	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
75	Byte	Exponent	Binary 8-Bit Number(-2)
76	I*2	Additive Constant	Binary Number (0)
77	C*4	Surface Type	Character String "STYP"
78	Byte	Start Byte	Binary 8-Bit Number(24)
79	Byte	Bytes/Element	Binary 8-Bit Number(1)
80	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(19)
81	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
82	Byte	Exponent	Binary 8-Bit Number(0)
83	I*2	Additive Constant	Binary Number (0)
84	C*4	Position Number	Character String "PONO"
85	Byte	Start Byte	Binary 8-Bit Number(25)
86	Byte	Bytes/Element	Binary 8-Bit Number(1)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
87	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(19)
86	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
89	Byte	Exponent	Binary 8-Bit Number(0)
90	I*2	Additive Constant	Binary Number (0)
91	C*4	Latitude	Character String "LAT "
92	Byte	Start Byte	Binary 8-Bit Number(26)
93	Byte	Bytes/Element	Binary 8-Bit Number(2)
94	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(45)
95	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
96	Byte	Exponent	Binary 8-Bit Number(-2)
97	I*2	Additive Constant	Binary Number (0)
98	C*4	Longitude	Character string "LON "
99	Byte	Start Byte	Binary 8-Bit Number(28)
100	Byte	Bytes/Element	Binary 8-Bit Number(2)
101	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(45)
102	Byte	Mult. Mantissa	Binary 8-Bit Number(1)
103	Byte	Exponent	Binary 8-Bit Number(-2)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
104	I*2	Additive Constant	Binary Number (0)
105	C*4	85 GHz V Brightness	Character String "T85V" Temp.

106 Byte Start Byte Binary 8-Bit Number(30)

107 Byte Bytes/Element Binary 8-Bit Number(2)

108 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(1)

109 Byte Mult. Mantissa Binary 8-Bit Number(1)

110 Byte Exponent Binary 8-Bit Number(-2)

111 I*2 Additive Constant Binary Number (0)

112 C*4 85 GHz H Brightness Character String "T85H"
Temp.

113 Byte Start Byte Binary 8-Bit Number(32)

114 Byte Bytes/Element Binary 8-Bit Number(2)

115 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(1)

116 Byte Mult. Mantissa Binary 8-Bit Number(1)

117 Byte Exponent Binary 8-Bit Number(-2)

118 I*2 Additive Constant Binary Number (0)

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119 C*4 Surface Type Character String "STYP"

120 Byte Start Byte Binary 8-Bit Number(34)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments

121 Byte Bytes/Element Binary 8-Bit Number(1)

122 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

123 Byte Mult. Mantissa Binary 8-Bit Number(1)

124 Byte Exponent Binary 8-Bit Number(0)

125 I*2 Additive Constant Binary Number (0)

126 C*4 Position Number Character String "PONO"

127 Byte Start Byte Binary 8-Bit Number (35)

128 Byte Bytes/Elements Binary 8-Bit Number (1)

129 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

130 Byte Mult. Mantissa Binary 8-Bit Number (1)

131 Byte Exponent Binary 8-Bit Number (0)

132 I*2 Additive Constant Binary Number (0)

133 C*4 Latitude Character String "LAT "

134 Byte Start Byte Binary 8-Bit Number (3?)

135 Byte Bytes/Element Binary 8-Bit Number (2)

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136 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(45)

137 Byte Mult. Mantissa Binary 8-Bit Number (1)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
138	Byte	Exponent	Binary 8-Bit Number (-2)
139	I*2	Additive Constant	Binary Number (0)
140	C*4	Longitude	Character String "LON "
141	Byte	Start Byte	Binary 8-Bit Number (38)
142	Byte	Bytes/Element	Binary 8-Bit Number (2)
143	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(45)
144	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
145	Byte	Exponent	Binary 8-Bit Number (-2)
146	I*2	Additive Constant	Binary Number(0)
147	C*4	85 GHz V Brightness Temp.	Character String "T85V"
148	Byte	Start Byte	Binary 8-Bit Number (40)

149 Byte Bytes/Element Binary 8-Bit Number (2)

150 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(1)

151 Byte Mult. Mantissa Binary 8-Bit Number (1)

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152 Byte Exponent Binary 8-Bit Number (-2)

153 I*2 Additive Constant Binary Number (0)

154 C*4 85 GHz H Brightness Character String "T85H"
Temp.

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
155	Byte	Start Byte	Binary 8-Bit Number (42)
156	Byte	Bytes/Element	Binary 8-Bit Number (2)
157	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(1)
158	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
159	Byte	Exponent	Binary 8-Bit Number (-2)
160	I*2	Additive Constant	Binary Number (0)
161	C*4	Surface Type	Character String "STYP"
162	Byte	Start Byte	Binary 8-Bit Number (44)
163	Byte	Bytes/Element	Binary 8-Bit Number (1)
164	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(19)
165	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
166	Byte	Exponent	Binary 8-Bit Number (0)
167	I*2	Additive Constant	Binary Number (0)
168	C*4	Position Number	Character String "PONO"
169	Byte	Start Byte	Binary 8-Bit Number (45)

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170 Byte Bytes/Element Binary 8-Bit Number (1)

171 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
172	Byte	Mult. Mantissa	Binary 8-Bit Number
173	Byte	Exponent	Binary 8-Bit Number
174	I*2	Additive Constant	Binary Number (0)
175	C*4	Latitude	Character String "LAT "
176	Byte	Start Byte	Binary 8-Bit Number (46)
177	Byte	Bytes/Element	Binary 8-Bit Number (2)
178	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(45)
179	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
180	Byte	Exponent	Binary 8-Bit Number (-2)
181	I*2	Additive Constant	Binary Number (0)
182	C*4	Longitude	Character String "LON "
183	Byte	Start Byte	Binary 8-Bit Number (48)
184	Byte	Bytes/Element	Binary 8-Bit Number (2)
185	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(55)
186	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
187	Byte	Exponent	Binary 8-Bit Number (-2)
188	I*2	Additive Constant	Binary Number (0)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
189	C*4	85 GHz V Brightness Temp	Character String "T85V"
190	Byte	Start Byte	Binary 8-Bit Number (50)
191	Byte	Bytes/Element	Binary 8-Bit Number (2)
192	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(1)
193	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
194	Byte	Exponent	Binary 8-Bit Number (-2)
195	I*2	Additive Constant	Binary Number (0)
196	C*4	85 GHz H Brightness Temp.	Character String "T85H"
197	Byte	Start Byte	Binary 8-Bit Number (52)
198	Byte	Bytes/Element	Binary 8-Bit Number (2)
199	I*2	Units Code	Combination of a Zero Filled Byte and Unit Code(1)
200	Byte	Mult. Mantissa	Binary 8-Bit Number (1)

201	Byte	Exponent	Binary 8-Bit Number (-2)
202	I*2	Additive Constant	Binary Number (0)
203	C*4	Surface Type	Character String "STYP"
204	Byte	Start Byte	Binary 8-Bit Number (54)
205	Byte	Bytes/Element	Binary 8-Bit Number (1)

SDR Data Description Block(continued)

Data Word	Type	Contents	Comments
206	I*2	Unit Codes	Combination of a Zero Filled Byte and Unit Code(19)
207	Byte	Mult. Mantissa	Binary 8-Bit Number (1)
208	Byte	Exponent	Binary 8-Bit Number (0)

209 I*2 Additive Constant Binary Number (0)

210 C*4 Position Number Character String "PONO"

211 Byte Start Byte Binary 8-Bit Number (55)

212 Byte Bytes/Element Binary 8-Bit Number (1)

213 I*2 Units Code Combination of a Zero Filled Byte and Unit Code(19)

214 Byte Mult. Mantissa Binary 8-Bit Number (1)

215 Byte Exponent Binary 8-Bit Number (0)

216 I*2 Additive Constant Binary Number (0)

217 I*2 Checksum

SDR DATA DESCRIPTION BLOCK

BYTES				BYTES			
0-1	BLOCK LENGTH 185			30-31	ADDITIVE CONSTANT 0		
2-3	MODE 3	SUBMODE 21		32-33	CHAR. 1 L	CHAR. 2 O	LONGITUDE
4-5	NUMBER ELEMENTS 30	BYTES/ SECTION 62		34-35	CHAR. 3 N	CHAR. 4	
6-7	NUMBER OF SECTIONS 64			36-37	START BYTE 8	BYTES/ ELEMENTS 2	
8-9	CHAR. 1 C	CHAR. 2 N	COUNTER	38-39	UNUSED 0	UNITS CODE 55	
10-11	CHAR. 3 T	CHAR. 4 R		40-41	MULT. MANTISSA 1	EXPONENT -2	
12-13	START BYTE 4	BYTES/ ELEMENTS 2		42-43	ADDITIVE CONSTANT 0		
14-15	UNUSED 0	UNITS CODE 23		44-45	CHAR. 1 T	CHAR. 2 1	19 GHz V BRIGHTNESS TEMP.

16-17	MULT. MANTISSA 1	EXPONENT 0		46-47	CHAR. 3 9	CHAR. 4 V	
18-19	ADDITIVE CONSTANT 0			48-49	START BYTE 10	BYTES/ ELEMENT 2	
20-21	CHAR. 1 L	CHAR. 2 A	LATITUDE	50-51	UNUSED 0	UNITS CODE 1	
22-23	CHAR. 3 T	CHAR. 4		52-53	MULT. MANTISSA 1	EXPONENT -2	
24-25	START BYTE 6	BYTES/ ELEMENT 2		54-55	ADDITIVE CONSTANT 0		
26-27	UNUSED 0	UNITS CODE 55		56-57	CHAR. 1 T	CHAR. 2 1	19 GHz H BRIGHTNESS TEMP.
28-29	MULT. MANTISSA 1	EXPONENT -2		58-59	CHAR. 3 9	CHAR. 4 H	

SDR DATA DESCRIPTION BLOCK (CONTINUED)

BYTES BYTES

60-61	START BYTE 12	BYTES/ ELEMENT 2		90-91	ADDITIVE CONSTANT 0		
62-63	UNUSED 0	UNITS CODE 1		92-93	CHAR. 1 T	CHAR. 2 3	37 GHz H BRIGHTNESS TEMP.
64-65	MULT. MANTISSA 1	EXPONENT -2		94-95	CHAR. 3 7	CHAR. 4 H	
66-67	ADDITIVE CONSTANT 0			96-97	START BYTE 18	BYTES/ ELEMENTS 2	
68-69	CHAR. 1 T	CHAR. 2 2	22 GHz V BRIGHTNESS TEMP.	98-99	UNUSED 0	UNITS CODE 1	
70-71	CHAR. 3 2	CHAR. 4 V		100- 101	MULT. MANTISSA 1	EXPONENT -2	

72-73	START BYTE 14	BYTES/ ELEMENTS 2		102- 103	ADDITIVE CONSTANT 0		
74-75	UNUSED 0	UNITS CODE 1		104- 105	CHAR. 1 T	CHAR. 2 8	85 GHz V BRIGHTNESS TEMP.
76-77	MULT. MANTISSA 1	EXPONENT -2		106- 107	CHAR. 3 5	CHAR. 4 V	
78-79	ADDITIVE CONSTANT 0			108- 109	START BYTE 20	BYTES/ ELEMENT 2	
80-81	CHAR. 1 T	CHAR. 2 3	37 GHz V BRIGHTNESS TEMP.	110- 111	UNUSED 0	UNITS CODE 1	
82-83	CHAR. 3 7	CHAR. 4 V		112- 113	MULT. MANTISSA 1	EXPONENT -2	
84-85	START BYTE 16	BYTES/ ELEMENT 2		114- 115	ADDITIVE CONSTANT 0		
86-87	UNUSED 0	UNITS CODE 62		116- 117	CHAR. 1 T	CHAR. 2 8	85 GHz H BRIGHTNESS TEMP.
88-89	MULT. MANTISSA 1	EXPONENT -2		118- 119	CHAR. 3 5	CHAR. 4 H	

SDR DATA DESCRIPTION BLOCK (CONTINUED)

BYTES BYTES

120- 121	START BYTE 22	BYTES/ ELEMENT 2		150- 151	ADDITIVE CONSTANT 0		
122- 123	UNUSED 0	UNITS CODE 1		152- 153	CHAR. 1 L	CHAR. 2 A	LATITUDE
124- 125	MULT. MANTISSA 1	EXPONENT -2		154- 155	CHAR. 3 T	CHAR. 4	
126- 127	ADDITIVE CONSTANT 0			156- 157	START BYTE 26	BYTES/ ELEMENTS 2	

128- 129	CHAR. 1 S	CHAR. 2 T	SURFACE TYPE	158- 159	UNUSED 0	UNITS CODE 55	
130- 131	CHAR. 3 Y	CHAR. 4 P		160- 161	MULT. MANTISSA 1	EXPONENT -2	
132- 133	START BYTE 24	BYTES/ ELEMENTS 1		162- 163	ADDITIVE CONSTANT 0		
134- 135	UNUSED 0	UNITS CODE 23		164- 165	CHAR. 1 L	CHAR. 2 O	LONGITUDE
136- 137	MULT. MANTISSA 1	EXPONENT 0		166- 167	CHAR. 3 N	CHAR. 4	
138- 139	ADDITIVE CONSTANT 0			168- 169	START BYTE 28	BYTES/ ELEMENT 2	
140- 141	CHAR. 1 P	CHAR. 2 O	POSITION TYPE	170- 171	UNUSED 0	UNITS CODE 55	
142- 143	CHAR. 3 N	CHAR. 4 O		172- 173	MULT. MANTISSA 1	EXPONENT -2	
144- 145	START BYTE 25	BYTES/ ELEMENT 1		174- 175	ADDITIVE CONSTANT 0		
146- 147	UNUSED 0	UNITS CODE 23		176- 177	CHAR. 1 T	CHAR. 2 8	85 GHz V BRIGHTNESS TEMP.
148- 149	MULT. MANTISSA 1	EXPONENT 0		178- 179	CHAR. 3 5	CHAR. 4 V	

SDR DATA DESCRIPTION BLOCK (CONTINUED)

BYTES BYTES

180- 181	START BYTE 30	BYTES/ ELEMENT 2		210- 211	ADDITIVE CONSTANT 0		
182- 183	UNUSED 0	UNITS CODE 1		212- 213	CHAR. 1 P	CHAR. 2 O	POSITION NUMBER
184-	MULT.	EXPONENT		214-	CHAR. 3	CHAR. 4	

185	MANTISSA 1	-2		215	N	O	
186-187	ADDITIVE CONSTANT 0			216-217	START BYTE 35	BYTES/ ELEMENT 1	
188-189	CHAR. 1 T	CHAR. 2 8	85 GHz H BRIGHTNESS TEMP.	218-219	UNUSED 0	UNITS CODE 23	
190-191	CHAR. 3 5	CHAR. 4 H		220-221	MULT. MANTISSA 1	EXPONENT 0	
192-193	START BYTE 32	BYTES/ ELEMENTS 2		222-223	ADDITIVE CONSTANT 0		
194-195	UNUSED 0	UNITS CODE 1		224-225	CHAR. 1 L	CHAR. 2 A	LATITUDE
196-197	MULT. MANTISSA 1	EXPONENT -2		226-227	CHAR. 3 T	CHAR. 4	
198-199	ADDITIVE CONSTANT 0			228-229	START BYTE 36	BYTES/ ELEMENT 2	
200-201	CHAR. 1 S	CHAR. 2 T	SURFACE TYPE	230-231	UNUSED 0	UNITS CODE 55	
202-203	CHAR. 3 Y	CHAR. 4 P		232-233	MULT. MANTISSA 1	EXPONENT -2	
204-205	START BYTE 34	BYTES/ ELEMENT 1		234-235	ADDITIVE CONSTANT 0		
206-207	UNUSED 0	UNITS CODE 23		236-237	CHAR. 1 L	CHAR. 2 O	LONGITUDE
208-209	MULT. MANTISSA 1	EXPONENT 0		238-239	CHAR. 3 N	CHAR. 4	

SDR DATA DESCRIPTION BLOCK (CONTINUED)

BYTES		BYTES					
240- 241	START	BYTES/		270- 271	ADDITIVE		

	BYTE 38	ELEMENT 2			CONSTANT 0		
242- 243	UNUSED 0	UNITS CODE 55		272- 273	CHAR. 1 S	CHAR. 2 T	SURFACE TYPE
244- 245	MULT. MANTISSA 1	EXPONENT -2		274- 275	CHAR. 3 Y	CHAR. 4 P	
246- 247	ADDITIVE CONSTANT 0			276- 277	START BYTE 44	BYTES/ ELEMENT 1	
248- 249	CHAR. 1 T	CHAR. 2 8	85 GHz V BRIGHTNESS TEMP.	278- 279	UNUSED 0	UNITS CODE 23	
250- 251	CHAR. 3 5	CHAR. 4 V		280- 281	MULT. MANTISSA 1	EXPONENT 0	
252- 253	START BYTE 40	BYTES/ ELEMENTS 2		282- 283	ADDITIVE CONSTANT 0		
254- 255	UNUSED 0	UNITS CODE 1		284- 285	CHAR. 1 P	CHAR. 2 O	POSITION NUMBER
256- 257	MULT. MANTISSA 1	EXPONENT -2		286- 287	CHAR. 3 N	CHAR. 4 O	
258- 259	ADDITIVE CONSTANT 0			288- 289	START BYTE 45	BYTES/ ELEMENT 1	
260- 261	CHAR. 1 T	CHAR. 2 8	85 GHz H BRIGHTNESS TEMP.	290- 291	UNUSED 0	UNITS CODE 23	
262- 263	CHAR. 3 5	CHAR. 4 H		292- 293	MULT. MANTISSA 1	EXPONENT 0	
264- 265	START BYTE 42	BYTES/ ELEMENT 2		294- 295	ADDITIVE CONSTANT 0		
266- 267	UNUSED 0	UNITS CODE 1		296- 297	CHAR. 1 L	CHAR. 2 A	LATITUDE
268- 269	MULT. MANTISSA 1	EXPONENT -2		298- 299	CHAR. 3 T	CHAR. 4	

SDR DATA DESCRIPTION BLOCK (CONTINUED)

BYTES				BYTES			
300-301	START BYTE 46	BYTES/ ELEMENT 2		330-331	ADDITIVE CONSTANT 0		
302-303	UNUSED 0	UNITS CODE 55		332-333	CHAR. 1 T	CHAR. 2 8	85 GHz H BRIGHTNESS TEMP.
304-305	MULT. MANTISSA 1	EXPONENT -2		334-335	CHAR. 3 5	CHAR. 4 H	
306-307	ADDITIVE CONSTANT 0			336-337	START BYTE 52	BYTES/ ELEMENT 2	
308-309	CHAR. 1 L	CHAR. 2 O	LONGITUDE	338-339	UNUSED 0	UNITS CODE 1	
310-311	CHAR. 3 N	CHAR. 4		340-341	MULT. MANTISSA 1	EXPONENT -2	
312-313	START BYTE 48	BYTES/ ELEMENTS 2		342-343	ADDITIVE CONSTANT 0		
314-315	UNUSED 0	UNITS CODE 55		344-345	CHAR. 1 S	CHAR. 2 T	SURFACE TYPE
316-317	MULT. MANTISSA 1	EXPONENT -2		346-347	CHAR. 3 Y	CHAR. 4 P	
318-319	ADDITIVE CONSTANT 0			348-349	START BYTE 54	BYTES/ ELEMENT 1	
320-321	CHAR. 1 T	CHAR. 2 8	85 GHz V BRIGHTNESS TEMP.	350-351	UNUSED 0	UNITS CODE 23	
322-323	CHAR. 3 5	CHAR. 4 V		352-353	MULT. MANTISSA 1	EXPONENT 0	
324-325	START BYTE 50	BYTES/ ELEMENT 2		354-355	ADDITIVE CONSTANT 0		
326-327	UNUSED	UNITS CODE		356-357	CHAR. 1	CHAR. 2	POSITION NUMBER

	0	1			P	O	
328-329	MULT. MANTISSA 1	EXPONENT -2		358-359	CHAR. 3 N	CHAR. 4 O	

SDR DATA DESCRIPTION BLOCK (CONTINUED)

BYTES

360- 361	START BYTE 55	BYTES/ ELEMENT 1
362- 363	UNUSED 0	UNITS CODE 23
364- 365	MULT. MANTISSA 1	EXPONENT 0
366- 367	ADDITIVE CONSTANT 0	
368- 369	CHECKSUM (CALC. IN SMIDEF)	

SDR Rev Header Data Block Format

Data
Word Type Contents Comments

1 I*2 Block length Length of Block in Terms of I*2 Words(15)

2 Byte Mode Binary 8-Bit Number(3)

3 Byte Submode Binary 8-Bit Number(1)

4 I*2 Spacecraft ID Binary Number

5 I*2 Revolution/Orbit Number Binary Number

6 I*2 Julian day Data Begin Binary Number

7 Byte Hr. Data Begins Binary 8-Bit Number

8 Byte Min. Data Begins Binary 8-Bit Number

9 Byte Sec. Data Begins Binary 8-Bit Number

10 Byte Day Data Ends(1) Binary 8-Bit Number

11 Byte Day Data Ends (2) Binary 8-Bit Number

12 Byte Hr. Data Ends Binary 8-Bit Number

13 Byte Min. Data Ends Binary 8-Bit Number

14 Byte Sec. Data Ends Binary 8-Bit Number

15 Byte Julian Day of 1st Ascending Node Binary 16-Bit Number

16 Byte Hr. 1st A.N. Binary 8-Bit Number

17 Byte Min. First A.N Binary 8-Bit Number

SDR Rev Header Data Block Format(continued)

Data Word **Type** **Contents** **Comments**

18 I*2 Sec. 1st A.N. Binary 8-Bit Number

19 I*2 Logical Sat. ID Binary 16-Bit Number

20 I*2 Checksum Binary Number

REV HEADER DATA BLOCK FORMAT

BYTES

0-1	BLOCK LENGTH
2-3	BLOCK ID
4-7	SPACECRAFT ID
8-11	

	REVOLUTION/ ORBIT NUMBER	
12-13	JULIAN DAY DATA BEGINS	
14-15	HR. DATA BEGINS	MIN. DATA BEGINS
16-17	SEC. DATA BEGINS	DAY DATA ENDS (1)
18-19	DAY DATA ENDS (2)	HR. DATA ENDS
20-21	MIN. DATA ENDS	SEC. DATA ENDS
22-23	JULIAN DAY OF 1ST ASCENDING NODE	
24-25	HR. 1ST A.N.	MIN. 1ST A.N.
26-27	SEC. 1ST A.N.	LOGICAL SAT. ID
28-29	CHECKSUM	

2.1.2.1 DATA RECORD FORMAT DESCRIPTION

The data record consists of a Scan Header Block and SDR Data Block found in records 2 through the end of the data set.

The SDR Scan Header has the Scan Counter which is a binary number and the B-SCAN start time is in minutes from the beginning of the day (0 to 86,400). **NOTE:** There are no A-SCAN times associated with these data sets.

The Data Block format is based upon 64 view spots per SCAN and contains a Latitude/Longitude value along with 14 parameters of which one is a spare. All parameters such as ice concentration of 0 at the Equator are available for each of the view spots.

SDR OUTPUT DATA RECORD

RECORD 1

3348 Bytes

Product ID Block 12 Bytes	Data Sequence Block	Data Description Block Pass HRD	Data Description Block Scan HDR	Data Description Block EDR	Data Block Pass HRD	Zero Fill

28 26 190 34 370 30 2670

IDB OUTPUT DATA RECORD
RECORD 2 to END OF FILE

Scan Header Data Fill

12 Bytes	3334 Bytes	2 Bytes_

SDR SCAN HEADER BLOCK

Data Word	Type	Contents	Comments
1	I*2	Block Length	Length of Block in Terms of I*2 Words(6)
2	Byte	Mode	Binary 8-Bit Number
3	Byte	Submode	Binary 8-Bit Number
4	I*2	Scan Counter	Binary 16-Bit Number
5	I*4	B-Scan Start Time	Binary 32-Bit Number
6	I*2	Checksum	Binary Number

SDR SCAN HEADER BLOCK FORMAT

BYTES

0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	SCAN COUNTER

6-9	B-SCAN START TIME
10-11	CHECKSUM

SDR DATA BLOCK FORMAT

Data Word	Type	Contents	Comment
1	I*2	Block Length	Length of Block in Terms of I*2 Words (1667)
2	Byte	Mode	Binary 8-Bit Number(3)
3	Byte	Submode	Binary 8-Bit Number(1)
4	I*2	Scene Station Counter	Binary 8-Bit Number
5	I*2	Latitude	Scene Station Latitude 1 * 10 to the Power of -2
6	I*2	Longitude	Scene Station Longitude 1 * 10 to the Power of -2
7	I*2	19 GHz V Brightness Temp.	Degrees Kelvin * 100
8	I*2	19 GHz H Brightness Temp.	Degrees Kelvin * 100
9	I*2	22 GHz V Brightness Temp.	Degrees Kelvin * 100
10	I*2	37 GHz V Brightness Temp.	Degrees Kelvin * 100
11	I*2	37 GHz H Brightness Temp.	Degrees Kelvin * 100
12	I*2	85 GHz V Brightness Temp.	Degrees Kelvin * 100
13	I*2	85 GHz H Brightness Temp.	Degrees Kelvin * 100
14	Byte	Surface Type	Binary 8-Bit Number
15	Byte	Position Number	Binary 8-Bit Number
16	I*2	Latitude	Scene Station Latitude 1 * 10 to the Power of -2

17 I*2 Longitude Scene Station Longitude
1 * 10 to the Power of -2

18 I*2 85 GHz V Brightness Temp. Degrees Kelvin * 100

19 I*2 85 GHz H Brightness Temp. Degrees Kelvin * 100

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20 Byte Surface Type Binary 8-Bit Number

SDR DATA BLOCK FORMAT(continued)

Data

Word	Type	Contents	Comment
21	Byte	Position Number	Binary 8-Bit Number
22	Repeat	Repeat Words	Repeat Words 16-21 Twice
23	Repeat	Repeat Words	Repeat Words 05-21 63 Times
24	I*2	Checksum	Binary Number

SDR DATA FORMAT BLOCK

BYTES

0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	ALL SCENE STATION COUNTER
6-7	LATITUDE
8-9	LONGITUDE
10-11	19 GHz V Brightness Temp.
12-13	19 GHz H Brightness Temp.
14-15	22 GHz V Brightness Temp.
16-17	37 GHz v Brightness Temp.
18-19	37 GHz H

	Brightness Temp.	
20-21	85 GHz V Brightness Temp.	
22-23	85 GHz H Brightness Temp.	
24-25	SURFACE TYPE	POSITION NUMBER
26-27	LATITUDE	
28-29	LONGITUDE	
30-31	85 GHz V Brightness Temp.	
32-33	85 GHz H Brightness Temp.	
34-35	SURFACE TYPE	POSITION NUMBER
36-55	(REPEAT BYTES 20-30 TWICE)	
56-3331	(REPEAT BYTES 4-55 63 TIMES)	
3332-3333	CHECKSUM	

SDR SHARED PROCESSING FRAME INPUT

12,798 Byte Field

12,798

FIRST FRAME

Product ID Block	Data Sequence Block	Data Description Block Pass HRD	Data Description Block Scan HDR	Data Description Block SDR	Data Block Pass HRD	Data Block Scan HRD	Data Block SDR	Data Block Scan HDR	Data Block SDR	Data Block Scan HDR	Fill "A5"
28	26	190	34	370	30	12	3334	12	3334	12	2118

SECOND FRAME

Data Block	Data Block	Data Block	Data Block	Data Block	Data Block	Data Block	Data Block	Fill "A5"

SDR	Scan HRD	SDR	Scan HRD	SDR	Scan HRD	SDR	Scan HRD	
3334	12	3334	12	3334	12	3334	12	2748

LAST FRAME

Data Block SDR	Data Block Scan HRD		Data Block Scan HRD	Data Block SDR	End Product Block	"Zero" Fill
3334	12		12	3334	6	X

NOTE: The 12/3334 Bytes pattern repeats 3 times per frame.

Converted by Chris Duda

NOAA/NESDIS/OSDPD; Revised August 15, 2002