

HUGHES

SPACE AND COMMUNICATIONS GROUP
HUGHES AIRCRAFT COMPANY

**SPECIAL SENSOR
MICROWAVE/IMAGER
(SSM/I)**

**DATA REQUIREMENTS DOCUMENT
DRD FOR FNOC
(REV C)**

Contract No. F04701-87-0016

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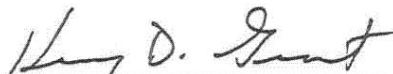
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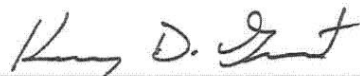
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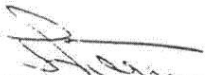
DATA REQUIREMENTS DOCUMENT

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1.0 GENERAL

1.1 PURPOSE OF DATA REQUIREMENTS DOCUMENT

The objectives of this Data Requirements Document for the Special Sensor Microwave/Imager (SSM/I) Contract Number F04701-79-C-0061 are to list and define data elements which the system must handle and to communicate data collection requirements to the user.

1.2 PROJECT REFERENCES

1.2.1 SSM/I Description

The SSM/I consists of a passive, scanning microwave radiometer sensor and the associated ground processing.

The sensor is mounted on a Defense Meteorological Satellite Program (DMSP) satellite that flies in a sun synchronous, nearly polar orbit with orbital period of approximately 100 minutes. The SSM/I sensor rotates in a circular scan with a nominal 1.9 second period, and collects sensor data during approximately 102 degrees of each rotation. During the remainder of each rotation, short bursts of calibration readings from hot and cold calibration sources are taken. The 102 degrees of sensor data provides a nominal 1394 km earth swath width. Figure 1.2-1 shows the SSM/I active scan geometry.

Seven raw sensor data channels are provided as shown in Table 1.2-1. They consist of four distinct frequencies with three of the four frequencies reporting both vertically and horizontally polarized readings. The relationship between readings from the various channels provides distinguishability and quantitative measurement capability to determine environmental conditions. Alternating scans are labeled as "A" and "B" Scans. Each A scan contains 64 sets of all seven channels read concentrically as well as 64 sets of T6 and T7 read midway between the seven channel reading locations. Each B Scan contains 128 sets of T6 and T7. The orbit characteristics determine that the sensor progresses approximately 12.5 km per 1.9 second scan. The combination of this along track motion per scan and the above stated A and B Scan sampling technique yields the Scene Station spacing listed in Table 1.2-1. Figure 1.2-2 illustrates effective scene station sampling. Each of the 128 reading locations per scan are referred to as Scene Stations and an individual channel reading is referred to as a Pixel.

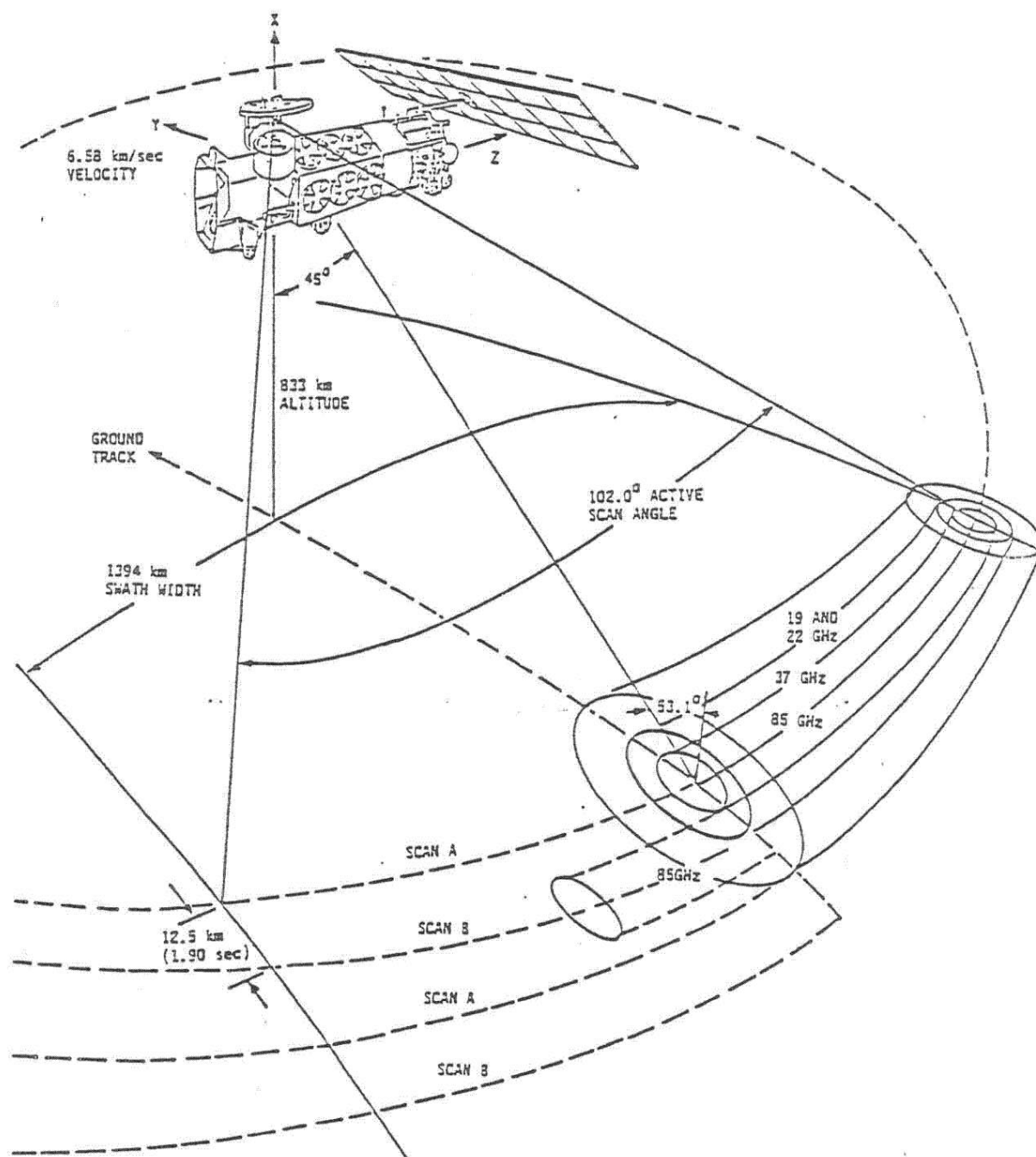


Figure 1.2-1 Active Scan Geometry

TABLE 1.2-1 SSM/I CHANNELS

CHANNEL LEVEL	FREQUENCY/POLARIZATION (GHz) (V = VERTICAL, H = HORIZONTAL)	SCENE STATION SPACING (KM)	EFFECTIVE FOV (KM)
T1	19.35 V	25	55.3
T2	19.35 H	25	55.1
T3	22.2 V	25	48.6
T4	37 V	25	32.2
T5	37 H	25	32.7
T6	85.5 V	12.5	14.8
T7	85.5 H	12.5	14.8

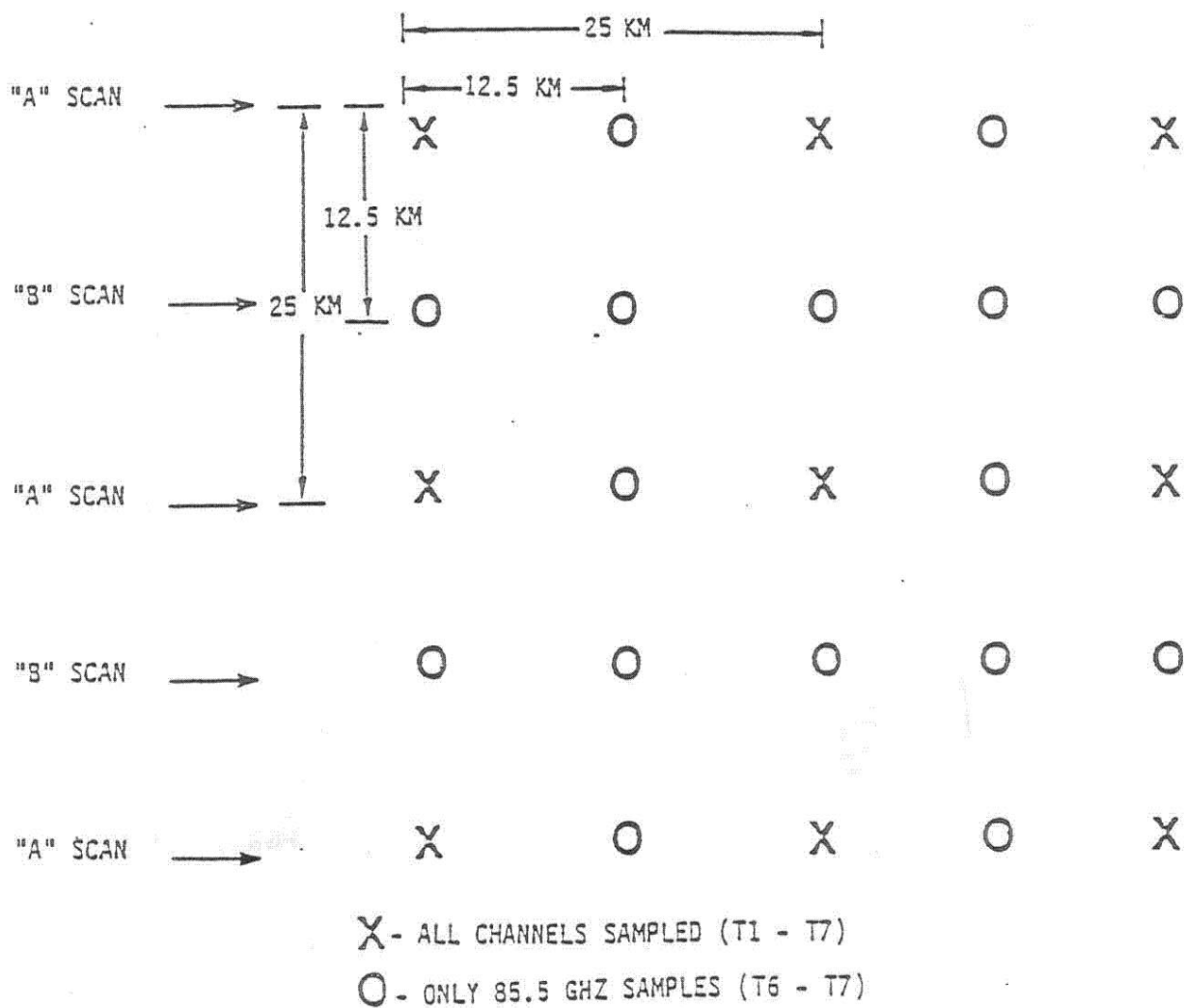


Figure 1.2-2 Effective Scene Station Spacing

Table 1.2-1 shows the effective antenna Field-of-View (FOV) for each of the channels. The numbers represent the geometric mean of along and cross track three dB characteristics including the effects of cross track antenna beam smearing. At the low frequencies the beam width is considerably greater than the Scene Station sampling spacing.

The raw data stream is packaged to be compatible with one second Operational Linescan System (OLS) sampling. The OLS will accept a 3276 bit block from the SSM/I sensor each second. Table 1.2-2 identifies block types generated by the SSM/I and their basic contents. The series of blocks 0-6 contain data from two sets of A and B Scans. For the purpose of this specification, a Frame is defined as the set of blocks 0-6, which is the basic input set into Special Microwave Imager (SMI). A Block Type 7 data block will be received if the SSM/I sensor is not ready to send data when the OLS 1 second sample is requested. It should occur approximately every 12 seconds and may be intermingled in the normal 0-6 sequence.

The satellite relays a revolution of data to the ground while rewinding its recorded tape so the data is received in reversed order. One implication of this is that the block types will be received in decremting order.

1.2.2 Processing Summary

The raw sensor stream is ground processed at two locations:

- 1) Fleet Numerical Oceanography Center (FNOC) Monterey
- 2) Air Force Global Weather Central (AFGWC) Omaha

Figure 1.2-3 illustrates the sensor and ground processing and the system errors allocated to the various sources.

The ground processing consists of precisely Earth locating the sets of samples and calculating environmental parameters based upon subsets of the various brightness temperature channels. The environmental parameters normally calculated for each of the Earth surface types are the following:

TABLE 1.2-2 BLOCK TYPE RAW DATA

<u>BLOCK TYPE</u>	<u>DATA DESCRIPTION</u>	<u>NUMBER OF 12-BIT SAMPLES</u>
0	Scan A Sensor	273
1	Scan A Sensor	273
2	Scan A Calibration & Scan B Sensor	270
3	Scan B Sensor & Calibration Scan A Sensor	272
4	Scan A Sensor	273
5	Scan A Sensor & Calibration	272
6	Scan B Sensor & Calibration	252
7	None (fill)	0

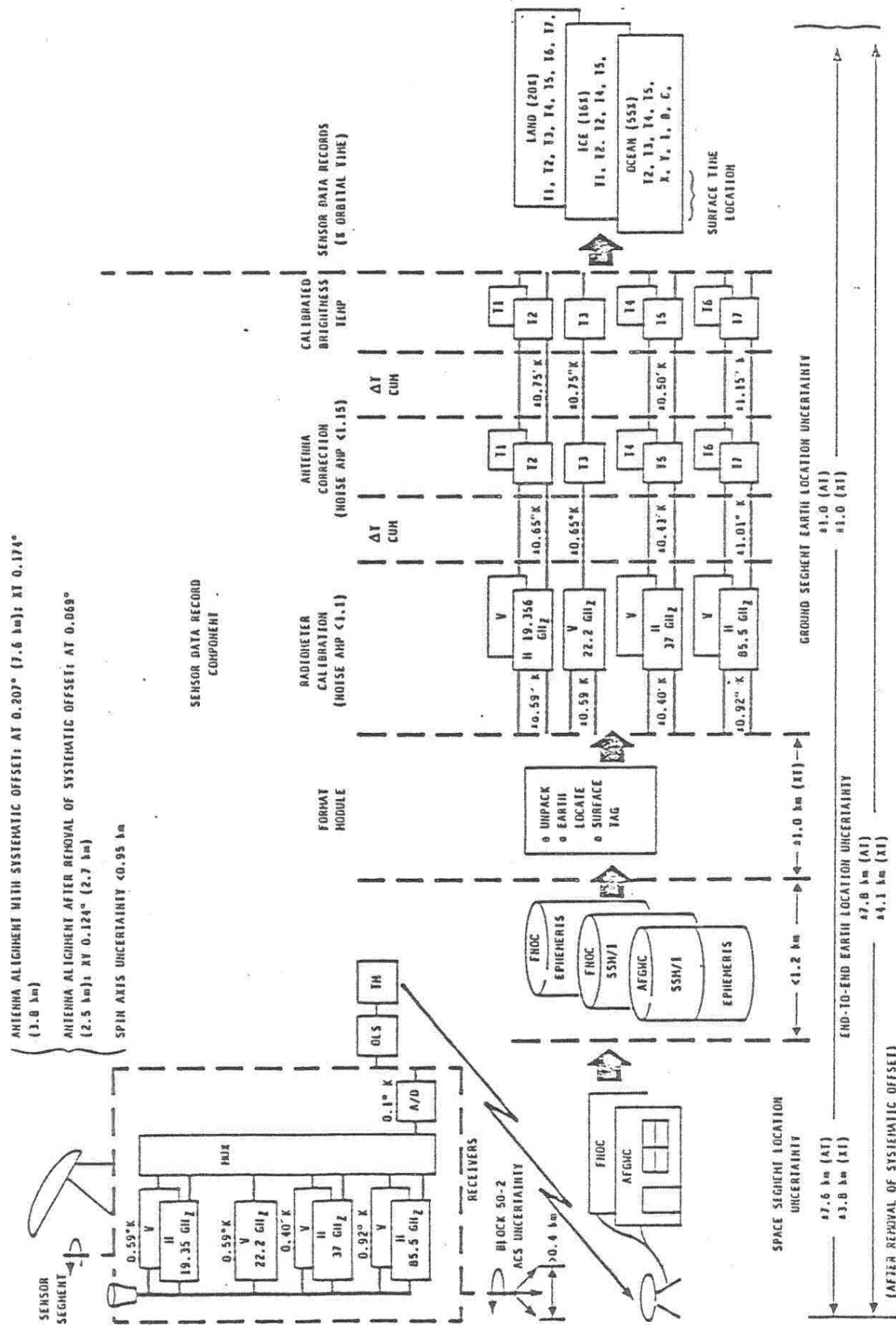


Figure 1.2-3 End-to-End System Performance Allocation

<u>Surface Tag</u>	<u>Calculated Parameters</u>
ICE	Ice Age Ice Edge Ice Concentration Cloud Water
LAND	Rain Intensity Soil Moisture Cloud Water Surface Type Surface Temperature
OCEAN	Wind Speed Rain Intensity Cloud Water Water Vapor
COAST	None

The SMI Computer Program Configuration Item (CPCI) includes all software required to perform ground processing of SSM/I data. In addition, it includes simulated data required to adequately exercise and verify the main SMI processing capabilities.

The SMI CPCI is divided into major functions which are categorized as Computer Program Components (CPCs) in succeeding references in this document.

Each CPC is described with its complete assigned alphanumeric label (6 characters), as well as its abbreviated label (3 characters) as used in the Requirements Sections. The abbreviated label is achieved by disregarding the SMI section of each complete label. The functions of the SMI CPCs are summarized below.

- 1) Sensor Data Processing - (SMISDP, SDP) - The task of this CPC is to read in raw SSM/I data and generate Sensor Data Records (SDRs) and Temperature Data Records (TDRs). SDRs are Earth located sets of brightness temperatures. TDRs are Earth located sets of antenna temperatures stored prior to antenna pattern correction. Subtasks of this CPC include Earth location, surface tagging, calibration and antenna pattern correction.
- 2) Environmental Parameter Extraction - (SMIEPE, EPE) - The task of this CPC is to read SDRs generated by SDP and calculate Environmental Data Records (EDRs). EDRs are Earth located environmental parameter values.
- 3) Sensor Health Monitor - (SMISHM, SHM) - The task of this CPC is to monitor telemetry data, brightness temperatures in defined areas, and counts of out of limit parameters. SHM warns the user when it detects abnormal conditions.
- 4) Data Exchange Format - (SMIDEF, DEF) - The task of this CPC is to convert the files produced by SDP and EPE to standard Data Exchange Format (DEF) for subsequent archival.

1.2.3 Applicable Documents

The documents, of exact issue shown, form a part of this specification.

Specifications and Standards

DOD-S-7935.1 77 Sept 13	Automated Data System Documentation Standards
SS-YD-808 78 Aug 10	SSM/I Microwave Environmental Sensor System Segment Specification (with all current changes)

Reference Documents

IS-YD-817 75 Jan Change 01 78 Jan 01	Special Sensor/OLS Interface Specification for the Block 5D-2 Configuration of the DMSP System
FCM-S2-1982 82 Aug	Standard Formats for Weather Data Exchange Among Automated Weather Information Systems

Reference Documents (Cont'd.)

CDRL 015A1 86 Mar	Special Sensor Microwave/Imager (SSM/I) User Manual (Computer Program) Manual for FNOC
CDRL 013A1 86 Mar	Special Sensor Microwave/Imager (SSM/I) Program Maintenance Manual for FNOC, Revision A

1.3 **TERMS AND ABBREVIATIONS**

AFGWC	Air Force Global Weather Central
APC	Antenna Pattern Correction
ASCII	ANSI Standard Code For Information Interchange
CDRL	Contract Data Requirements List
CPC	Computer Program Component
CPCI	Computer Program Configuration Item
CWI	Cloud Water over Ice
CWL	Cloud Water over Land
CWO	Cloud Water over Ocean
dB	Decibel
DEF	Data Exchange Format
DMSP	Defense Meteorological Satellite Program
DRD	Data Requirements Document
ECHO	Extremely High Capacity Online Storage
ECS	Extended Core Storage
EDR	Environmental Data Record
EPE	Environmental Parameter Extraction
FNOC	Fleet Numerical Oceanography Center (was FNWC)
FNWC	Fleet Numerical Weather Central
FOV	Field of View
FQT	Formal Qualification Test
GHz	Gigahertz
HAC	Hughes Aircraft Company
IA	Ice Age
IC	Ice Concentration
IE	Ice Edge
K	Kelvins
km	Kilometer

1.3 TERMS AND ABBREVIATIONS (Continued)

LAT	Latitude
LONG	Longitude
mm/hr	Millimeters Per Hour
m/s	Meters Per Second
ND	Non-Dimensional
OLS	Operational Linecan System
PCT	Process Control Table
QDR	Quality Data Record
Rev	Revolution
RL	Rain over Land
RO	Rain over Ocean
RT	Radiative Transmissivity
SDP	Sensor Data Processing
SDR	Sensor Data Record
SM	Soil Moisture
SMI	Special Microwave Imager
SMIDEF	Special Microwave Imager Data Exchange Format CPC
SMIEPE	Special Microwave Imager Environmental Parameter Extraction CPC
SMISDP	Special Microwave Imager Sensor Data Processing CPC
SMISHM	Special Microwave Imager Sensor Health Monitor CPC
SSM/I	Special Sensor Microwave Imager
SW	Surface Wind Speed (Ocean)
TBS	Brightness Temperature
TDR	Temperature Data Records
T1	19.35 GHz Vertically Polarized Channel Temperature
T2	19.35 GHz Horizontally Polarized Channel Temperature
T3	22.2 GHz Vertically Polarized Channel Temperature
T4	37 GHz Vertically Polarized Channel Temperature
T5	37 GHz Horizontally Polarized Channel Temperature

1.3 **TERMS AND ABBREVIATIONS (Continued)**

T6 85.5 GHz Vertically Polarized Channel Temperature
T7 85.5 GHz Horizontally Polarized Channel
 Temperature

USAF United States Air Force

1.4 **MODIFICATION OF DATA REQUIREMENTS**

Modification of data requirements will be accomplished in accordance with the SSM/I Configuration Management Plan.

1.5 **SECURITY**

There are no portions of the SMI CPCI that are classified or have privacy restrictions.

2.0 DATA DESCRIPTION

2.1 LOGICAL ORGANIZATION OF STATIC SYSTEM DATA

All static data elements required by the SMI CPCI are contained in three static data files: the Sensor Calibration File, the Parameter Extraction Coefficients File, and the Surface Type File. A detailed description of each of these files is given below in Sections 2.1.1 thru 2.1.3. For each file, a functional description and a detailed interface specification is given, along with any figures and tables that are deemed necessary to fully describe both the format and the content of each file.

2.1.1 Sensor Calibration File - (SMSENCnn.PAR)

2.1.1.1 Functional Description

This file contains sensor characteristics, such as alignment, bias, and temperatures. The sensor constants are used by SMISDP for the earth location and calibration processes.

This file also contains coefficients for use by the Antenna Pattern Correction (APC) process. The APC function uses values of neighboring pixels to convert brightness temperatures of a pixel. The function uses samples from the same frequency, but of both polarizations. An exception to this rule is that 22V uses an estimated 22H based on 19H for its corrections. The data in this file is in DEF as defined in "Standard Formats for Weather Data Exchange Among Automated Weather Information Systems" (FCM-S2-1982).

2.1.1.2 Physical Interface Specification

The SMISENCnn file contains the following DEF blocks:

1. Product Identification block
2. Sensor Constants Data Description block #1
3. Sensor Constants Data block #1
4. Sensor Constants Data Description block #2
5. Sensor Constants Data block #2
6. Sensor Constants Data Description block #3
7. Sensor Constants Data block #3
8. APC Coefficients Data Description block
9. APC Coefficients Data block
10. End of Product block

Figure 2.1.1-1 shows the overall file structure. Figures 2.1.1-2 through 2.1.1-11 show the formats for each block in the file. Numeric data shown in the block figures are right-justified; ASCII character data are left-justified. The numeric values are displayed in decimal except for Mode, Submode, Units Code and Checksum; these values are displayed in octal.

Each DEF block starts with block length and ends with checksum. DEF does not require the length or checksum of the block to be included. To indicate whether or not these two byte pairs are included, the first two bits of the block are flags. The first indicates if the length has been left off and the second flag indicates if checksum has been left off. Since SMISAC includes both length and checksum in all of its blocks, these two bits are always set to zero. For this reason their presence is not indicated on the diagrams.

The sensor constants portion of this file contains sensor characteristics to portray the geometry of the scan. It contains constants that represent the properties of Earth geometry and conversion constants. It contains cold reference temperatures for each of the seven channels for use in calibration.

The APC function requires different coefficients and applicable neighbors as a function of the scan angle. This file has been structured to provide coefficients for five regions across a scan. The region boundaries are specified by the maximum position number for each region. Within each region, coefficients are supplied for each of the seven raw data channels, T1-T7. For each channel, six coefficients and four indices exist. The coefficients apply (1) to the original pixel to be corrected, (2) to the cross polarization pixel, (3) to the same scene "previous" scan pixel, (4) to the same scene "next" scan pixel, (5) to the scene pixel in "previous" scan direction, and (6) to the scene pixel in "next" scan direction. The indices define (1) the neighboring scene station distance in along scan direction, (2) the neighboring scene station distance in across scan direction, (3) the neighboring scene station in along scan direction for "previous" scan neighbor, and (4) the neighboring scene station in the along scan direction for "next" scan neighbor.

PRODUCT IDENTIFICATION BLOCK (28 BYTES)
SENSOR CONSTANTS DATA DESCRIPTION BLOCK #1 (730 BYTES)
SENSOR CONSTANTS DATA BLOCK #1 (240 BYTES)
SENSOR CONSTANTS DATA DESCRIPTION BLOCK #2 (430 BYTES)
SENSOR CONSTANTS DATA BLOCK #2 (146 BYTES)
SENSOR CONSTANTS DATA DESCRIPTION BLOCK #3 (430 BYTES)
SENSOR CONSTANTS DATA BLOCK #3 (146 BYTES)
APC COEFFICIENTS DATA DESCRIPTION BLOCK (862 BYTES)
APC COEFFICIENTS DATA BLOCK (996 BYTES)
END OF PRODUCT BLOCK (6 BYTES)

Figure 2.1.1-1 Sensor Calibration File Format

BYTES	
0-1	BLOCK LENGTH 14
2-3	MODE SUBMODE 1 1
4-5	CHAR. 1 CHAR. 2 F N
6-7	CHAR. 3 CHAR. 4 O C
8-9	CLASSI- FILE FICATION LIFETIME U 255
10-11	FILE IN- CHAR. 2 DICATOR CHAR. 2 64 T
12-13	CHAR. 3 CHAR. 4 S M
14-15	CHAR. 5 CHAR. 6 I S
16-17	CHAR. 7 CHAR. 8 C F
18-19	CHAR. 9 CHAR. 10 0 8
20-21	YEAR (Set by SMISAC)
22-23	MONTH DAY (Set by SMISAC)
24-25	HOUR MINUTE (Set by SMISAC)
26-27	CHECKSUM (Calc. in SMISAC)

Originator ID

Product Identifier

Figure 2.1.1-2 Product Identification Block

BYTES			
90-91	ADDITIVE CONSTANT	0	
92-93	CHAR. 1 CHAR. 2	<i>Sensor Integ. Time</i>	
	T M		
94-95	CHAR. 3 CHAR. 4		
	N T		
96-97	START BYTE	BYTES/ ELEMENT	
	28	4	
98-99	UNUSED	UNITS CODE	
	0	21	
100-101	MULT. MANTISSA	EXPONENT	
	1	-11	
102-103	ADDITIVE CONSTANT	0	
104-105	CHAR. 1 CHAR. 2	<i>Reference Voltage 1</i>	
	V R		
106-107	CHAR. 3 CHAR. 4		
	1		
108-109	START BYTE	BYTES/ ELEMENT	
	32	4	
110-111	UNUSED	UNITS CODE	
	0	19	
112-113	MULT. MANTISSA	EXPONENT	
	1	-8	
114-115	ADDITIVE CONSTANT	0	
116-117	CHAR. 1 CHAR. 2	<i>Reference Voltage 2</i>	
	V R		
118-119	CHAR. 3 CHAR. 4		
	2		
BYTES			
120-121	START BYTE	BYTES/ ELEMENT	
	36	4	
122-123	UNUSED	UNITS CODE	
	0	19	
124-125	MULT. MANTISSA	EXPONENT	
	0	0	
126-127	ADDITIVE CONSTANT	0	
128-129	CHAR. 1 CHAR. 2	<i>Hot Load I - A0</i>	
	H L		
130-131	CHAR. 3 CHAR. 4		
	1 0		
132-133	START BYTE	BYTES/ ELEMENT	
	40	4	
134-135	UNUSED	UNITS CODE	
	0	19	
136-137	MULT. MANTISSA	EXPONENT	
	1	-7	
138-139	ADDITIVE CONSTANT	0	
140-141	CHAR. 1 CHAR. 2	<i>Hot Load I - A1</i>	
	H L		
142-143	CHAR. 3 CHAR. 4		
	1 1		
144-145	START BYTE	BYTES/ ELEMENT	
	44	4	
146-147	UNUSED	UNITS CODE	
	0	19	
148-149	MULT. MANTISSA	EXPONENT	
	1	-8	
BYTES			
150-151	ADDITIVE CONSTANT	0	
152-153	CHAR. 1 CHAR. 2	<i>Hot Load I - A2</i>	
	H L		
154-155	CHAR. 3 CHAR. 4		
	1 2		
156-157	START BYTE	BYTES/ ELEMENT	
	48	4	
158-159	UNUSED	UNITS CODE	
	0	19	
160-161	MULT. MANTISSA	EXPONENT	
	1	-15	
162-163	ADDITIVE CONSTANT	0	
164-165	CHAR. 1 CHAR. 2	<i>Hot Load I - A3</i>	
	H L		
166-167	CHAR. 3 CHAR. 4		
	1 3		
168-169	START BYTE	BYTES/ ELEMENT	
	52	4	
170-171	UNUSED	UNITS CODE	
	0	19	
172-173	MULT. MANTISSA	EXPONENT	
	1	-18	
174-175	ADDITIVE CONSTANT	0	
176-177	CHAR. 1 CHAR. 2	<i>Hot Load I - A4</i>	
	H L		
178-179	CHAR. 3 CHAR. 4		
	1 4		

Figure 2.1.1-3 Sensor Calibration File Data Description
Block #1 (Cont)

BYTES			BYTES			BYTES		
180-181	START BYTE	BYTES/ ELEMENT	210-211	ADDITIVE CONSTANT		240-241	START BYTE	BYTES/ ELEMENT
	56	4		0			76	4
182-183	UNUSED	UNITS CODE	212-213	CHAR. 1	CHAR. 2	242-243	UNUSED	UNITS CODE
	0	19		H	L		0	19
184-185	MULT. MANTISSA	EXPONENT	214-215	CHAR. 3	CHAR. 4	244-245	MULT. MANTISSA	EXPONENT
	0	0		2	1		1	-18
186-187	ADDITIVE CONSTANT		216-217	START BYTE	BYTES/ ELEMENT	246-247	ADDITIVE CONSTANT	
	0			68	4		0	
188-189	CHAR. 1	CHAR. 2	218-219	UNUSED	UNITS CODE	248-249	CHAR. 1	CHAR. 2
	H	L		0	19		H	L
190-191	CHAR. 3	CHAR. 4	220-221	MULT. MANTISSA	EXPONENT	250-251	CHAR. 3	CHAR. 4
	1	5		1	-10		2	4
192-193	START BYTE	BYTES/ ELEMENT	222-223	ADDITIVE CONSTANT		252-253	START BYTE	BYTES/ ELEMENT
	60	4		0			80	4
194-195	UNUSED	UNITS CODE	224-225	CHAR. 1	CHAR. 2	254-255	UNUSED	UNITS CODE
	0	19		H	L		0	19
196-197	MULT. MANTISSA	EXPONENT	226-227	CHAR. 3	CHAR. 4	256-257	MULT. MANTISSA	EXPONENT
	0	0		2	2		0	0
198-199	ADDITIVE CONSTANT		228-229	START BYTE	BYTES/ ELEMENT	258-259	ADDITIVE CONSTANT	
	0			72	4		0	
200-201	CHAR. 1	CHAR. 2	230-231	UNUSED	UNITS CODE	260-261	CHAR. 1	CHAR. 2
	H	L		0	19		H	L
202-203	CHAR. 3	CHAR. 4	232-233	MULT. MANTISSA	EXPONENT	262-263	CHAR. 3	CHAR. 4
	2	0		1	-15		2	5
204-205	START BYTE	BYTES/ ELEMENT	234-235	ADDITIVE CONSTANT		264-265	START BYTE	BYTES/ ELEMENT
	64	4		0			84	4
206-207	UNUSED	UNITS CODE	236-237	CHAR. 1	CHAR. 2	266-267	UNUSED	UNITS CODE
	0	19		H	L		0	19
208-209	MULT. MANTISSA	EXPONENT	238-239	CHAR. 3	CHAR. 4	268-269	MULT. MANTISSA	EXPONENT
	1	-10		2	3		1	-7

Figure 2.1.1-3 Sensor Calibration File Data Description
Block #1 (Cont)

270-271	ADDITIVE CONSTANT	0	
272-273	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A0
274-275	CHAR. 3 CHAR. 4	3 0	
276-277	START BYTE	88	4
278-279	UNUSED UNITS CODE	0 19	
280-281	MULT. MANTISSA	1	-7
282-283	EXPONENT		
284-285	ADDITIVE CONSTANT	0	
286-287	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A1
288-289	CHAR. 3 CHAR. 4	3 1	
290-291	START BYTE	92	4
292-293	UNUSED UNITS CODE	0 19	
294-295	MULT. MANTISSA	1	-8
296-297	EXPONENT		
298-299	ADDITIVE CONSTANT	0	
300-301	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A2
302-303	CHAR. 3 CHAR. 4	3 2	
304-305	START BYTE	96	4
306-307	UNUSED UNITS CODE	0 19	
308-309	MULT. MANTISSA	1	-15
310-311	EXPONENT		
312-313	ADDITIVE CONSTANT	0	
314-315	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A3
316-317	CHAR. 3 CHAR. 4	3 3	
318-319	START BYTE	100	4
320-321	UNUSED UNITS CODE	0 19	
322-323	MULT. MANTISSA	1	-18
324-325	EXPONENT		
326-327	ADDITIVE CONSTANT	0	
328-329	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A4
330-331	CHAR. 3 CHAR. 4	3 4	
332-333	START BYTE	104	4
334-335	UNUSED UNITS CODE	0 19	
336-337	MULT. MANTISSA	1	-4
338-339	EXPONENT		
340-341	ADDITIVE CONSTANT	0	
342-343	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A5
344-345	CHAR. 3 CHAR. 4	3 5	
346-347	START BYTE	108	4
348-349	UNUSED UNITS CODE	0 19	
350-351	MULT. MANTISSA	0	0
352-353	EXPONENT		
354-355	ADDITIVE CONSTANT	0	
356-357	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A6
358-359	CHAR. 3 CHAR. 4	3 6	
360-361	START BYTE	112	4
362-363	UNUSED UNITS CODE	0 19	
364-365	MULT. MANTISSA	-1	-4
366-367	EXPONENT		
368-369	ADDITIVE CONSTANT	0	
370-371	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A7
372-373	CHAR. 3 CHAR. 4	3 7	
374-375	START BYTE	116	4
376-377	UNUSED UNITS CODE	0 19	
378-379	MULT. MANTISSA	0	0
380-381	EXPONENT		
382-383	ADDITIVE CONSTANT	0	
384-385	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A8
386-387	CHAR. 3 CHAR. 4	3 8	
388-389	START BYTE	120	4
390-391	UNUSED UNITS CODE	0 19	
392-393	MULT. MANTISSA	0	0
394-395	EXPONENT		
396-397	ADDITIVE CONSTANT	0	
398-399	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A9
400-401	CHAR. 3 CHAR. 4	3 9	
402-403	START BYTE	124	4
404-405	UNUSED UNITS CODE	0 19	
406-407	MULT. MANTISSA	0	0
408-409	EXPONENT		
410-411	ADDITIVE CONSTANT	0	
412-413	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A10
414-415	CHAR. 3 CHAR. 4	3 A	
416-417	START BYTE	128	4
418-419	UNUSED UNITS CODE	0 19	
420-421	MULT. MANTISSA	0	0
422-423	EXPONENT		
424-425	ADDITIVE CONSTANT	0	
426-427	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A11
428-429	CHAR. 3 CHAR. 4	3 B	
430-431	START BYTE	132	4
432-433	UNUSED UNITS CODE	0 19	
434-435	MULT. MANTISSA	0	0
436-437	EXPONENT		
438-439	ADDITIVE CONSTANT	0	
440-441	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A12
442-443	CHAR. 3 CHAR. 4	3 C	
444-445	START BYTE	136	4
446-447	UNUSED UNITS CODE	0 19	
448-449	MULT. MANTISSA	0	0
450-451	EXPONENT		
452-453	ADDITIVE CONSTANT	0	
454-455	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A13
456-457	CHAR. 3 CHAR. 4	3 D	
458-459	START BYTE	140	4
460-461	UNUSED UNITS CODE	0 19	
462-463	MULT. MANTISSA	0	0
464-465	EXPONENT		
466-467	ADDITIVE CONSTANT	0	
468-469	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A14
470-471	CHAR. 3 CHAR. 4	3 E	
472-473	START BYTE	144	4
474-475	UNUSED UNITS CODE	0 19	
476-477	MULT. MANTISSA	0	0
478-479	EXPONENT		
480-481	ADDITIVE CONSTANT	0	
482-483	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A15
484-485	CHAR. 3 CHAR. 4	3 F	
486-487	START BYTE	148	4
488-489	UNUSED UNITS CODE	0 19	
490-491	MULT. MANTISSA	0	0
492-493	EXPONENT		
494-495	ADDITIVE CONSTANT	0	
496-497	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A16
498-499	CHAR. 3 CHAR. 4	3 G	
500-501	START BYTE	152	4
502-503	UNUSED UNITS CODE	0 19	
504-505	MULT. MANTISSA	0	0
506-507	EXPONENT		
508-509	ADDITIVE CONSTANT	0	
510-511	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A17
512-513	CHAR. 3 CHAR. 4	3 H	
514-515	START BYTE	156	4
516-517	UNUSED UNITS CODE	0 19	
518-519	MULT. MANTISSA	0	0
520-521	EXPONENT		
522-523	ADDITIVE CONSTANT	0	
524-525	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A18
526-527	CHAR. 3 CHAR. 4	3 I	
528-529	START BYTE	160	4
530-531	UNUSED UNITS CODE	0 19	
532-533	MULT. MANTISSA	0	0
534-535	EXPONENT		
536-537	ADDITIVE CONSTANT	0	
538-539	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A19
540-541	CHAR. 3 CHAR. 4	3 J	
542-543	START BYTE	164	4
544-545	UNUSED UNITS CODE	0 19	
546-547	MULT. MANTISSA	0	0
548-549	EXPONENT		
550-551	ADDITIVE CONSTANT	0	
552-553	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A20
554-555	CHAR. 3 CHAR. 4	3 K	
556-557	START BYTE	168	4
558-559	UNUSED UNITS CODE	0 19	
560-561	MULT. MANTISSA	0	0
562-563	EXPONENT		
564-565	ADDITIVE CONSTANT	0	
566-567	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A21
568-569	CHAR. 3 CHAR. 4	3 L	
570-571	START BYTE	172	4
572-573	UNUSED UNITS CODE	0 19	
574-575	MULT. MANTISSA	0	0
576-577	EXPONENT		
578-579	ADDITIVE CONSTANT	0	
580-581	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A22
582-583	CHAR. 3 CHAR. 4	3 M	
584-585	START BYTE	176	4
586-587	UNUSED UNITS CODE	0 19	
588-589	MULT. MANTISSA	0	0
590-591	EXPONENT		
592-593	ADDITIVE CONSTANT	0	
594-595	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A23
596-597	CHAR. 3 CHAR. 4	3 N	
598-599	START BYTE	180	4
600-601	UNUSED UNITS CODE	0 19	
602-603	MULT. MANTISSA	0	0
604-605	EXPONENT		
606-607	ADDITIVE CONSTANT	0	
608-609	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A24
610-611	CHAR. 3 CHAR. 4	3 O	
612-613	START BYTE	184	4
614-615	UNUSED UNITS CODE	0 19	
616-617	MULT. MANTISSA	0	0
618-619	EXPONENT		
620-621	ADDITIVE CONSTANT	0	
622-623	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A25
624-625	CHAR. 3 CHAR. 4	3 P	
626-627	START BYTE	188	4
628-629	UNUSED UNITS CODE	0 19	
630-631	MULT. MANTISSA	0	0
632-633	EXPONENT		
634-635	ADDITIVE CONSTANT	0	
636-637	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A26
638-639	CHAR. 3 CHAR. 4	3 Q	
640-641	START BYTE	192	4
642-643	UNUSED UNITS CODE	0 19	
644-645	MULT. MANTISSA	0	0
646-647	EXPONENT		
648-649	ADDITIVE CONSTANT	0	
650-651	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A27
652-653	CHAR. 3 CHAR. 4	3 R	
654-655	START BYTE	196	4
656-657	UNUSED UNITS CODE	0 19	
658-659	MULT. MANTISSA	0	0
660-661	EXPONENT		
662-663	ADDITIVE CONSTANT	0	
664-665	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A28
666-667	CHAR. 3 CHAR. 4	3 S	
668-669	START BYTE	200	4
670-671	UNUSED UNITS CODE	0 19	
672-673	MULT. MANTISSA	0	0
674-675	EXPONENT		
676-677	ADDITIVE CONSTANT	0	
678-679	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A29
680-681	CHAR. 3 CHAR. 4	3 T	
682-683	START BYTE	204	4
684-685	UNUSED UNITS CODE	0 19	
686-687	MULT. MANTISSA	0	0
688-689	EXPONENT		
690-691	ADDITIVE CONSTANT	0	
692-693	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A30
694-695	CHAR. 3 CHAR. 4	3 U	
696-697	START BYTE	208	4
698-699	UNUSED UNITS CODE	0 19	
700-701	MULT. MANTISSA	0	0
702-703	EXPONENT		
704-705	ADDITIVE CONSTANT	0	
706-707	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A31
708-709	CHAR. 3 CHAR. 4	3 V	
710-711	START BYTE	212	4
712-713	UNUSED UNITS CODE	0 19	
714-715	MULT. MANTISSA	0	0
716-717	EXPONENT		
718-719	ADDITIVE CONSTANT	0	
720-721	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A32
722-723	CHAR. 3 CHAR. 4	3 W	
724-725	START BYTE	216	4
726-727	UNUSED UNITS CODE	0 19	
728-729	MULT. MANTISSA	0	0
730-731	EXPONENT		
732-733	ADDITIVE CONSTANT	0	
734-735	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A33
736-737	CHAR. 3 CHAR. 4	3 X	
738-739	START BYTE	220	4
740-741	UNUSED UNITS CODE	0 19	
742-743	MULT. MANTISSA	0	0
744-745	EXPONENT		
746-747	ADDITIVE CONSTANT	0	
748-749	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A34
750-751	CHAR. 3 CHAR. 4	3 Y	
752-753	START BYTE	224	4
754-755	UNUSED UNITS CODE	0 19	
756-757	MULT. MANTISSA	0	0
758-759	EXPONENT		
760-761	ADDITIVE CONSTANT	0	
762-763	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A35
764-765	CHAR. 3 CHAR. 4	3 Z	
766-767	START BYTE	228	4
768-769	UNUSED UNITS CODE	0 19	
770-771	MULT. MANTISSA	0	0
772-773	EXPONENT		
774-775	ADDITIVE CONSTANT	0	
776-777	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A36
778-779	CHAR. 3 CHAR. 4	3 [	
780-781	START BYTE	232	4
782-783	UNUSED UNITS CODE	0 19	
784-785	MULT. MANTISSA	0	0
786-787	EXPONENT		
788-789	ADDITIVE CONSTANT	0	
790-791	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A37
792-793	CHAR. 3 CHAR. 4	3 \	
794-795	START BYTE	236	4
796-797	UNUSED UNITS CODE	0 19	
798-799	MULT. MANTISSA	0	0
800-801	EXPONENT		
802-803	ADDITIVE CONSTANT	0	
804-805	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A38
806-807	CHAR. 3 CHAR. 4	3]	
808-809	START BYTE	240	4
810-811	UNUSED UNITS CODE	0 19	
812-813	MULT. MANTISSA	0	0
814-815	EXPONENT		
816-817	ADDITIVE CONSTANT	0	
818-819	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A39
820-821	CHAR. 3 CHAR. 4	3 ^	
822-823	START BYTE	244	4
824-825	UNUSED UNITS CODE	0 19	
826-827	MULT. MANTISSA	0	0
828-829	EXPONENT		
830-831	ADDITIVE CONSTANT	0	
832-833	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A40
834-835	CHAR. 3 CHAR. 4	3 _	
836-837	START BYTE	248	4
838-839	UNUSED UNITS CODE	0 19	
840-841	MULT. MANTISSA	0	0
842-843	EXPONENT		
844-845	ADDITIVE CONSTANT	0	
846-847	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A41
848-849	CHAR. 3 CHAR. 4	3 `	
850-851	START BYTE	252	4
852-853	UNUSED UNITS CODE	0 19	
854-855	MULT. MANTISSA	0	0
856-857	EXPONENT		
858-859	ADDITIVE CONSTANT	0	
860-861	CHAR. 1 CHAR. 2	H L	Hot Load 3 - A42
862-863	CHAR. 3 CHAR. 4	3 a	

BYTES				BYTES				BYTES								
450-451	ADDITIVE CONSTANT		0			480-481	START BYTE	BYTES/ ELEMENT	156	4						
452-453	CHAR. 1	CHAR. 2	<i>Radiator Temp - A3</i>			482-483	UNUSED	UNITS CODE	0	19						
	R	T				484-485	MULT. MANTISSA	EXPONENT	1	-20						
454-455	CHAR. 3	CHAR. 4					486-487	ADDITIVE CONSTANT		0						
	3						488-489	CHAR. 1	CHAR. 2	<i>Hot Load Gradient Coeff.</i>						
456-457	START BYTE	BYTES/ ELEMENT					490-491	CHAR. 3	CHAR. 4							
	148	4					492-493	START BYTE	BYTES/ ELEMENT	168	4					
458-459	UNUSED	UNITS CODE	0	19			494-495	UNUSED	UNITS CODE	0	19					
460-461	MULT. MANTISSA	EXPONENT	1	-12			496-497	MULT. MANTISSA	EXPONENT	1	-11					
462-463	ADDITIVE CONSTANT		0			498-499	ADDITIVE CONSTANT		0							
464-465	CHAR. 1	CHAR. 2	<i>Radiator Temp - A4</i>			500-501	CHAR. 1	CHAR. 2	<i>On / Off Platinum Sensor #1</i>			520-521	MULT. MANTISSA	EXPONENT		
	R	T				502-503	CHAR. 3	CHAR. 4					1	-9		
466-467	CHAR. 3	CHAR. 4					504-505	START BYTE	BYTES/ ELEMENT	164	4	522-523	ADDITIVE CONSTANT			
	4						506-507	UNUSED	UNITS CODE	0	19		0			
468-469	START BYTE	BYTES/ ELEMENT	152	4			508-509	MULT. MANTISSA	EXPONENT	1	-9	524-525	CHAR. 1	CHAR. 2		
470-471	UNUSED	UNITS CODE	0	19										O	N	
472-473	MULT. MANTISSA	EXPONENT	-1	-16									526-527	CHAR. 3	CHAR. 4	
474-475	ADDITIVE CONSTANT		0												3	
476-477	CHAR. 1	CHAR. 2	<i>Radiator Temp - A5</i>											528-529	START BYTE	BYTES/ ELEMENT
	R	T													172	4
478-479	CHAR. 3	CHAR. 4											530-531	UNUSED	UNITS CODE	
	5													0	19	
												532-533	MULT. MANTISSA	EXPONENT		
													1	-9		
												534-535	ADDITIVE CONSTANT			
													0			
												536-537	CHAR. 1	CHAR. 2		
													C	L		
												538-539	CHAR. 3	CHAR. 4		
															T	1

Figure 2.1.1-3 Sensor Calibration File Data Description
Block #1 (Cont)

Figure 2.1.1-3 Sensor Calibration File Data Description
Block #1 (Cont)

BYTES				BYTES				BYTES			
630-631	ADDITIVE CONSTANT				660-661	START BYTE	BYTES/ ELEMENT	690-691		ADDITIVE CONSTANT	
	0					216	4			0	
632-633	CHAR. 1	CHAR. 2	19 H to 22 H Conv. Slope		662-663	UNUSED	UNITS CODE	692-693		CHAR. 1	CHAR. 2
	S	L				0	19	Read Gate Delay		D	E
634-635	CHAR. 3	CHAR. 4			664-665	MULT. MANTISSA	EXPONENT	694-695		CHAR. 3	CHAR. 4
	2	2				1	-5			L	Y
636-637	START BYTE	BYTES/ ELEMENT			666-667	ADDITIVE CONSTANT		696-697		START BYTE	BYTES/ ELEMENT
	208	4				0				228	4
638-639	UNUSED	UNITS CODE			668-669	CHAR. 1	CHAR. 2	698-699		UNUSED	UNITS CODE
	0	19				E	R	Earth Rotation Factor		0	19
640-641	MULT. MANTISSA	EXPONENT			670-671	CHAR. 3	CHAR. 4	700-701		MULT. MANTISSA	EXPONENT
	1	-9				R	T			1	-9
642-643	ADDITIVE CONSTANT				672-673	START BYTE	BYTES/ ELEMENT	702-703		ADDITIVE CONSTANT	
	0					220	4			0	
644-645	CHAR. 1	CHAR. 2	19 H to 22 H Conv. Slope		674-675	UNUSED	UNITS CODE	704-705		CHAR. 1	CHAR. 2
	O	F				0	19	Logical Space- craft ID		L	S
646-647	CHAR. 3	CHAR. 4			676-677	MULT. MANTISSA	EXPONENT	706-707		CHAR. 3	CHAR. 4
	2	2				1	-11			I	D
648-649	START BYTE	BYTES/ ELEMENT			678-679	ADDITIVE CONSTANT		708-709		START BYTE	BYTES/ ELEMENT
	212	4				0				232	1
650-651	UNUSED	UNITS CODE			680-681	CHAR. 1	CHAR. 2	710-711		UNUSED	UNITS CODE
	0	19				B	T	10 to 16 Point Conv. Lat		0	19
652-653	MULT. MANTISSA	EXPONENT			682-683	CHAR. 3	CHAR. 4	712-713		MULT. MANTISSA	EXPONENT
	1	-7				1	6			1	0
654-655	ADDITIVE CONSTANT				684-685	START BYTE	BYTES/ ELEMENT	714-715		ADDITIVE CONSTANT	
	0					224	4			0	
656-657	CHAR. 1	CHAR. 2	Orbital Period		686-687	UNUSED	UNITS CODE	716-717		CHAR. 1	CHAR. 2
	O	R				0	19	Sensor ID		I	D
658-659	CHAR. 3	CHAR. 4			688-689	MULT. MANTISSA	EXPONENT	718-719		CHAR. 3	CHAR. 4
	P	R				1	-7			S	I

BYTES	
720-721	START BYTE
	233
722-723	BYTES/ ELEMENT
	1
722-723	UNUSED
	0
724-725	UNITS CODE
	19
724-725	MULT. MANTISSA
	0
726-727	EXPONENT
	0
726-727	ADDITIVE CONSTANT
	0
728-729	CHECKSUM
	(Calc. in SMISHM)

Figure 2.1.1-3 Sensor Calibration File Data Description
Block #1 (Cont)

BYTES	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-7	ALIGNMENT TERM 0
8-11	ALIGNMENT TERM 1
12-15	ALIGNMENT TERM 2
16-19	ALIGNMENT TERM 3
20-23	ELEVATION OFFSET ANGLE
24-27	SENSOR SCAN PERIOD
28-31	SENSOR SCAN DIRECTION
32-35	SENSOR INTEGRATION TIME
36-39	REFERENCE VOLTAGE 1
40-43	REFERENCE VOLTAGE 2
44-47	HOT LOAD 1 A0

BYTES	
48-51	HOT LOAD 1 A1
52-55	HOT LOAD 1 A2
56-59	HOT LOAD 1 A3
60-63	HOT LOAD 1 A4
64-67	HOT LOAD 1 A5
68-71	HOT LOAD 2 A0
72-75	HOT LOAD 2 A1
76-79	HOT LOAD 2 A2
80-83	HOT LOAD 2 A3
84-87	HOT LOAD 2 A4
88-91	HOT LOAD 2 A5
92-95	HOT LOAD 3 A0

BYTES	
96-99	HOT LOAD 3 A1
100-103	HOT LOAD 3 A2
104-107	HOT LOAD 3 A3
108-111	HOT LOAD 3 A4
112-115	HOT LOAD 3 A5
116-119	RF MIXER A0
120-123	RF MIXER A1
124-127	RF MIXER A2
128-131	RF MIXER A3
132-135	RF MIXER A4
136-139	RF MIXER A5
140-143	FORWARD RADIATOR A0

Figure 2.1.1-4 Sensor Constants Data Block #1

BYTES		BYTES	
144-147	FORWARD RADIATOR A1	192-195	37V COLD LOAD TEMPERATURE
148-151	FORWARD RADIATOR A2	196-199	37H COLD LOAD TEMPERATURE
152-155	FORWARD RADIATOR A3	200-203	85V COLD LOAD TEMPERATURE
156-159	FORWARD RADIATOR A4	204-207	85H COLD LOAD TEMPERATURE
160-163	FORWARD RADIATOR A5	208-211	SCAN WIDTH HIGH BAND
164-167	HOT LOAD GRADIENT COEFFICIENT	212-215	19H TO 22H CONVERSION SLOPE
168-171	ON / OFF PLATINUM SENSOR #1	216-219	19H TO 22H CONVERSION OFFSET
172-175	ON / OFF PLATINUM SENSOR #2	220-223	ORBITAL PERIOD
176-179	ON / OFF PLATINUM SENSOR #3	224-227	EARTH ROTATION FACTOR
180-183	19V COLD LOAD TEMPERATURE	228-231	10 TO 16 POINT CONVERSION LATITUDE
184-187	19H COLD LOAD TEMPERATURE	232-235	READ GATE DELAY
188-191	22V COLD LOAD TEMPERATURE	236-237	LOGICAL S/C ID
		238-239	CHECKSUM
			SENSOR ID

Figure 2.1.1-4 Sensor Constants Data Block #1 (Cont)

BYTES			BYTES			BYTES		
90-91	ADDITIVE CONSTANT	0	120-121	START BYTE	BYTES/ ELEMENT	150-151	ADDITIVE CONSTANT	0
				36	4			
92-93	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 008</i>	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 013</i>
	C 0			0	19		C 0	
94-95	CHAR. 3 CHAR. 4		124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3 CHAR. 4	
	0 8			0 0			1 3	
96-97	START BYTE	BYTES/ ELEMENT	126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ ELEMENT
	28	4		0			48	4
98-99	UNUSED	UNITS CODE	128-129	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 011</i>	158-159	UNUSED	UNITS CODE
	0	19		C 0			0	19
100-101	MULT. MANTISSA	EXPONENT	130-131	CHAR. 3 CHAR. 4		160-161	MULT. MANTISSA	EXPONENT
	0 0			1 1			0 0	
102-103	ADDITIVE CONSTANT	0	132-133	START BYTE	BYTES/ ELEMENT	162-163	ADDITIVE CONSTANT	0
				48	4			
104-105	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 009</i>	134-135	UNUSED	UNITS CODE	164-165	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 014</i>
	C 0			0	19		C 0	
106-107	CHAR. 3 CHAR. 4		136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3 CHAR. 4	
	0 9			0 0			1 4	
108-109	START BYTE	BYTES/ ELEMENT	138-139	ADDITIVE CONSTANT	0	168-169	START BYTE	BYTES/ ELEMENT
	32	4					52	4
110-111	UNUSED	UNITS CODE	140-141	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 012</i>	170-171	UNUSED	UNITS CODE
	0	19		C 0			0	19
112-113	MULT. MANTISSA	EXPONENT	142-143	CHAR. 3 CHAR. 4		172-173	MULT. MANTISSA	EXPONENT
	0 0			1 2			0 0	
114-115	ADDITIVE CONSTANT	0	144-145	START BYTE	BYTES/ ELEMENT	174-175	ADDITIVE CONSTANT	0
				44	4			
116-117	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 010</i>	146-157	UNUSED	UNITS CODE	176-177	CHAR. 1 CHAR. 2	<i>Offset Bias Coef C 015</i>
	C 0			0	19		C 0	
118-119	CHAR. 3 CHAR. 4		148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3 CHAR. 4	
	1 0			0 0			1 5	

Figure 2.1.1-5 Sensor Calibration File Data Description
Block #2 (Cont)

BYTES	START BYTE	BYTES/ ELEMENT	BYTES	ADDITIVE CONSTANT	BYTES	START BYTE	BYTES/ ELEMENT
180-181	56	4	210-211	0	240-241	76	4
182-183	UNUSED	UNITS CODE	212-213	CHAR. 1 C	242-243	UNUSED	UNITS CODE
	0	19		0		0	19
184-185	MULT. MANTISSA	EXPONENT	214-215	CHAR. 3 1	244-245	MULT. MANTISSA	EXPONENT
	0	0		8		0	0
186-187	ADDITIVE CONSTANT		216-217	START BYTE	246-247	ADDITIVE CONSTANT	
		0		58			0
188-189	CHAR. 1 C	CHAR. 2 0	218-219	UNUSED	248-249	CHAR. 1 C	CHAR. 2 0
				0			
190-191	CHAR. 3 1	CHAR. 4 6	220-221	MULT. MANTISSA	250-251	CHAR. 3 2	CHAR. 4 1
				0			
192-193	START BYTE	BYTES/ ELEMENT	222-223	ADDITIVE CONSTANT	252-253	START BYTE	BYTES/ ELEMENT
	60	4		0		80	4
194-195	UNUSED	UNITS CODE	224-225	CHAR. 1 C	254-255	UNUSED	UNITS CODE
	0	19		0		0	19
196-197	MULT. MANTISSA	EXPONENT	226-227	CHAR. 3 1	256-257	MULT. MANTISSA	EXPONENT
	0	0		9		0	0
198-199	ADDITIVE CONSTANT		228-229	START BYTE	258-259	ADDITIVE CONSTANT	
		0		72			0
200-201	CHAR. 1 C	CHAR. 2 0	230-231	UNUSED	260-261	CHAR. 1 C	CHAR. 2 0
				0			
202-203	CHAR. 3 1	CHAR. 4 7	232-233	MULT. MANTISSA	262-263	CHAR. 3 2	CHAR. 4 2
				0			
204-205	START BYTE	BYTES/ ELEMENT	234-235	ADDITIVE CONSTANT	264-265	START BYTE	BYTES/ ELEMENT
	64	4		0		84	4
206-207	UNUSED	UNITS CODE	236-237	CHAR. 1 C	266-267	UNUSED	UNITS CODE
	0	19		0		0	19
208-209	MULT. MANTISSA	EXPONENT	238-239	CHAR. 3 2	268-269	MULT. MANTISSA	EXPONENT
	0	0		0		0	0

Figure 2.1.1-5 Sensor Calibration File Data Description
Block #2 (Cont)

BYTES	BYTES	BYTES
270-271	300-301	330-331
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	96	0
272-273	302-303	332-333
CHAR. 1 CHAR. 2	UNUSED UNITS CODE	CHAR. 1 CHAR. 2
C 0	0 19	C 0
274-275	304-305	334-335
CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4
2 3		2 8
276-277	306-307	336-337
START BYTES/ ELEMENT	ADDITIVE CONSTANT	START BYTES/ ELEMENT
88 4	0	108 4
278-279	308-309	338-339
UNUSED UNITS CODE	CHAR. 1 CHAR. 2	UNUSED UNITS CODE
0 19	C 0	0 19
280-281	310-311	340-341
MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT
0 0	2 6	0 0
282-283	312-313	342-343
ADDITIVE CONSTANT	START BYTES/ ELEMENT	ADDITIVE CONSTANT
0	100 4	0
284-285	314-315	344-345
CHAR. 1 CHAR. 2	UNUSED UNITS CODE	CHAR. 1 CHAR. 2
C 0	0 19	C 0
286-287	316-317	346-347
CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4
2 4	0 0	2 9
288-289	318-319	348-349
START BYTES/ ELEMENT	ADDITIVE CONSTANT	START BYTES/ ELEMENT
92 4	0	112 4
290-291	320-321	350-351
UNUSED UNITS CODE	CHAR. 1 CHAR. 2	UNUSED UNITS CODE
0 19	C 0	0 19
292-293	322-323	352-353
MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT
0 0	2 7	0 0
294-295	324-325	354-355
ADDITIVE CONSTANT	START BYTES/ ELEMENT	ADDITIVE CONSTANT
0	104 4	0
296-297	326-327	356-357
CHAR. 1 CHAR. 2	UNUSED UNITS CODE	CHAR. 1 CHAR. 2
C 0	0 19	C 0
298-299	328-329	358-359
CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4
2 5	0 0	3 0

BYTES						BYTES						BYTES			
360-361	START BYTE	BYTES/ ELEMENT		390-391	ADDITIVE CONSTANT			420-421	START BYTE	BYTES/ ELEMENT					
	116	4			0				136	4					
362-363	UNUSED	UNITS CODE		392-393	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 033</i>	422-423	UNUSED	UNITS CODE					
	0	19			C	0			0	19					
364-365	MULT. MANTISSA	EXPONENT		394-395	CHAR. 3	CHAR. 4		424-425	MULT. MANTISSA	EXPONENT					
	0	0			3	3			0	0					
366-367	ADDITIVE CONSTANT			396-397	START BYTE	BYTES/ ELEMENT		426-427	ADDITIVE CONSTANT						
	0				128	4			0						
368-369	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 031</i>	398-399	UNUSED	UNITS CODE		428-429	CHECKSUM (Calc. in SMISHM)						
	C	0			0	19									
370-371	CHAR. 3	CHAR. 4		400-401	MULT. MANTISSA	EXPONENT									
	3	1			0	0									
372-373	START BYTE	BYTES/ ELEMENT		402-403	ADDITIVE CONSTANT										
	120	4			0										
374-375	UNUSED	UNITS CODE		404-405	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 034</i>								
	0	19			C	0									
376-377	MULT. MANTISSA	EXPONENT		406-407	CHAR. 3	CHAR. 4									
	0	0			3	4									
378-379	ADDITIVE CONSTANT			408-409	START BYTE	BYTES/ ELEMENT									
	0				132	4									
380-381	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 032</i>	410-411	UNUSED	UNITS CODE									
	C	0			0	19									
382-383	CHAR. 3	CHAR. 4		412-413	MULT. MANTISSA	EXPONENT									
	3	2			0	0									
384-385	START BYTE	BYTES/ ELEMENT		414-415	ADDITIVE CONSTANT										
	124	4			0										
386-387	UNUSED	UNITS CODE		416-417	CHAR. 1	CHAR. 2	<i>Offset Temp - AD C 035</i>								
	0	19			C	0									
388-389	MULT. MANTISSA	EXPONENT		418-419	CHAR. 3	CHAR. 4									
	0	0			3	5									

Figure 2.1.1-5 Sensor Calibration File Data Description
Block #2 (Cont)

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH	48-51	OFFSET BIAS COEFFICIENT C012	96-99	OFFSET BIAS COEFFICIENT C024
2-3	BLOCK ID	52-55	OFFSET BIAS COEFFICIENT C013	100-103	OFFSET BIAS COEFFICIENT C025
4-7	OFFSET BIAS COEFFICIENT C001	56-59	OFFSET BIAS COEFFICIENT C014	104-107	OFFSET BIAS COEFFICIENT C026
8-11	OFFSET BIAS COEFFICIENT C002	60-63	OFFSET BIAS COEFFICIENT C015	108-111	OFFSET BIAS COEFFICIENT C027
12-15	OFFSET BIAS COEFFICIENT C003	64-67	OFFSET BIAS COEFFICIENT C016	112-115	OFFSET BIAS COEFFICIENT C028
16-19	OFFSET BIAS COEFFICIENT C004	68-71	OFFSET BIAS COEFFICIENT C017	116-119	OFFSET BIAS COEFFICIENT C029
20-23	OFFSET BIAS COEFFICIENT C005	72-75	OFFSET BIAS COEFFICIENT C018	120-123	OFFSET BIAS COEFFICIENT C030
24-27	OFFSET BIAS COEFFICIENT C006	76-79	OFFSET BIAS COEFFICIENT C019	124-127	OFFSET BIAS COEFFICIENT C031
28-31	OFFSET BIAS COEFFICIENT C007	80-83	OFFSET BIAS COEFFICIENT C020	128-131	OFFSET BIAS COEFFICIENT C032
32-35	OFFSET BIAS COEFFICIENT C008	84-87	OFFSET BIAS COEFFICIENT C021	132-135	OFFSET BIAS COEFFICIENT C033
36-39	OFFSET BIAS COEFFICIENT C009	88-91	OFFSET BIAS COEFFICIENT C022	136-139	OFFSET BIAS COEFFICIENT C034
40-43	OFFSET BIAS COEFFICIENT C010	92-95	OFFSET BIAS COEFFICIENT C023	140-143	OFFSET BIAS COEFFICIENT C035
44-47	OFFSET BIAS COEFFICIENT C011			144-145	CHECKSUM

Figure 2.1.1-6 Sensor Constants Data Block #2

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH 215	30-31	ADDITIVE CONSTANT 0	60-61	START BYTE 16
2-3	MODE 3	32-33	CHAR. 1 C	62-63	BYTES/ELEMENT 4
4-5	SUBMODE 17	34-35	CHAR. 2 1	64-65	UNUSED 0
6-7	NUMBER OF SECTIONS 1	36-37	CHAR. 3 0	66-67	UNITS CODE 19
8-9	CHAR. 1 C	38-39	CHAR. 4 3	68-69	MULT. MANTISSA 0
10-11	CHAR. 2 1	40-41	START BYTE 8	70-71	EXPONENT 4
12-13	CHAR. 3 0	42-43	BYTES/ELEMENT 4	72-73	ADDITIVE CONSTANT 0
14-15	CHAR. 4 1	44-45	UNUSED 0	74-75	CHAR. 1 C
16-17	START BYTE 0	46-47	UNITS CODE 19	76-77	CHAR. 2 1
18-19	BYTES/ELEMENT 4	48-49	MULT. MANTISSA 0	78-79	CHAR. 3 0
20-21	UNUSED 0	50-51	EXPONENT 0	80-81	CHAR. 4 6
22-23	UNITS CODE 19	52-53	ADDITIVE CONSTANT 0	82-83	START BYTE 20
24-25	MULT. MANTISSA 0	54-55	CHAR. 1 C	84-85	BYTES/ELEMENT 4
26-27	EXPONENT 0	56-57	CHAR. 2 1	86-87	UNUSED 0
28-29	ADDITIVE CONSTANT 0	58-59	CHAR. 3 0	88-89	UNITS CODE 19
			CHAR. 4 5		MULT. MANTISSA 0
					EXPONENT 0

Figure 2.1.1-7 Sensor Calibration File Data Description Block #3

BYTES 90-91	ADDITIVE CONSTANT 0	BYTES 120-121	START BYTE 36	BYTES/ ELEMENT 4	BYTES 150-151	ADDITIVE CONSTANT 0
92-93	CHAR. 1 C	CHAR. 2 1	Offset Bias Coef C 108		152-153	CHAR. 1 C
94-95	CHAR. 3 0	CHAR. 4 8			154-155	CHAR. 3 1
96-97	START BYTE 28	BYTES/ ELEMENT 4	BYTES 122-123	UNITS CODE 19	156-157	START BYTE 48
98-99	UNUSED 0	UNITS CODE 19	BYTES 124-125	EXPO- NENT 0	158-159	UNUSED 0
100-101	MULT. MANTISSA 0	EXPO- NENT 0	BYTES 126-127	ADDITIVE CONSTANT 0	160-161	MULT. MANTISSA 0
102-103	ADDITIVE CONSTANT 0		BYTES 128-129	CHAR. 1 C	162-163	ADDITIVE CONSTANT 0
104-105	CHAR. 1 C	CHAR. 2 1	BYTES 130-131	CHAR. 2 1	164-165	CHAR. 1 C
106-107	CHAR. 3 0	CHAR. 4 9	BYTES 132-133	START BYTE 40	166-167	CHAR. 3 1
108-109	START BYTE 32	BYTES/ ELEMENT 4	BYTES 134-135	UNITS CODE 19	168-169	START BYTE 52
110-111	UNUSED 0	UNITS CODE 19	BYTES 136-137	MULT. MANTISSA 0	170-171	UNUSED 0
112-113	MULT. MANTISSA 0	EXPO- NENT 0	BYTES 138-139	ADDITIVE CONSTANT 0	172-173	MULT. MANTISSA 0
114-115	ADDITIVE CONSTANT 0		BYTES 140-141	CHAR. 1 C	174-175	ADDITIVE CONSTANT 0
116-117	CHAR. 1 C	CHAR. 2 1	BYTES 142-143	CHAR. 2 1	176-177	CHAR. 1 C
118-119	CHAR. 3 1	CHAR. 4 0	BYTES 144-145	START BYTE 44	178-179	CHAR. 3 1
			BYTES 146-147	UNITS CODE 19		
			BYTES 148-149	MULT. MANTISSA 0		
				EXPO- NENT 0		

BYTES						BYTES						BYTES			
180-181	START BYTE	BYTES/ ELEMENT		210-211	ADDITIVE CONSTANT			240-241	START BYTE	BYTES/ ELEMENT		240-241	START BYTE	BYTES/ ELEMENT	
	56	4			0				76	4			76	4	
182-183	UNUSED	UNITS CODE		212-213	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 118</i>	242-243	UNUSED	UNITS CODE		242-243	UNUSED	UNITS CODE	
	0	19			C	1			0	19			0	19	
184-185	MULT. MANTISSA	EXPONENT		214-215	CHAR. 3	CHAR. 4		244-245	MULT. MANTISSA	EXPONENT		244-245	MULT. MANTISSA	EXPONENT	
	0	0			1	8			0	0			0	0	
186-187	ADDITIVE CONSTANT			216-217	START BYTE	BYTES/ ELEMENT		246-247	ADDITIVE CONSTANT			246-247	ADDITIVE CONSTANT		
	0				68	4			0				0		
188-189	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 116</i>	218-219	UNUSED	UNITS CODE		248-249	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 121</i>	248-249	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 121</i>
	C	1			0	19			C	1			C	1	
190-191	CHAR. 3	CHAR. 4		220-221	MULT. MANTISSA	EXPONENT		250-251	CHAR. 3	CHAR. 4		250-251	CHAR. 3	CHAR. 4	
	1	6			0	0			2	1			2	1	
192-193	START BYTE	BYTES/ ELEMENT		222-223	ADDITIVE CONSTANT			252-253	START BYTE	BYTES/ ELEMENT		252-253	START BYTE	BYTES/ ELEMENT	
	68	4			0				80	4			80	4	
194-195	UNUSED	UNITS CODE		224-225	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 119</i>	254-255	UNUSED	UNITS CODE		254-255	UNUSED	UNITS CODE	
	0	19			C	1			0	19			0	19	
196-197	MULT. MANTISSA	EXPONENT		226-227	CHAR. 3	CHAR. 4		256-257	MULT. MANTISSA	EXPONENT		256-257	MULT. MANTISSA	EXPONENT	
	0	0			1	9			0	0			0	0	
198-199	ADDITIVE CONSTANT			228-229	START BYTE	BYTES/ ELEMENT		258-259	ADDITIVE CONSTANT			258-259	ADDITIVE CONSTANT		
	0				72	4			0				0		
200-201	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 117</i>	230-231	UNUSED	UNITS CODE		260-261	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 122</i>	260-261	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 122</i>
	C	1			0	19			C	1			C	1	
202-203	CHAR. 3	CHAR. 4		232-233	MULT. MANTISSA	EXPONENT		262-263	CHAR. 3	CHAR. 4		262-263	CHAR. 3	CHAR. 4	
	1	7			0	0			2	2			2	2	
204-205	START BYTE	BYTES/ ELEMENT		234-235	ADDITIVE CONSTANT			264-265	START BYTE	BYTES/ ELEMENT		264-265	START BYTE	BYTES/ ELEMENT	
	64	4			0				84	4			84	4	
206-207	UNUSED	UNITS CODE		236-237	CHAR. 1	CHAR. 2	<i>Offset Bias Coef C 120</i>	266-267	UNUSED	UNITS CODE		266-267	UNUSED	UNITS CODE	
	0	19			C	1			0	19			0	19	
208-209	MULT. MANTISSA	EXPONENT		238-239	CHAR. 3	CHAR. 4		268-269	MULT. MANTISSA	EXPONENT		268-269	MULT. MANTISSA	EXPONENT	
	0	0			2	0			0	0			0	0	

Figure 2.1.1-7 Sensor Calibration File Data Description
Block #3 (Cont)

BYTES	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-7	OFFSET BIAS COEFFICIENT C101
8-11	OFFSET BIAS COEFFICIENT C102
12-15	OFFSET BIAS COEFFICIENT C103
16-19	OFFSET BIAS COEFFICIENT C104
20-23	OFFSET BIAS COEFFICIENT C105
24-27	OFFSET BIAS COEFFICIENT C106
28-31	OFFSET BIAS COEFFICIENT C107
32-35	OFFSET BIAS COEFFICIENT C108
36-39	OFFSET BIAS COEFFICIENT C109
40-43	OFFSET BIAS COEFFICIENT C110
44-47	OFFSET BIAS COEFFICIENT C111

BYTES	
48-51	OFFSET BIAS COEFFICIENT C112
52-55	OFFSET BIAS COEFFICIENT C113
56-59	OFFSET BIAS COEFFICIENT C114
60-63	OFFSET BIAS COEFFICIENT C115
64-67	OFFSET BIAS COEFFICIENT C116
68-71	OFFSET BIAS COEFFICIENT C117
72-75	OFFSET BIAS COEFFICIENT C118
76-79	OFFSET BIAS COEFFICIENT C119
80-83	OFFSET BIAS COEFFICIENT C120
84-87	OFFSET BIAS COEFFICIENT C121
88-91	OFFSET BIAS COEFFICIENT C122
92-95	OFFSET BIAS COEFFICIENT C123

BYTES	
96-99	OFFSET BIAS COEFFICIENT C124
100-103	OFFSET BIAS COEFFICIENT C125
104-107	OFFSET BIAS COEFFICIENT C126
108-111	OFFSET BIAS COEFFICIENT C127
112-115	OFFSET BIAS COEFFICIENT C128
116-119	OFFSET BIAS COEFFICIENT C129
120-123	OFFSET BIAS COEFFICIENT C130
124-127	OFFSET BIAS COEFFICIENT C131
128-131	OFFSET BIAS COEFFICIENT C132
132-135	OFFSET BIAS COEFFICIENT C133
136-139	OFFSET BIAS COEFFICIENT C134
140-143	OFFSET BIAS COEFFICIENT C135
144-145	CHECKSUM

Figure 2.1.1-8 Sensor Constants Data Block #3

BYTES					
0-1	BLOCK LENGTH		431		
2-3	MODE	SUBMODE	3	17	
4-5	NUMBER ELEMENTS	BYTES/SECTION	71	198	
6-7	NUMBER OF SECTIONS		5		
8-9	CHAR. 1	CHAR. 2	N	R	<i>Region N Maximum Pos. #</i>
10-11	CHAR. 3	CHAR. 4	E	G	
12-13	START BYTE	BYTES/ELEMENT	0	2	
14-15	UNUSED	UNITS CODE	0	19	
16-17	MULT. MANTISSA	EXPONENT	1	0	
18-19	ADDITIVE CONSTANT		0		
20-21	CHAR. 1	CHAR. 2	R	1	<i>Region N 19°V C1</i>
22-23	CHAR. 3	CHAR. 4	C	1	
24-25	START BYTE	BYTES/ELEMENT	2	4	
26-27	UNUSED	UNITS CODE	0	19	
28-29	MULT. MANTISSA	EXPONENT	1	-8	
30-31	ADDITIVE CONSTANT		0		
32-33	CHAR. 1	CHAR. 2	R	1	<i>Region N 19°V C2</i>
34-35	CHAR. 3	CHAR. 4	C	2	
36-37	START BYTE	BYTES/ELEMENT	6	4	
38-39	UNUSED	UNITS CODE	0	19	
40-41	MULT. MANTISSA	EXPONENT	-1	-8	
42-43	ADDITIVE CONSTANT		0		
44-45	CHAR. 1	CHAR. 2	R	1	<i>Region N 19°V C3</i>
46-47	CHAR. 3	CHAR. 4	C	3	
48-49	START BYTE	BYTES/ELEMENT	10	4	
50-51	UNUSED	UNITS CODE	0	19	
52-53	MULT. MANTISSA	EXPONENT	-1	-8	
54-55	ADDITIVE CONSTANT		0		
56-57	CHAR. 1	CHAR. 2	R	1	<i>Region N 19°V C4</i>
58-59	CHAR. 3	CHAR. 4	C	4	
60-61	START BYTE	BYTES/ELEMENT	14	4	
62-63	UNUSED	UNITS CODE	0	19	
64-65	MULT. MANTISSA	EXPONENT	-1	-8	
66-67	ADDITIVE CONSTANT		0		
68-69	CHAR. 1	CHAR. 2	R	1	<i>Region N 19°V C5</i>
70-71	CHAR. 3	CHAR. 4	C	5	
72-73	START BYTE	BYTES/ELEMENT	18	4	
74-75	UNUSED	UNITS CODE	0	19	
76-77	MULT. MANTISSA	EXPONENT	-1	-8	
78-79	ADDITIVE CONSTANT		0		
80-81	CHAR. 1	CHAR. 2	R	1	<i>Region N 19°V C6</i>
82-83	CHAR. 3	CHAR. 4	C	6	
84-85	START BYTE	BYTES/ELEMENT	22	4	
86-87	UNUSED	UNITS CODE	0	19	
88-89	MULT. MANTISSA	EXPONENT	-1	-8	

Figure 2.1.1-9 APC Coefficients Data Description Block

270-271	ADDITIVE CONSTANT		0	
272-273	CHAR. 1	CHAR. 2	Region N 22°V C2	
	R	3		
274-275	CHAR. 3	CHAR. 4		
	C	2		
276-277	START BYTE	BYTES/ ELEMENT	62	4
278-279	UNUSED	UNITS CODE	0	13
280-281	MULT. MANTISSA	EXPONENT	-1	-8
282-283	ADDITIVE CONSTANT		0	
284-285	CHAR. 1	CHAR. 2	Region N 22°V C3	
	R	3		
286-287	CHAR. 3	CHAR. 4		
	C	3		
288-289	START BYTE	BYTES/ ELEMENT	66	4
290-291	UNUSED	UNITS CODE	0	13
292-293	MULT. MANTISSA	EXPONENT	-1	-8
294-295	ADDITIVE CONSTANT		0	
296-297	CHAR. 1	CHAR. 2	Region N 22°V C4	
	R	3		
298-299	CHAR. 3	CHAR. 4		
	C	4		
300-301	START BYTE	BYTES/ ELEMENT	70	4
302-303	UNUSED	UNITS CODE	0	13
304-305	MULT. MANTISSA	EXPONENT	-1	-8
306-307	ADDITIVE CONSTANT		0	
308-309	CHAR. 1	CHAR. 2	Region N 22°V C5	
	R	3		
310-311	CHAR. 3	CHAR. 4		
	C	5		
312-313	START BYTE	BYTES/ ELEMENT	74	4
314-315	UNUSED	UNITS CODE	0	13
316-317	MULT. MANTISSA	EXPONENT	-1	-8
318-319	ADDITIVE CONSTANT		0	
320-321	CHAR. 1	CHAR. 2	Region N 22°V C6	
	R	3		
322-323	CHAR. 3	CHAR. 4		
	C	6		
324-325	START BYTE	BYTES/ ELEMENT	78	4
326-327	UNUSED	UNITS CODE	0	13
328-329	MULT. MANTISSA	EXPONENT	-1	-8
330-331	ADDITIVE CONSTANT		0	
332-333	CHAR. 1	CHAR. 2	Region N 22°V N1	
	1	3		
334-335	CHAR. 3	CHAR. 4		
	N	1		
336-337	START BYTE	BYTES/ ELEMENT	82	1
338-339	UNUSED	UNITS CODE	0	13
340-341	MULT. MANTISSA	EXPONENT	1	0
342-343	ADDITIVE CONSTANT		0	
344-345	CHAR. 1	CHAR. 2	Region N 22°V N2	
	1	3		
346-347	CHAR. 3	CHAR. 4		
	N	2		
348-349	START BYTE	BYTES/ ELEMENT	83	1
350-351	UNUSED	UNITS CODE	0	19
352-353	MULT. MANTISSA	EXPONENT	1	0
354-355	ADDITIVE CONSTANT		0	
356-357	CHAR. 1	CHAR. 2	Region N 22°V N3	
	1	3		
358-359	CHAR. 3	CHAR. 4		
	N	3		

Figure 2.1.1-9 APC Coefficients Data Description Block (Cont)

BYTES	START BYTE	BYTES/ ELEMENT
360-361	84	1
362-363	UNUSED	UNITS CODE
	0	19
364-365	MULT. MANTISSA	EXPONENT
	1	0
366-367	ADDITIVE CONSTANT	
		0
368-369	CHAR. 1	CHAR. 2
	I	3
370-371	CHAR. 3	CHAR. 4
	N	4
372-373	START BYTE	BYTES/ ELEMENT
	85	1
374-375	UNUSED	UNITS CODE
	0	19
376-377	MULT. MANTISSA	EXPONENT
	1	0
378-379	ADDITIVE CONSTANT	
		0
380-381	CHAR. 1	CHAR. 2
	R	4
382-383	CHAR. 3	CHAR. 4
	C	1
384-385	START BYTE	BYTES/ ELEMENT
	86	4
386-387	UNUSED	UNITS CODE
	0	19
388-389	MULT. MANTISSA	EXPONENT
	1	-8

Region N
22 V N4

BYTES	START BYTE	BYTES/ ELEMENT
390-391	ADDITIVE CONSTANT	
		0
392-393	CHAR. 1	CHAR. 2
	R	4
394-395	CHAR. 3	CHAR. 4
	C	2
396-397	START BYTE	BYTES/ ELEMENT
	90	4
398-399	UNUSED	UNITS CODE
	0	19
400-401	MULT. MANTISSA	EXPONENT
	-1	-8
402-403	ADDITIVE CONSTANT	
		0
404-405	CHAR. 1	CHAR. 2
	R	4
406-407	CHAR. 3	CHAR. 4
	C	3
408-409	START BYTE	BYTES/ ELEMENT
	94	4
410-411	UNUSED	UNITS CODE
	0	19
412-413	MULT. MANTISSA	EXPONENT
	-1	-8
414-415	ADDITIVE CONSTANT	
		0
416-417	CHAR. 1	CHAR. 2
	R	4
418-419	CHAR. 3	CHAR. 4
	C	4

Region N
37 V C2

Region N
37 V C3

Region N
37 V C4

BYTES	START BYTE	BYTES/ ELEMENT
420-421	98	4
422-423	UNUSED	UNITS CODE
	0	19
424-425	MULT. MANTISSA	EXPONENT
	-1	-8
426-427	ADDITIVE CONSTANT	
		0
428-429	CHAR. 1	CHAR. 2
	R	4
430-431	CHAR. 3	CHAR. 4
	C	5
432-433	START BYTE	BYTES/ ELEMENT
	102	4
434-435	UNUSED	UNITS CODE
	0	19
436-437	MULT. MANTISSA	EXPONENT
	-1	-8
438-439	ADDITIVE CONSTANT	
		0
440-441	CHAR. 1	CHAR. 2
	R	4
442-443	CHAR. 3	CHAR. 4
	C	6
444-445	START BYTE	BYTES/ ELEMENT
	106	4
446-447	UNUSED	UNITS CODE
	0	19
448-449	MULT. MANTISSA	EXPONENT
	-1	-8

Region N
37 V C5

Figure 2.1.1-9 APC Coefficients Data Description Block (Cont)

630-631	ADDITIVE CONSTANT		0	
632-633	CHAR. 1 R	CHAR. 2 6		<i>Region N 85°V C2</i>
634-635	CHAR. 3 C	CHAR. 4 2		
636-637	START BYTE	BYTES/ ELEMENT	146	4
638-639	UNUSED	UNITS CODE	0	19
640-641	MULT. MANTISSA	EXPONENT	-1	-8
642-643	ADDITIVE CONSTANT		0	
644-645	CHAR. 1 R	CHAR. 2 6		<i>Region N 85°V C3</i>
646-647	CHAR. 3 C	CHAR. 4 3		
648-649	START BYTE	BYTES/ ELEMENT	150	4
650-651	UNUSED	UNITS CODE	0	19
652-653	MULT. MANTISSA	EXPONENT	-1	-8
654-655	ADDITIVE CONSTANT		0	
656-657	CHAR. 1 R	CHAR. 2 6		<i>Region N 85°V C4</i>
658-659	CHAR. 3 C	CHAR. 4 4		

660-661	START BYTE	BYTES/ ELEMENT	154	4
662-663	UNUSED	UNITS CODE	0	19
664-665	MULT. MANTISSA	EXPONENT	-1	-8
666-667	ADDITIVE CONSTANT		0	
668-669	CHAR. 1 R	CHAR. 2 6		<i>Region N 85°V C5</i>
670-671	CHAR. 3 C	CHAR. 4 5		
672-673	START BYTE	BYTES/ ELEMENT	158	4
674-675	UNUSED	UNITS CODE	0	19
676-677	MULT. MANTISSA	EXPONENT	-1	-8
678-679	ADDITIVE CONSTANT		0	
680-681	CHAR. 1 R	CHAR. 2 6		<i>Region N 85°V C6</i>
682-683	CHAR. 3 C	CHAR. 4 6		
684-685	START BYTE	BYTES/ ELEMENT	162	4
686-687	UNUSED	UNITS CODE	0	19
688-689	MULT. MANTISSA	EXPONENT	-1	-8

690-691	ADDITIVE CONSTANT		0	
692-693	CHAR. 1 I	CHAR. 2 6		<i>Region N 85°V N1</i>
694-695	CHAR. 3 N	CHAR. 4 1		
696-697	START BYTE	BYTES/ ELEMENT	166	1
698-699	UNUSED	UNITS CODE	0	19
700-701	MULT. MANTISSA	EXPONENT	1	0
702-703	ADDITIVE CONSTANT		0	
704-705	CHAR. 1 I	CHAR. 2 6		<i>Region N 85°V N2</i>
706-707	CHAR. 3 N	CHAR. 4 2		
708-709	START BYTE	BYTES/ ELEMENT	167	1
710-711	UNUSED	UNITS CODE	0	19
712-713	MULT. MANTISSA	EXPONENT	1	0
714-715	ADDITIVE CONSTANT		0	
716-717	CHAR. 1 I	CHAR. 2 6		<i>Region N 85°V N3</i>
718-719	CHAR. 3 N	CHAR. 4 3		

Figure 2.1.1-9 APC Coefficients Data Description Block (Cont)

Figure 2.1.1-9 APC Coefficients Data Description Block (Cont)

810-811		ADDITIVE CONSTANT		0	
812-813		CHAR. 1	CHAR. 2	I	7
814-815		CHAR. 3	CHAR. 4	N	1
816-817		START BYTES/ BYTE ELEMENT	194	1	
818-819		UNUSED CODE UNITS	0	19	
820-821		MULT. MANTISSA EXPONENT	1	0	
822-823		ADDITIVE CONSTANT		0	
824-825		CHAR. 1	CHAR. 2	I	7
826-827		CHAR. 3	CHAR. 4	N	2
828-829		START BYTES/ BYTE ELEMENT	195	1	
830-831		UNUSED CODE UNITS	0	19	
832-833		MULT. MANTISSA EXPONENT	1	0	
834-835		ADDITIVE CONSTANT		0	
836-837		CHAR. 1	CHAR. 2	I	7
838-839		CHAR. 3	CHAR. 4	N	3

Region N
85 H N3

840-841		START BYTES/ BYTE ELEMENT	196	1	
842-843		UNUSED CODE UNITS	0	19	
844-845		MULT. MANTISSA EXPONENT	1	0	
846-847		ADDITIVE CONSTANT		0	
848-849		CHAR. 1	CHAR. 2	I	7
850-851		CHAR. 3	CHAR. 4	N	4
852-853		START BYTES/ BYTE ELEMENT	197	1	
854-855		UNUSED CODE UNITS	0	19	
856-857		MULT. MANTISSA EXPONENT	1	0	
858-859		ADDITIVE CONSTANT		0	
870-871		CHECKSUM (Calc. by SMISAC)		0	

Region N
85 H N4

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH	46-49	REGION N 19H - C4	94-97	REGION N 37V - C2
2-3	BLOCK ID	50-53	REGION N 19H - C5	98-101	REGION N 37V - C3
4-5	REGION N MAXIMUM POSITION NUMBER	54-57	REGION N 19H - C6	102-105	REGION N 37V - C4
6-9	REGION N 19V - C1	58-59	REGION N 19H N1	106-109	REGION N 37V - C5
10-13	REGION N 19V - C2	60-61	REGION N 19H N2	110-113	REGION N 37V - C6
14-17	REGION N 19V - C3	62-65	REGION N 22V - C1	114-115	REGION N 37V N1
18-21	REGION N 19V - C4	66-69	REGION N 22V - C2	116-117	REGION N 37V N2
22-25	REGION N 19V - C5	70-73	REGION N 22V - C3	118-121	REGION N 37H - C1
26-29	REGION N 19V - C6	74-77	REGION N 22V - C4	122-125	REGION N 37H - C2
30-31	REGION N 19V N1	78-81	REGION N 22V - C5	126-129	REGION N 37H - C3
32-33	REGION N 19V N2	82-85	REGION N 22V - C6	130-133	REGION N 37H - C4
34-37	REGION N 19H - C1	86-87	REGION N 22V N1	134-137	REGION N 37H - C5
38-41	REGION N 19H - C2	88-89	REGION N 22V N2	138-141	REGION N 37H - C6
42-45	REGION N 19H - C3	90-93	REGION N 37V - C1		

Figure 2.1.1-10 APC Coefficients Data Block

BYTES	
142-143	REGION N 37H N1 REGION N 37H N2
144-145	REGION N REGION N 37H N3 37H N4
146-149	REGION N 85V - C1
150-153	REGION N 85V - C2
154-157	REGION N 85V - C3
158-161	REGION N 85V - C4
162-165	REGION N 85V - C5
166-169	REGION N 85V - C6
170-171	REGION N REGION N 85V N1 85V N2
172-173	REGION N REGION N 85V N3 85V N4
174-177	REGION N 85H - C1
178-181	REGION N 85H - C2
182-185	REGION N 85H - C3
186-189	REGION N 85H - C4

BYTES	
190-193	REGION N 85H - C5
194-197	REGION N 85H - C6
198-199	REGION N REGION N 85H N1 85H N2
200-201	REGION N REGION N 85H N3 85H N4
202-993	REPEAT BYTES 4 - 201 FOUR TIMES
994-995	CHECKSUM

Figure 2.1.1-10 APC Coefficients Data Block (Cont)

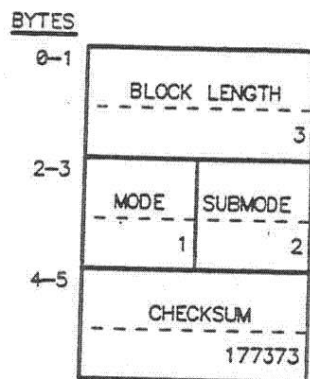


Figure 2.1.1-11 End of Product Block

2.1.2 Parameter Extraction Coefficients File (SMIPEXnn.PAR)

2.1.2.1 Functional Description

This file contains coefficients utilized to convert brightness temperatures to environmental parameters. The coefficients are utilized by the SMIEPE CPC. The file contains coefficients for all parameters, including Ice and Radiative Transmissivity (RT) Parameters.

2.1.2.2 Physical Interface Specification

This file is structured to be utilized in tandem with the Climatic Zones Common Block (see SSM/I Program Maintenance Manual Vol. III). The Climatic Zones Common Block is used to determine a climatic code as a function of season, latitude, and desired parameters. The categories for desired parameters are normal parameters, Ice parameters or RT. The climatic code, as determined from the Climatic Zones Common Block, is used to index through the set of pointers at the front of the Parameter Extraction Coefficients File to arrive at the desired set of coefficients.

The second portion of the file specifies the brightness temperature channels (T1 - T7) and algorithm type to use with each coefficient for each (normal) parameter.

The remainder of the file contains the actual coefficients for the various climatic codes. The three major parameter sets have different structures. An Ice parameter set consists of 34 parameters: 11 coefficients for Ice concentration (IC), 11 coefficients for Ice Age (IA), 11 coefficients for Cloud Water over Ice (CWI) calculations and 1 word for the first year versus multi-year discrimination test used in determining Ice Age. A RT parameter set consists of 96 coefficients. Coefficients exist to calculate RT for each of the four frequencies over the three major surface types: Land, Ocean, or Ice. Eight coefficients exist for each frequency and surface type; these consist of a constant and a multiplicative factor to apply to each channel.

A normal parameter set (non Ice or RT) applies to all parameters that use the D-Matrix inversion process to update coefficients. Eleven coefficients, whose meaning is a function of the algorithm type, are available for each parameter. The normal parameter set also contains a set of discrimination values used in frozen ground, heavy rain, maybe rain, and other discrimination tests.

Figures 2.1.2-1 through 2.1.2-13 show the overall format of the Parameter Extraction Coefficients File; Table 2.1.2-1 explicitly defines the contents of each section.

2.1.3 Surface Type (SMISURFTYP)

2.1.3.1 Functional Description

This file contains the surface tags for all Earth locations. SMISDP utilizes this file to assign a surface tag to each scene station.

2.1.3.2 Physical Interface Specification

The file provides capability to retrieve a surface tag for any latitude and longitude combination in the world with a resolution of .1 degree. The surface tag possibilities are:

1. Land
2. Permanent Ice
3. Possible Ice
4. Ocean
5. Coastal Boundary

The file is structured in a two level fashion with a 5 degree coarse grid and a .1 degree fine grid. The fine grid only exists for coarse grid areas that contain multiple surface types.

The file was constructed in the following manner:

1. Land versus Ocean areas were determined using the FNOC Land routine, which provides resolution to .04 degree.
2. Vegetally covered Land was superimposed over 1) in those areas containing sufficient vegetal coverage so as to eliminate soil moisture retrievals. The current implementation of SMIEPE determines vegetal coverage dynamically from the brightness temperatures. The "vegetal coverage" surface tags in the surface type file are now equivalent to "land" surface tags due to this new capability; each land scene station is checked for vegetal coverage and not assumed to be vegetally covered based on the surface tag.

Product Identification Block (28 Bytes)
File Pointer Directory Data Description Block (28 Bytes)
File Pointer Directory Data Block (118 Bytes)
Algorithm Type and Channel Selection Table Data Description Block (268 Bytes)
Algorithm Type and Channel Selection Table Data Block (134 Bytes)
Normal Climatic Zones Data Description Block (1564 Bytes)
Normal Climatic Zones Data Block (10,054 Bytes)
RT Climatic Zones Data Description Block (204 Bytes)
RT Climatic Zones Data Block (2694 Bytes)
ICE Climatic Zones Data Description Block (76 Bytes)
ICE Climatic Zones Data Block (278 Bytes)
End of Product Block (6 Bytes)

291-055G001.2

Figure 2.1.2-1. DEF Parameter Extraction Coefficient File Format

Bytes

0-1	Block Length	

	14	
2-3	Mode	Submode
	-----	-----
	1	1
4-5	Char 1	Char 2
	-----	-----
	F	N
6-7	Char 3	Char 4
	-----	-----
	O	C
8-9	Classification	File Lifetime
	-----	-----
	U	255
10-11	File Indicator	Char 2
	-----	-----
	64	T
12-13	Char 3	Char 4
	-----	-----
	S	M
14-15	Char 5	Char 6
	-----	-----
	I	P
16-17	Char 7	Char 8
	-----	-----
	E	C
18-19	Char 9	Char 10
	-----	-----
	D	9
20-21	Year	

	(Set by SMIFUM)	
22-23	Month	Day
	-----	-----
	(Set by SMIFUM)	
24-25	Hour	Minute
	-----	-----
	(Set by SMIFUM)	
26-27	Checksum	

	(Set by SMIFUM)	

291-055G002.1

Originator
ID

Product
Identifier

Figure 2.1.2-2. Product Identification Block

Bytes			File Pointer Directory
0-1	Block Length		

	14		
2-3	Mode	Submode	
	-----	-----	
	3	18	
4-5			

	1		
6-7	Bytes per Section		

	84		
8-9	Number of Sections		

	1		
10-11	Char 1	Char 2	
	-----	-----	
	F	P	
12-13	Char 3	Char 4	
	-----	-----	
	D		
14-15	Start Byte		

	O		
16-17			

	84		
18-19	Bytes per Element		

	4		
20-21	Unused	Units Code	
	-----	-----	
	0	19	
22-23	Multi. Mantissa	Exponent	
	-----	-----	
	1	0	
24-25	Additive Constant		

	0		
26-27	Checksum		

	(Supplied by SMIFUM)		

Figure 2.1.2-3. File Pointer Directory Data Description Block

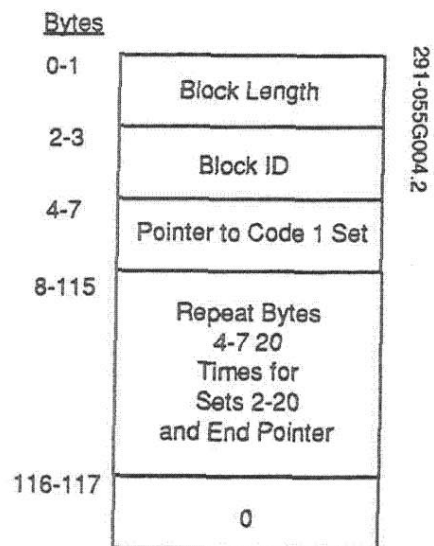


Figure 2.1.2-4. File Ponter Directory Data Block

Bytes 0-1	Block Length	Bytes 36-37	Units Code	Bytes 72-73	Additive Constant
	134		19		0
2-3	Mode	38-39	Mult. Mantissa	74-75	Char 1
	3		1		S
4-5	Submode	40-41	Exponent	76-77	Char 2
	18		0		T
6-7	Number of Sections	42-43	Additive Constant	78-79	Char 3
	16		0		L
8-9		44-45	Char 1	80-81	Char 4
	128		L		
10-11		46-47	Char 2	82-83	Start Byte
	1		W		32
12-13	Char 1	48-49	Char 3	84-85	Bytes/Element
	R		L		8
14-15	Char 2	50-51	Char 4	86-87	Units Code
	L				19
16-17	Char 3	52-53	Start Byte	88-89	Mult. Mantissa
			16		1
18-19	Char 4	54-55	Bytes/Element	90-91	Exponent
			8		0
20-21	Start Byte	56-57	Units Code	92-93	Additive Constant
	0		19		0
22-23	Bytes/Element	58-59	Mult. Mantissa	94-95	Char 1
	8		1		S
24-25		60-61	Exponent	96-97	Char 2
	1		0		T
26-27	Units Code	62-63	Additive Constant	98-99	Char 3
	19		0		V
28-29	Mult. Mantissa	64-65	Char 1	100-101	Start Byte
	1		S		40
30-31	Exponent	66-67	Char 2	102-103	Bytes/Element
	0		T		8
32-33	Additive Constant	68-69	Char 3	104-105	Units Code
	0		D		19
34-35	Char 1	70-71	Char 4	106-107	Mult. Mantissa
	S				1
	M				Exponent
					0
					Additive Constant
					0
					Char 1
					Char 2
					S
					T

Figure 2.1.2-5. Algorithm Type and Channel Selection Table Data Description Block

Bytes 108-109	Char 3 V	Char 4 G
110-111	Start Byte	
	48	
112-113	Bytes/Element	
	8	
114-115		
	1	
116-117	Units Code	
	19	
118-119	Mult. Mantissa 1	Exponent 0
120-121	Additive Constant	
	0	
122-123	Char 1 S	Char 2 N
124-125	Char 3 W	Char 4
126-127	Start Byte	
	56	
128-129	Bytes/Element	
	8	
130-131		
	1	
132-133	Units Code	
	19	
134-135	Mult. Mantissa 1	Exponent 0
136-137	Additive Constant	
	0	
138-139	Char 1 R	Char 2 O
140-141	Char 3	Char 4
142-143	Start Byte	
	64	
Bytes 144-145	Bytes/Element	
	8	
146-147		
	1	
148-149	Units Code	
	19	
150-151	Mult. Mantissa 1	Exponent 0
152-153	Additive Constant	
	0	
154-155	Char 1 S	Char 2 W
156-157	Char 3	Char 4
158-159	Start Byte	
	72	
160-161	Bytes/Element	
	8	
162-163		
	1	
164-165	Units Code	
	19	
166-167	Mult. Mantissa 1	Exponent 0
168-169	Additive Constant	
	0	
170-171	Char 1 L	Char 2 W
172-173	Char 3 O	Char 4
174-175	Start Byte	
	80	
176-177	Bytes/Element	
	8	
178-179		
	1	
Bytes 180-181	Units Code	
	19	
182-183	Mult. Mantissa 1	Exponent 0
184-185	Additive Constant	
	0	
186-187	Char 1 C	Char 2 W
188-189	Char 3 O	Char 4
190-191	Start Byte	
	88	
192-193	Bytes/Element	
	8	
194-195		
	1	
196-197	Units Code	
	19	
198-199	Mult. Mantissa 1	Exponent 0
200-201	Additive Constant	
	0	
202-203	Char 1 W	Char 2 V
204-205	Char 3 O	Char 4
206-207	Start Byte	
	96	
208-209	Bytes/Element	
	8	
210-211		
	1	
212-213	Units Code	
	19	
214-215	Mult. Mantissa 1	Exponent 0

Figure 2.1.2-5. Algorithm Type and Channel Selection Table Data Description Block (Cont)

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Bytes 216-217	Additive Constant ----- 0	
218-219	Char 1 I	Char 2 C
220-221	Char 3	Char 4
222-223	Start Byte ----- 104	
224-225	Bytes/Element ----- 8	
226-227		
228-229	Units Code ----- 19	
230-231	Mult. Mantissa 1	Exponent ----- 0
232-233	Additive Constant ----- 0	
234-235	Char 1 I	Char 2 A
236-237	Char 3	Char 4
238-239	Start Byte ----- 112	
240-241	Bytes/Element ----- 8	
242-243		
244-245	Units Code ----- 19	
246-247	Mult. Mantissa 1	Exponent ----- 0
248-249	Additive Constant ----- 0	
250-251	Char 1 C	Char 2 W

Bytes 252-253	Char 3 I	Char 4
254-255	Start Byte ----- 120	
256-257	Bytes/Element ----- 8	
258-259		
260-261	Units Code ----- 19	
262-263	Mult. Mantissa 1	Exponent ----- 0
264-265	Additive Constant ----- 0	
266-267	Checksum -----	

Figure 2.1.2-5. Algorithm Type and Channel Selection Table Data Description Block (Cont)

Bytes 0-1	Block Length	
2-3	Block ID	
4-5	Parameter 1 Algorithm Type	C1 Channel
6-7	C2 Channel	C3 Channel
8-9	C4 Channel	C5 Channel
10-11	C6 Channel	C7 Channel
12-131	Repeat Bytes 4-11 15 Times for Parameters 2-16	
132-133	Checksum	

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**Figure 2.1.2-6. Algorithm Type and Channel Selection Table
Data Block**

Bytes 0-1	Block Length	
	782	
2-3	Mode	Submode
	3	18
4-5	Number of Sections	
	97	
6-7	Bytes per Section	
	908	
8-9		
	1	
10-11	Char 1	Char 2
	R	L
12-13	Char 3	Char 4
14-15	Start Byte	
	0	
16-17	Bytes per Element	
	44	
18-19		
	4	
20-21		
	1	19
22-23	Mult. Mantissa	Exponent
	1	0
24-25	Additive Constant	
	0	
26-27	Char 1	Char 2
	S	M
28-29	Char 3	Char 4
30-31	Start Byte	
	44	
32-33	Bytes per Element	
	44	
34-35		
	4	

Bytes 36-37		
	1	19
38-39	Mult. Mantissa	Exponent
	1	0
40-41	Additive Constant	
	0	
42-43	Char 1	Char 2
	L	W
44-45	Char 3	Char 4
	L	
46-47	Start Byte	
	88	
48-49	Bytes per Element	
	44	
50-51		
	4	
52-53		
	1	19
54-55	Mult. Mantissa	Exponent
	1	0
56-57	Additive Constant	
	0	
58-59	Char 1	Char 2
	S	T
60-61	Char 3	Char 4
	D	
62-63	Start Byte	
	132	
64-65	Bytes per Element	
	44	
66-67		
	4	
68-69		
	1	19
70-71	Mult. Mantissa	Exponent
	1	0

Bytes 72-73	Additive Constant	
	0	
74-75	Char 1	Char 2
	S	T
76-77	Char 3	Char 4
	L	
78-79	Start Byte	
	176	
80-81	Bytes per Element	
	44	
82-83		
	4	
84-85		
	1	19
86-87	Mult. Mantissa	Exponent
	1	0
88-89	Additive Constant	
	0	
90-91	Char 1	Char 2
	S	T
92-93	Char 3	Char 4
	V	
94-95	Start Byte	
	220	
96-97	Bytes per Element	
	44	
98-99		
	4	
100-101		
	1	19
102-103	Mult. Mantissa	Exponent
	1	0
104-105	Additive Constant	
	0	
106-107	Char 1	Char 2
	S	T

Figure 2.1.2-7 Normal Climate Zones Data Description Block

Bytes	Char 3	Char 4
108-109	V	G
110-111	Start Byte	
	264	
112-113	Bytes per Element	
	44	
114-115		
	4	
116-117		
	1	19
118-119	Mult. Mantissa	Exponent
	1	0
120-121	Additive Constant	
	0	
122-123	Char 1	Char 2
	S	N
124-125	Char 3	Char 4
	W	
126-127	Start Byte	
	308	
128-129	Bytes per Element	
	44	
130-131		
	4	
132-133		
	1	19
134-135	Mult. Mantissa	Exponent
	1	0
136-137	Additive Constant	
	0	
138-139	Char 1	Char 2
	R	O
140-141	Char 3	Char 4
142-143	Start Byte	
	352	

Bytes	Bytes per Element	
144-145	44	
146-147		
	4	
148-149		
	1	19
150-151	Mult. Mantissa	Exponent
	1	0
152-153	Additive Constant	
	0	
154-155	Char 1	Char 2
	S	W
156-157	Char 3	Char 4
158-159	Start Byte	
	396	
160-161	Bytes per Element	
	44	
162-163		
	4	
164-165		
	1	19
166-167	Mult. Mantissa	Exponent
	1	0
168-169	Additive Constant	
	0	
170-171	Char 1	Char 2
	L	W
172-173	Char 3	Char 4
	O	
174-175	Start Byte	
	440	
176-177	Bytes per Element	
	44	
178-179		
	4	

Bytes		
180-181	1	19
182-183	Mult. Mantissa	Exponent
	1	0
184-185	Additive Constant	
	0	
186-187	Char 1	Char 2
	C	W
188-189	Char 3	Char 4
	O	
190-191	Start Byte	
	484	
192-193	Bytes per Element	
	44	
194-195		
	4	
196-197		
	1	19
198-199	Mult. Mantissa	Exponent
	1	0
200-201	Additive Constant	
	0	
202-203	Char 1	Char 2
	W	V
204-205	Char 3	Char 4
	O	
206-207	Start Byte	
	528	
208-209	Bytes per Element	
	44	
210-211		
	4	
212-213		
	1	19
214-215		
	1	0

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Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 216-217	Additive Constant		0
218-219	Char 1	Char 2	
	F	L	
220-221	Char 3	Char 4	
	S	D	
222-223	Start Byte		572
224-225	Bytes per Element		4
226-227			4
228-229			19
230-231	Mult. Mantissa	Exponent	0
	1		
232-233	Additive Constant		0
234-235	Char 1	Char 2	
	D	V	
236-237	Char 3	Char 4	
	H	1	
238-239	Start Byte		576
240-241	Bytes per Element		4
242-243			1
244-245			19
246-247	Mult. Mantissa	Exponent	0
	1		
248-249	Additive Constant		0
250-251	Char 1	Char 2	
	D	V	

Bytes 252-253	Char 3	Char 4	
	H	2	
254-255	Start Byte		580
256-257	Bytes per Element		4
258-259			4
260-261			19
262-263	Mult. Mantissa	Exponent	0
	1		
264-265	Additive Constant		0
266-267	Char 1	Char 2	
	D	V	
268-269	Char 3	Char 4	
	L	1	
270-271	Start Byte		584
272-273	Bytes per Element		4
274-275			1
276-277			19
278-279	Mult. Mantissa	Exponent	0
	1		
280-281	Additive Constant		0
282-283	Char 1	Char 2	
	D	V	
284-285	Char 3	Char 4	
	L	2	
286-287	Start Byte		588

Bytes 288-289	Bytes per Element		4
290-291			4
292-293			19
294-295	Mult. Mantissa	Exponent	0
	1		
296-297	Additive Constant		0
298-299	Char 1	Char 2	
	L	D	
300-301	Char 3	Char 4	
	H	1	
302-303	Start Byte		592
304-305	Bytes per Element		4
306-307			1
308-309			19
310-311	Mult. Mantissa	Exponent	0
	1		
312-313	Additive Constant		0
314-315	Char 1	Char 2	
	L	D	
316-317	Char 3	Char 4	
	H	2	
318-319	Start Byte		596
320-321	Bytes per Element		4
322-323			1

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Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 324-325	-----		19
326-327	Mult. Mantissa 1	Exponent 0	
328-329	Additive Constant -----		0
330-331	Char 1 L	Char 2 D	
332-333	Char 3 L	Char 4 1	
334-335	Start Byte -----		600
336-337	Bytes per Element -----		4
338-339	-----		4
340-341	-----		19
342-343	Mult. Mantissa 1	Exponent 0	
344-345	Additive Constant -----		0
346-347	Char 1 L	Char 2 D	
348-349	Char 3 L	Char 4 2	
350-351	Start Byte -----		604
352-353	Bytes per Element -----		4
354-355	-----		4
356-357	-----		19
358-359	Mult. Mantissa 1	Exponent 0	

Bytes 360-361	Additive Constant -----		0
362-363	Char 1 L	Char 2 D	
364-365	Char 3 L	Char 4 3	
366-367	Start Byte -----		608
368-369	Bytes per Element -----		4
370-371	-----		4
372-373	-----		19
374-375	Mult. Mantissa 1	Exponent 0	
376-377	Additive Constant -----		0
378-379	Char 1 R	Char 2 V	
380-381	Char 3 H	Char 4 1	
382-383	Start Byte -----		612
384-385	Bytes per Element -----		4
386-387	-----		4
388-389	-----		19
390-391	Mult. Mantissa 1	Exponent 0	
392-393	Additive Constant -----		0
394-395	Char 1 R	Char 2 V	

Bytes 396-397	Char 3 H	Char 4 2	
398-399	Start Byte -----		616
400-401	Bytes per Element -----		4
402-403	-----		4
404-405	-----		19
406-407	Mult. Mantissa 1	Exponent 0	
408-409	Additive Constant -----		0
410-411	Char 1 R	Char 2 V	
412-413	Char 3 L	Char 4 1	
414-415	Start Byte -----		620
416-417	Bytes per Element -----		4
418-419	-----		4
420-421	-----		19
422-423	Mult. Mantissa 1	Exponent 0	
424-425	Additive Constant -----		0
426-427	Char 1 W	Char 2 V	
428-429	Char 3 H	Char 4 1	
430-431	Start Byte -----		624

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Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 540-541	Char 3 L	Char 4 5
542-543	Start Byte	
	652	
544-545	Bytes per Element	
	4	
546-547		
	4	
548-549		
	19	
550-551	Mult. Mantissa 1	Exponent 0
552-553	Additive Constant	
	0	
554-555	Char 1 D	Char 2 A
556-557	Char 3 H	Char 4 1
558-559	Start Byte	
	656	
560-561	Bytes per Element	
	4	
562-563		
	4	
564-565		
	19	
566-567	Mult. Mantissa 1	Exponent 0
568-569	Additive Constant	
	0	
570-571	Char 1 D	Char 2 A
572-573	Char 3 H	Char 4 2
574-575	Start Byte	
	660	

Bytes 576-577	Bytes per Element	
	4	
578-579		
	4	
580-581		
	19	
582-583	Mult. Mantissa 1	Exponent 0
584-585	Additive Constant	
	0	
586-587	Char 1 D	Char 2 A
588-589	Char 3 H	Char 4 3
590-591	Start Byte	
	664	
592-593	Bytes per Element	
	4	
594-595		
	4	
596-597		
	19	
598-599	Mult. Mantissa 1	Exponent 0
600-601	Additive Constant	
	0	
602-603	Char 1 D	Char 2 A
604-605	Char 3 L	Char 4 1
606-607	Start Byte	
	668	
608-609	Bytes per Element	
	4	
610-611		
	4	

Bytes 612-613		
	19	
614-615	Mult. Mantissa 1	Exponent 0
616-617	Additive Constant	
	0	
618-619	Char 1 D	Char 2 A
620-621	Char 3 L	Char 4 2
622-623	Start Byte	
	672	
624-625	Bytes per Element	
	4	
626-627		
	4	
628-629		
	19	
630-631	Mult. Mantissa 1	Exponent 0
632-633	Additive Constant	
	0	
634-635	Char 1 D	Char 2 A
636-637	Char 3 L	Char 4 3
638-639	Start Byte	
	676	
640-641	Bytes per Element	
	4	
642-643		
	4	
644-645		
	19	
646-647	Mult. Mantissa 1	Exponent 0

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Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 648-649	Additive Constant	
	0	
650-651	Char 1	Char 2
	D	A
652-653	Char 3	Char 4
	L	4
654-655	Start Byte	
	680	
656-657	Bytes per Element	
	4	
658-659		
	4	
660-661		
		19
662-663	Mult. Mantissa	Exponent
	1	0
664-665	Additive Constant	
	0	
666-667	Char 1	Char 2
	M	A
668-669	Char 3	Char 4
	H	1
670-671	Start Byte	
	684	
672-673	Bytes per Element	
	4	
674-675		
	4	
676-677		
		19
678-679	Mult. Mantissa	Exponent
	1	0
680-681	Additive Constant	
	0	
682-683	Char 1	Char 2
	M	A

Bytes 684-685	Char 3	Char 4
	H	2
686-687	Start Byte	
	688	
688-689	Bytes per Element	
	4	
690-691		
	4	
692-693		
		19
694-695	Mult. Mantissa	Exponent
	1	0
696-697	Additive Constant	
	0	
698-699	Char 1	Char 2
	M	A
700-701	Char 3	Char 4
	H	3
702-703	Start Byte	
	692	
704-705	Bytes per Element	
	4	
706-707		
	4	
708-709		
		19
710-711	Mult. Mantissa	Exponent
	1	0
712-713	Additive Constant	
	0	
714-715	Char 1	Char 2
	M	A
716-717	Char 3	Char 4
	L	1
718-719	Start Byte	
	696	

Bytes 720-721	Bytes per Element	
	4	
722-723		
	4	
724-725		
		19
726-727	Mult. Mantissa	Exponent
	1	0
728-729	Additive Constant	
	0	
730-731	Char 1	Char 2
	M	A
732-733	Char 3	Char 4
	L	2
734-735	Start Byte	
	700	
736-737	Bytes per Element	
	4	
738-739		
	4	
740-741		
		19
742-743	Mult. Mantissa	Exponent
	1	0
744-745	Additive Constant	
	0	
746-747	Char 1	Char 2
	M	A
748-749	Char 3	Char 4
	L	3
750-751	Start Byte	
	704	
752-753	Bytes per Element	
	4	
754-755		
	4	

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Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 864-865	Bytes per Element ----- 4	
866-867	----- 4	
868-869	----- ----- 19	
870-871	Mult. Mantissa 1	Exponent ----- 0
872-873	Additive Constant ----- 0	
874-875	Char 1 S	Char 2 D
876-877	Char 3 H	Char 4 2
878-879	Start Byte ----- 736	
880-881	Bytes per Element ----- 4	
882-883	----- 4	
884-885	----- ----- 19	
886-887	Mult. Mantissa 1	Exponent ----- 0
888-889	Additive Constant ----- 0	
890-891	Char 1 S	Char 2 D
892-893	Char 3 H	Char 4 3
894-895	Start Byte ----- 740	
896-897	Bytes per Element ----- 4	
898-899	----- 4	

Bytes 900-901	----- ----- 19	
902-903	Mult. Mantissa 1	Exponent ----- 0
904-905	Additive Constant ----- 0	
906-907	Char 1 S	Char 2 D
908-909	Char 3 L	Char 4 1
910-911	Start Byte ----- 744	
912-913	Bytes per Element ----- 4	
914-915	----- 4	
916-917	----- ----- 19	
918-919	Mult. Mantissa 1	Exponent ----- 0
920-921	Additive Constant ----- 0	
922-923	Char 1 S	Char 2 D
924-925	Char 3 L	Char 4 2
926-927	Start Byte ----- 748	
928-929	Bytes per Element ----- 4	
930-931	----- 4	
932-933	----- ----- 19	
934-935	Mult. Mantissa 1	Exponent ----- 0

Bytes 936-937	Additive Constant ----- 0	
938-939	Char 1 S	Char 2 D
940-941	Char 3 L	Char 4 3
942-943	Start Byte ----- 752	
944-945	Bytes per Element ----- 4	
946-947	----- 4	
948-949	----- ----- 19	
950-951	Mult. Mantissa 1	Exponent ----- 0
952-953	Additive Constant ----- 0	
954-955	Char 1 S	Char 2 D
956-957	Char 3 L	Char 4 4
958-959	Start Byte ----- 756	
960-961	Bytes per Element ----- 4	
962-963	----- 4	
964-965	----- ----- 19	
966-967	Mult. Mantissa 1	Exponent ----- 0
968-969	Additive Constant ----- 0	
970-971	Char 1 S	Char 2 D

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 972-973	Char 3 L	Char 4 5	Bytes 1008-1009	Bytes per Element	Bytes 1044-1045		
974-975	Start Byte		1010-1011	4	1046-1047	Mult. Mantissa 1	Exponent 0
976-977	Bytes per Element		1012-1013	4	1048-1049	Additive Constant	
978-979	760		1014-1015	19	1050-1051	Char 1 D	Char 2 S
980-981	4		1016-1017	0	1052-1053	Char 3 L	Char 4 2
982-983	Mult. Mantissa 1	Exponent 0	1018-1019	Char 1 D	1054-1055	Start Byte	
984-985	Additive Constant		1020-1021	Char 3 H	1056-1057	Bytes per Element	
986-987	Char 1 S	Char 2 D	1022-1023	Char 4 1	1058-1059	780	
988-989	Char 3 1	Char 4 1	1024-1025	Start Byte	1060-1061	4	
990-991	Start Byte		1026-1027	772	1062-1063	Mult. Mantissa 1	Exponent 0
992-993	Bytes per Element		1028-1029	4	1064-1065	Additive Constant	
994-995	4		1030-1031	19	1066-1067	Char 1 D	Char 2 S
996-997	4		1032-1033	0	1068-1069	Char 3 L	Char 4 3
998-999	Mult. Mantissa 1	Exponent 0	1034-1035	Char 1 D	1070-1071	Start Byte	
1000-1001	Additive Constant		1036-1037	Char 3 L	1072-1073	Bytes per Element	
1002-1003	Char 1 S	Char 2 D	1038-1039	Char 4 1	1074-1075	4	
1004-1005	Char 3 2	Char 4 1	1040-1041	Start Byte	1076-1077	19	
1006-1007	Start Byte		1042-1043	776	1078-1079	Mult. Mantissa 1	Exponent 0
	768			4			

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 1080-1081	Additive Constant 0	Bytes 1116-1117	Char 3 H	Char 4 3	Bytes 1152-1153	Bytes per Element 4
1082-1083	Char 1 R	1118-1119	Start Byte 796		1154-1155	4
1084-1085	Char 3 H	1120-1121	Bytes per Element 4		1156-1157	19
1086-1087	Char 4 1	1122-1123	Start Byte 4		1158-1159	Mult. Mantissa 1
1088-1089	Start Byte 788	1124-1125	Exponent 0		1160-1161	Exponent 0
1090-1091	Bytes per Element 4	1126-1127	Additive Constant 0		1162-1163	Char 1 S
1092-1093	4	1128-1129	Char 2 1		1164-1165	Char 3 H
1094-1095	Mult. Mantissa 1	1130-1131	Char 1 R	Char 2 S	1166-1167	Char 4 1
1096-1097	Exponent 0	1132-1133	Start Byte 800		1168-1169	Start Byte 808
1098-1099	Additive Constant 0	1134-1135	Char 3 L	Char 4 1	1170-1171	Bytes per Element 4
1100-1101	Char 1 R	1136-1137	Bytes per Element 4		1172-1173	4
1102-1103	Char 2 S	1138-1139	Start Byte 4		1174-1175	Mult. Mantissa 1
1104-1105	Char 3 H	1140-1141	Exponent 0		1176-1177	Exponent 0
1106-1107	Char 4 2	1142-1143	Additive Constant 0		1178-1179	Char 1 S
1108-1109	Start Byte 792	1144-1145	Char 2 1		1180-1181	Char 3 H
1110-1111	Bytes per Element 4	1146-1147	Start Byte 800		1182-1183	Char 4 2
1112-1113	4	1148-1149	Bytes per Element 4		1184-1185	Start Byte 812
1114-1115	Mult. Mantissa 1	1150-1151	Exponent 0		1186-1187	Bytes per Element 4
	Exponent 0		Additive Constant 0			4
	Char 1 R		Char 1 R			
	Char 2 S		Char 2 S			
			Char 3 L			
			Char 4 2			
			Start Byte 804			

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 1188-1189						19
1190-1191	Mult. Mantissa	1	Exponent	0		
1192-1193	Additive Constant			0		
1194-1195	Char 1	S	Char 2	1		
1196-1197	Char 3	L	Char 4	1		
1198-1199	Start Byte			816		
1200-1201	Bytes per Element			4		
1202-1203				4		
1204-1205				19		
1206-1207	Mult. Mantissa	1	Exponent	0		
1208-1209	Additive Constant			0		
1210-1211	Char 1	S	Char 2	1		
1212-1213	Char 3	L	Char 4	2		
1214-1215	Start Byte			820		
1216-1217	Bytes per Element			4		
1218-1219				4		
1220-1221				19		
1222-1223	Mult. Mantissa	1	Exponent	0		
Bytes 1224-1225	Additive Constant			0		
1226-1227	Char 1	S	Char 2	2		
1228-1229	Char 3	H	Char 4	1		
1230-1231	Start Byte			824		
1232-1233	Bytes per Element			4		
1234-1235				4		
1236-1237				19		
1238-1239	Mult. Mantissa	1	Exponent	0		
1240-1241	Additive Constant			0		
1242-1243	Char 1	S	Char 2	2		
1244-1245	Char 3	H	Char 4	2		
1246-1247	Start Byte			828		
1248-1249	Bytes per Element			4		
1250-1251				4		
1252-1253				19		
1254-1255	Mult. Mantissa	1	Exponent	0		
1256-1257	Additive Constant			0		
1258-1259	Char 1	S	Char 2	2		
Bytes 1260-1261	Char 3	L	Char 4	1		
1262-1263	Start Byte			832		
1264-1265	Bytes per Element			4		
1266-1267				4		
1268-1269				19		
1270-1271	Mult. Mantissa	1	Exponent	0		
1272-1273	Additive Constant			0		
1274-1275	Char 1	S	Char 2	2		
1276-1277	Char 3	L	Char 4	2		
1278-1279	Start Byte			836		
1280-1281	Bytes per Element			4		
1282-1283				4		
1284-1285				19		
1286-1287	Mult. Mantissa	1	Exponent	0		
1288-1289	Additive Constant			0		
1290-1291	Char 1	S	Char 2	2		
1292-1293	Char 3	L	Char 4	2		
1294-1295	Start Byte			840		

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 1296-1297	Bytes per Element ----- 4	Bytes 1332-1333	----- 19	Bytes 1368-1369	Additive Constant ----- 0
1298-1299	----- 4	1334-1335	Mult. Exponent Mantissa 1 0	1370-1371	Char 1 Char 2 B A
1300-1301	----- 19	1336-1337	Additive Constant ----- 0	1372-1373	Char 3 Char 4 D
1302-1303	Mult. Exponent Mantissa 1 0	1338-1339	Char 1 Char 2 G L	1374-1375	Start Byte ----- 860
1304-1305	Additive Constant ----- 0	1340-1341	Char 3 Char 4 L 1	1376-1377	Bytes per Element ----- 4
1306-1307	Char 1 Char 2 S 2	1342-1343	Start Byte ----- 852	1378-1379	----- 4
1308-1309	Char 3 Char 4 L 4	1344-1345	Bytes per Element ----- 4	1380-1381	----- 19
1310-1311	Start Byte ----- 844	1346-1347	----- 4	1382-1383	Mult. Exponent Mantissa 1 0
1312-1313	Bytes per Element ----- 4	1348-1349	----- 19	1384-1385	Additive Constant ----- 0
1314-1315	----- 4	1350-1351	Mult. Exponent Mantissa 1 0	1386-1387	Char 1 Char 2 O M
1316-1317	----- 19	1352-1353	Additive Constant ----- 0	1388-1389	Char 3 Char 4 R M
1318-1319	Mult. Exponent Mantissa 1 0	1354-1355	Char 1 Char 2 G L	1390-1391	Start Byte ----- 864
1320-1321	Additive Constant ----- 0	1356-1357	Char 3 Char 4 L 2	1392-1393	Bytes per Element ----- 4
1322-1323	Char 1 Char 2 G L	1358-1359	Start Byte ----- 856	1394-1395	----- 4
1324-1325	Char 3 Char 4 H 1	1360-1361	Bytes per Element ----- 4	1396-1397	----- 19
1326-1327	Start Byte ----- 848	1362-1363	----- 4	1398-1399	Mult. Exponent Mantissa 1 0
1328-1329	Bytes per Element ----- 4	1364-1365	----- 19	1400-1401	Additive Constant ----- 0
1330-1331	----- 4	1366-1367	Mult. Exponent Mantissa 1 0	1402-1403	Char 1 Char 2 O M

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes		Bytes		Bytes			
1404-1405	Char 3	Char 4	1440-1441	Bytes per Element	1476-1477		
	R	D		4			19
1406-1407	Start Byte		1442-1443		1478-1479	Mult. Mantissa	Exponent
	868			4		1	0
1408-1409	Bytes per Element		1444-1445		1480-1481	Additive Constant	
	4			19		0	
1410-1411			1446-1447	Mult. Mantissa	1482-1483	Char 1	Char 2
	4			1		S	P
1412-1413			1448-1449	Additive Constant	1484-1485	Char 3	Char 4
		19		0		3	
1414-1415	Mult. Mantissa	Exponent	1450-1451	Char 1	1486-1487	Start Byte	
	1	0		S		888	
1416-1417	Additive Constant		1452-1453	Char 3	1488-1489	Bytes per Element	
	0			1		4	
1418-1419	Char 1	Char 2	1454-1455	Start Byte			
	O	H		880		4	
1420-1421	Char 3	Char 4	1456-1457	Bytes per Element			
	R	D		4		19	
1422-1423	Start Byte		1458-1459			Mult. Mantissa	Exponent
	872			4		1	0
1424-1425	Bytes per Element		1460-1461			Additive Constant	
	4			19		0	
1426-1427			1462-1463	Mult. Mantissa	1498-1499	Char 1	Char 2
	4			1		S	P
1428-1429			1464-1465	Additive Constant	1500-1501	Char 3	Char 4
		19		0		4	
1430-1431	Mult. Mantissa	Exponent	1466-1467	Char 1	1502-1503	Start Byte	
	1	0		S		892	
1432-1433	Additive Constant		1468-1469	Char 3	1504-1505	Bytes per Element	
	0			2		4	
1434-1435	Char 1	Char 2	1470-1471	Start Byte			
	S	P		884		4	
1436-1437	Char 3	Char 4	1472-1473	Bytes per Element			
	O			4		19	
1438-1439	Start Byte		1474-1475			Mult. Mantissa	Exponent
	876			4		1	0

291-055G023,1

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes 1512-1513	Additive Constant ----- 0	Bytes 1548-1549	Char 3 ----- 7	Char 4 ----- 4
1514-1515	Char 1 S----- Char 2 ----- P	1550-1551	Start Byte ----- 904	
1516-1517	Char 3 5----- Char 4 -----	1552-1553	Bytes per Element ----- 4	
1518-1519	Start Byte ----- 896		----- 4	
1520-1521	Bytes per Element ----- 4		----- 19	
1522-1523	----- 4		Mult. Mantissa ----- 1	Exponent ----- 0
1524-1525	----- 19		Additive Constant ----- 0	
1526-1527	Mult. Mantissa ----- 1	1560-1561	Additive Constant ----- 0	
1528-1529	Additive Constant ----- 0		Checksum ----- -----	
1530-1531	Char 1 S----- Char 2 ----- P			
1532-1533	Char 3 6----- Char 4 -----			
1534-1535	Start Byte ----- 900			
1536-1537	Bytes per Element ----- 4			
1538-1539	----- 4			
1540-1541	----- 19			
1542-1543	Mult. Mantissa ----- 1		Exponent ----- 0	
1544-1545	Additive Constant ----- 0			
1546-1547	Char 1 S----- Char 2 ----- P			

291-055G024.1

Figure 2.1.2-7. Normal Climatic Zones Data Description Block (Cont)

Bytes		
0-1	Block Length	291-055G025.1
2-3	Block ID	
4-7	Parameter 1, Zone 1 C0 Constant	
8-11	C1 Coefficient	
12-15	C2 Coefficient	
16-19	C3 Coefficient	
20-23	C4 Coefficient	
24-27	C5 Coefficient	
28-31	C6 Coefficient	
32-35	C7 Coefficient	
36-39	C8 Coefficient	
40-43	C9 Coefficient	
44-47	C10 Coefficient	
48-575	Repeat bytes 4-47 12 times for parameters 2-13	
576-579	Discriminant 1, Zone 1	
580-911	Repeat bytes 576-579 83 times for discriminants 2-84	
912-913	Checksum	
914-10,053	Repeat bytes 0-913 10 times for climate zones 2-11	

Figure 2.1.2-8. Normal Climatic Zones Data Block

Bytes 1-1	Block Length	102		Bytes 36-37	Units Code	1	19	Bytes 72-73	Additive Const	0	
2-3	Mode	3	Submode	18	Mult. Mantissa	1	Exponent	0	Char 1	Char 2	Ocean 19 GHz RT
4-5		12			Additive Const	0			Char 3	Char 4	
6-7	Number of Elements	0	Bytes/Sections	384	Char 1	L	Char 2	N	Start Byte	128	
8-9	Number of Sections	7			Char 3	3	Char 4	7	Bytes per Element	32	
10-11	Char 1	L	Char 2	N	Start Byte	64				4	
12-13	Char 3	1	Char 4	9	Bytes per Element	32			Units Code	1	19
14-15	Start Byte	0				4			Mult. Mantissa	1	Exponent
16-17	Bytes per Element	32				1	Units Code	19	Additive Const	0	
18-19		4			Mult. Mantissa	1	Exponent	0	Char 1	Char 2	Ocean 22 GHz RT
20-21		1	Units Code	19	Additive Const	0			Char 3	Char 4	
22-23	Mult. Mantissa	1	Exponent	0	Char 1	L	Char 2	N	Start Byte	160	
24-25	Additive Const	0			Char 3	8	Char 4	5	Bytes per Element	32	
26-27	Char 1	L	Char 2	N	Start Byte	96				4	
28-29	Char 3	2	Char 4	2	Bytes per Element	32			Units Code	1	19
30-31	Start Byte	32				4			Mult. Mantissa	1	Exponent
32-33	Bytes per Element	32				1	Units Code	19	Additive Const	0	
34-35		4			Mult. Mantissa	1	Exponent	0	Char 1	Char 2	Ocean 37 GHz RT

Figure 2.1.2-9. RT CLIMATIC ZONES DATA DESCRIPTION BLOCK

<u>Bytes</u>		
0-1	Block Length	291-055G028.1
2-3	Block ID	
4-7	Land 19 GHz RT Zone 12 C0 Coefficient	
8-11	C1 Coefficient	
12-15	C2 Coefficient	
16-19	C3 Coefficient	
20-23	C4 Coefficient	
24-27	C5 Coefficient	
28-31	C6 Coefficient	
32-35	C7 Coefficient	
36-131	Repeat bytes 4-35 3 times for 22 GHz, 37 GHz, and 85 GHz	
132-387	Repeat bytes 4-131 for Oceanand and Ice Zones	
388-2,691	Repeat bytes 4-387 6 times for Zones 13-18	
2,692-2,693	Checksum	

Figure 2.1.2-10. RT Climatic Zones Data Block

Bytes 0-1	Block Length		Bytes 36-37		Units Code	Bytes 71-73	Additive Const
	38			1	19		0
2-3	Mode	Submode	38-39	Mult. Mantissa	Exponent	74-75	Checksum
	3	18		1	0		
4-5			40-41	Additive Const			
		4			0		
6-7	Number of Elements	Bytes/ Section	42-43	Char 1	Char 2		
	0	136		C	W		
8-9	Number of Sections		44-45	Char 3	Char 4		
		2		I			
10-11	Char 1	Char 2	46-47	Start Byte			
	I	C			88		
12-13	Char 3	Char 4	48-49	Bytes per Element			
					32		
14-15	Start Byte		50-51				
		0			4		
16-17	Bytes per Element		52-53		Units Code		
		44		1	19		
18-19			54-55	Mult. Mantissa	Exponent		
		4		1	0		
20-21		Units Code	56-57	Additive Const			
	1	19			0		
22-23	Mult. Mantissa	Exponent	58-59	Char 1	Char 2		
	1	0		F	M		
24-25	Additive Const		60-61	Char 3	Char 4		
		0		Y	I		
26-27	Char 1	Char 2	62-63	Start Byte			
	I	A			132		
28-29	Char 3	Char 4	64-65	Bytes per Element			
					32		
30-31	Start Byte		66-67				
		44			4		
32-33	Bytes per Element		68-69		Units Code		
		32		1	19		
34-35			70-71	Mult. Mantissa	Exponent		
		4		1	0		

Figure 2.1.2-11. Ice Climatic Zones Data Description Block

Bytes		
0-1	Block Length	291-055G030.1
2-3	Block ID	
4-7	IC Zone 19 C0 Constant	
8-11	C1 Coefficient	
12-15	C2 Coefficient	
16-19	C3 Coefficient	
20-23	C4 Coefficient	
24-27	C5 Coefficient	
28-31	C6 Coefficient	
32-35	C7 Coefficient	
36-39	C8 Coefficient	
40-43	C9 Coefficient	
44-47	C10 Power	
48-135	Repeat Bytes 4-47 twice for IA and CWI	
136-139	First Year/Multi-year Ice Discriminant	
140-275	Repeat Bytes 4-139 once for Zone 20	
276-277	Checksum	

Figure 2.1.2-12. Ice Climatic Zone Data Block

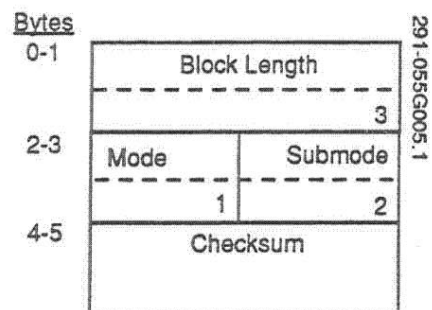


Figure 2.1.2-13. End of Product Block

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS

CLIMATIC ZONE (1) TROPICAL - WARM

PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290-002	8.770-003	.000	.000	.000
SM	4	-2.917+002	1.900-001	-2.630+000	1.280+000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598-001	5.984-001	8.828-001	.000	-2.623-001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266-001	2.716-001	-1.297-001	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873-001	5.221-001	-6.271-001	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800-001	5.933-001	.000	7.299-001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755-003	.000	-7.500-003	-1.812-003	.000	-5.604-003	2.948-003	.000	.000	.000
LWO	4	5.072+001	.000	3.000-002	-1.881-001	-4.930-002	2.850-002	.000	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026-003	-4.880-003	.000	1.959-002	.000	-3.011-003	.000	.000	.000
WVO	0	2.329+002	-1.486-001	.000	-1.829+000	6.193-003	-3.700-001	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (1) TROPICAL - WARM

LAND - FLOODED SOIL DELTA	:	4.0000+000
LAND - DENSE VEGETATION H1	:	2.0000+000
LAND - DENSE VEGETATION H2	:	3.9000+000
LAND - DENSE VEGETATION L1	:	2.6200+002
LAND - DENSE VEGETATION L2	:	.0000
LAND - LESS DENSE VEG H1	:	4.0000+000
LAND - LESS DENSE VEG H2	:	3.9000+000
LAND - LESS DENSE VEG L1	:	2.0000+000
LAND - LESS DENSE VEG L2	:	2.6200+002
LAND - LESS DENSE VEG L3	:	.0000
LAND - RAIN OVER VEG H1	:	4.0000+000
LAND - RAIN OVER VEG H2	:	.0000
LAND - RAIN OVER VEG L1	:	2.6200+002
LAND - WATER AND VEG H1	:	6.4000+000
LAND - WATER AND VEG H2	:	-5.5000+000
LAND - WATER AND VEG H3	:	-7.5000+000
LAND - WATER AND VEG L1	:	-9.0000+000
LAND - WATER AND VEG L2	:	.0000
LAND - WATER AND VEG L3	:	3.9000+000
LAND - WATER AND VEG L4	:	3.4000+000
LAND - WATER AND VEG L5	:	.0000
LAND - DRY ARABLE SOIL H1	:	9.8000+000
LAND - DRY ARABLE SOIL H2	:	.0000
LAND - DRY ARABLE SOIL H3	:	3.9000+000
LAND - DRY ARABLE SOIL L1	:	4.0000+000
LAND - DRY ARABLE SOIL L2	:	-6.5000+000
LAND - DRY ARABLE SOIL L3	:	-5.0000+000
LAND - DRY ARABLE SOIL L4	:	2.4700+002
LAND - MOIST ARABLE SOIL H1	:	1.9000+001
LAND - MOIST ARABLE SOIL H2	:	4.0000+000
LAND - MOIST ARABLE SOIL H3	:	3.9000+000
LAND - MOIST ARABLE SOIL L1	:	4.0000+000
LAND - MOIST ARABLE SOIL L2	:	-6.5000+000
LAND - MOIST ARABLE SOIL L3	:	.0000
LAND - MOIST ARABLE SOIL L4	:	2.4700+002

LAND - VERY WET SOIL H1	:	-4.5000+000
LAND - VERY WET SOIL L1	:	6.4000+000
LAND - VERY WET SOIL L2	:	-2.0000+000
LAND - VERY WET SOIL L3	:	3.9000+000
LAND - VERY WET SOIL L4	:	.0000
LAND - SEMI-DESERTIC H1	:	9.0000-001
LAND - SEMI-DESERTIC H2	:	6.0000+000
LAND - SEMI-DESERTIC H3	:	1.9000+001
LAND - SEMI-DESERTIC L1	:	9.8000+000
LAND - SEMI-DESERTIC L2	:	7.0000+000
LAND - SEMI-DESERTIC L3	:	2.4700+002
LAND - SEMI-DESERTIC L4	:	-1.0500+001
LAND - SEMI-DESERTIC L5	:	-4.0000+000
LAND - SEMI-DESERT #1 H1	:	.0000
LAND - SEMI-DESERT #2 L1	:	.0000
LAND - DESERT H1	:	8.0000-001
LAND - DESERT L1	:	1.9000+001
LAND - DESERT L2	:	2.6200+002
LAND - DESERT L3	:	-1.0000+000
LAND - RAIN OVER SOIL H1	:	-3.0000+000
LAND - RAIN OVER SOIL H2	:	-5.0000+000
LAND - RAIN OVER SOIL H3	:	-4.0000+000
LAND - RAIN OVER SOIL L1	:	4.0000+000
LAND - RAIN OVER SOIL L2	:	2.6700+002
LAND - SNOW COVERED H1	:	-6.5000+000
LAND - SNOW COVERED H2	:	2.6700+002
LAND - SNOW COVERED L1	:	4.0000+000
LAND - SNOW COVERED L2	:	5.0000+000
LAND - SNOW AND SOIL H1	:	-5.5000+000
LAND - SNOW AND SOIL H2	:	2.6700+002
LAND - SNOW AND SOIL L1	:	4.0000+000
LAND - SNOW AND SOIL L2	:	6.5000+000
LAND - SNOW AND SOIL L3	:	5.0000+000
LAND - SNOW AND SOIL L4	:	2.4700+002
LAND - GLACIAL H1	:	2.0000+002
LAND - GLACIAL L1	:	4.0000+000
LAND - GLACIAL L2	:	-1.5000+001
BAD DATA DELTA	:	-2.0000+000
OCEAN - MAYBE RAIN MIN	:	-1.1794+001
OCEAN - MAYBE RAIN DEL	:	-2.7270-002
OCEAN - HEAVY RAIN DEL	:	9.9200-002

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (2) TROPICAL - COOL												
PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290-002	8.770-003	.000	.000	.000
SM	4	-2.917+002	1.900-001	-2.630+000	1.280+000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598-001	5.984-001	8.828-001	.000	-2.623-001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266-001	2.716-001	-1.297-001	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873-001	5.221-001	-6.271-001	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800-001	5.933-001	.000	7.299-001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755-003	.000	-7.500-003	-1.812-003	.000	-5.604-003	2.948-003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555-001	-1.760+000	7.860-001	.000	.000	.000	.000	.000
LWD	4	5.391+001	.000	2.590-002	-2.053-001	-4.830-001	3.740-002	.000	.000	.000	.000	.000
CWD	4	-3.146+000	.000	6.026-003	-4.880-003	.000	1.959-002	.000	-3.011-003	.000	.000	.000
WVO	0	2.329+002	-1.486-001	.000	-1.829+000	6.193-003	-3.700-001	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (2) TROPICAL - COOL

LAND - FLOODED SOIL DELTA	:	4.0000+000	LAND - RAIN OVER SOIL H3	:	-4.0000+000
LAND - DENSE VEGETATION H1	:	2.0000+000	LAND - RAIN OVER SOIL L1	:	4.0000+000
LAND - DENSE VEGETATION H2	:	3.9000+000	LAND - RAIN OVER SOIL L2	:	2.6700+002
LAND - DENSE VEGETATION L1	:	2.6200+002	LAND - SNOW COVERED H1	:	-6.5000+000
LAND - DENSE VEGETATION L2	:	.0000	LAND - SNOW COVERED H2	:	2.6700+002
LAND - LESS DENSE VEG H1	:	4.0000+000	LAND - SNOW COVERED L1	:	4.0000+000
LAND - LESS DENSE VEG H2	:	3.9000+000	LAND - SNOW COVERED L2	:	5.0000+000
LAND - LESS DENSE VEG L1	:	2.0000+000	LAND - SNOW AND SOIL H1	:	-5.5000+000
LAND - LESS DENSE VEG L2	:	2.6200+002	LAND - SNOW AND SOIL H2	:	2.6700+002
LAND - LESS DENSE VEG L3	:	.0000	LAND - SNOW AND SOIL L1	:	4.0000+000
LAND - RAIN OVER VEG H1	:	4.0000+000	LAND - SNOW AND SOIL L2	:	6.5000+000
LAND - RAIN OVER VEG H2	:	.0000	LAND - SNOW AND SOIL L3	:	5.0000+000
LAND - RAIN OVER VEG L1	:	2.6200+002	LAND - SNOW AND SOIL L4	:	2.4700+002
LAND - WATER AND VEG H1	:	6.4000+000	LAND - GLACIAL H1	:	2.0000+002
LAND - WATER AND VEG H2	:	-5.5000+000	LAND - GLACIAL L1	:	4.0000+000
LAND - WATER AND VEG H3	:	-7.5000+000	LAND - GLACIAL L2	:	-1.5000+001
LAND - WATER AND VEG L1	:	-9.0000+000	BAD DATA DELTA	:	-2.0000+000
LAND - WATER AND VEG L2	:	.0000	OCEAN - MAYBE RAIN MIN	:	-1.1794+001
LAND - WATER AND VEG L3	:	3.9000+000	OCEAN - MAYBE RAIN DEL	:	-2.7270+002
LAND - WATER AND VEG L4	:	3.4000+000	OCEAN - HEAVY RAIN DEL	:	9.9200+002
LAND - WATER AND VEG L5	:	.0000			
LAND - DRY ARABLE SOIL H1	:	9.8000+000			
LAND - DRY ARABLE SOIL H2	:	.0000			
LAND - DRY ARABLE SOIL H3	:	3.9000+000			
LAND - DRY ARABLE SOIL L1	:	4.0000+000			
LAND - DRY ARABLE SOIL L2	:	-6.5000+000			
LAND - DRY ARABLE SOIL L3	:	-5.0000+000			
LAND - DRY ARABLE SOIL L4	:	2.4700+002			
LAND - MOIST ARABLE SOIL H1	:	1.9000+001			
LAND - MOIST ARABLE SOIL H2	:	4.0000+000			
LAND - MOIST ARABLE SOIL H3	:	3.9000+000			
LAND - MOIST ARABLE SOIL L1	:	4.0000+000			
LAND - MOIST ARABLE SOIL L2	:	-6.5000+000			
LAND - MOIST ARABLE SOIL L3	:	.0000			
LAND - MOIST ARABLE SOIL L4	:	2.4700+002			
LAND - VERY WET SOIL H1	:	-4.5000+000			
LAND - VERY WET SOIL L1	:	6.4000+000			
LAND - VERY WET SOIL L2	:	-2.0000+000			
LAND - VERY WET SOIL L3	:	3.9000+000			
LAND - VERY WET SOIL L4	:	.0000			
LAND - SEMI-DESERTIC H1	:	9.0000+001			
LAND - SEMI-DESERTIC H2	:	6.0000+000			
LAND - SEMI-DESERTIC H3	:	1.9000+001			
LAND - SEMI-DESERTIC L1	:	9.8000+000			
LAND - SEMI-DESERTIC L2	:	7.0000+000			
LAND - SEMI-DESERTIC L3	:	2.4700+002			
LAND - SEMI-DESERTIC L4	:	-1.0500+001			
LAND - SEMI-DESERTIC L5	:	-4.0000+000			
LAND - SEMI-DESERT #1 H1	:	.0000			
LAND - SEMI-DESERT #2 L1	:	.0000			
LAND - DESERT H1	:	8.0000+001			
LAND - DESERT L1	:	1.9000+001			
LAND - DESERT L2	:	2.6200+002			
LAND - DESERT L3	:	-1.0000+000			
LAND - RAIN OVER SOIL H1	:	-3.0000+000			
LAND - RAIN OVER SOIL H2	:	-5.0000+000			

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (3) LOWER LAT TRANSITION - WARM												
PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290-002	8.770-003	.000	.000	.000
SK	4	-2.917+002	1.900-001	-2.630+000	1.280+000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598-001	5.984-001	8.828-001	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716-001	-1.297-001	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873-001	5.221-001	-6.271-001	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800-001	5.933-001	.000	7.299-001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755-003	.000	-7.500-003	-1.812-003	.000	-5.604-003	2.948-003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555-001	-1.760+000	7.860-001	.000	.000	.000	.000	.000
LWD	4	4.072+001	.000	4.050-002	-1.353-001	-7.680-002	2.890-002	.000	.000	.000	.000	.000
CWD	4	-3.146+000	.000	6.026-003	-4.880-003	.000	1.959-002	.000	-3.011-003	.000	.000	.000
WVO	0	2.329+002	-1.486-001	.000	-1.829+000	6.193-003	-3.700-001	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (3) LOWER LAT TRANSITION - WARM

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - SNOW COVERED H1	: -6.5000+000
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L4	: 2.6700+002
LAND - WATER AND VEG H1	: 6.4000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L1	: -9.0000+000	BAD DATA DELTA	: -1.0000+000
LAND - WATER AND VEG L2	: .0000	OCEAN - MAYBE RAIN MIN	: -4.1796+001
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN DEL	: -4.7270-002
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - HEAVY RAIN DEL	: 1.9200-002
LAND - WATER AND VEG L5	: .0000		
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000-001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500-001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000-001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		
LAND - RAIN OVER SOIL H2	: -5.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (4) LOWER LAT TRANSITION - COOL											
PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000
SM	4	-2.917+002	1.900+001	-2.630+000	1.280+000	.000	.000	2.160+000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	-2.623+001	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	1.482+000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	1.232+000	.000	.000	.000
STV	4	2.496+001	.000	-1.278+000	8.800+001	5.933+001	.000	7.299+001	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	-5.604+003	2.948+003	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000
LWO	4	3.946+001	.000	3.440+002	-1.226+001	-8.440+002	3.420+002	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	-3.011+003	.000	.000
LWO	0	2.329+002	-1.486+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (4) LOWER LAT TRANSITION - COOL

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H2	: -5.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H1	: -6.5000+000
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - WATER AND VEG H1	: 6.4000+000	LAND - SNOW AND SOIL L4	: 2.4700+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG L1	: -9.0000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L2	: .0000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN MIM	: -1.1794+001
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - MAYBE RAIN DEL	: -2.7270+002
LAND - WATER AND VEG L5	: .0000	OCEAN - HEAVY RAIN DEL	: 9.9200+002
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000+001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000+001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (5) MID-LAT - SPRING/FALL		PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000	.000
SM	4	-2.917+002	1.900+001	-2.630+000	1.280+000	.000	.000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	.000	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	.000	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	.000	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800+001	5.933+001	.000	.000	.000	7.299+001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	.000	.000	-5.604+003	2.948+003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000	.000	.000	.000
LWO	4	2.500+001	.000	4.290+002	-3.990+002	-1.205+001	3.100+002	.000	.000	.000	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	.000	-3.011+003	.000	.000	.000	.000
WVO	0	2.329+002	-1.486+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (5) MID-LAT - SPRING/FALL

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - SNOW COVERED H1	: -6.5000+000
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L4	: 2.4700+002
LAND - WATER AND VEG H1	: 6.4000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L1	: -9.0000+000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L2	: .0000	OCEAN - MAYBE RAIN MIN	: -1.1794+001
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN DEL	: -2.7270+002
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - HEAVY RAIN DEL	: 9.9200+002
LAND - WATER AND VEG L5	: .0000		
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000+001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000+001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		
LAND - RAIN OVER SOIL H2	: -5.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (6) MID-LAT - SUMMER												
PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 CDEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000	.000
SH	4	-2.917+002	1.900+001	-2.630+000	1.280+000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800+001	5.933+001	.000	7.299+001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	-5.604+003	2.948+003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000	.000
LWO	4	3.072+001	.000	5.100+002	-8.240+002	-1.043+001	2.930+002	.000	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	-3.011+003	.000	.000	.000
WVO	0	2.329+002	-1.486+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (6) MID-LAT - SUMMER

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - SNOW COVERED H1	: -6.5000+000
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L4	: 2.4700+002
LAND - WATER AND VEG H1	: 6.4000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L1	: -9.0000+000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L2	: .0000	OCEAN - MAYBE RAIN MIN	: -1.1794+001
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN DEL	: -2.7270+002
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - HEAVY RAIN DEL	: 9.9200+002
LAND - WATER AND VEG L5	: .0000		
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000+001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000+001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		
LAND - RAIN OVER SOIL H2	: -5.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (7) MID-LAT - WINTER													
PARAM		ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000	.000
SN	4	-2.917+002	1.900+001	-2.630+000	1.280+000	.000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800+001	5.933+001	.000	.000	7.299+001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	.000	-5.604+003	2.948+003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000	.000	.000
LWO	4	3.462+001	.000	4.740+002	-5.920+002	-1.749+001	6.230+002	.000	.000	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	-3.011+003	.000	.000	.000	.000
LWO	0	2.329+002	-1.484+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (7) MID-LAT - WINTER

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H3	: +4.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - SNOW COVERED H1	: -6.5000+000
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW AND SOIL H1	: +5.5000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L4	: 2.4700+002
LAND - WATER AND VEG H1	: 6.4000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L1	: -9.0000+000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L2	: .0000	OCEAN - MAYBE RAIN MIN	: -1.1794+001
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN DEL	: -2.7270+002
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - HEAVY RAIN DEL	: 9.9200+002
LAND - WATER AND VEG L5	: .0000		
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000+001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000+001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		
LAND - RAIN OVER SOIL H2	: -5.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (8) UPPER LAT TRANSITION - COOL													
	PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000	.000
SM	4	-2.917+002	1.900+001	-2.630+000	1.280+000	.000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800+001	5.933+001	.000	.000	7.299+001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	.000	-5.604+003	2.948+003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000	.000	.000
LWO	4	3.091+001	.000	2.090+002	-4.900+003	3.700+003	-1.420+002	.000	.000	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	.000	-3.011+003	.000	.000	.000
WVO	0	2.329+002	-1.486+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (8) UPPER LAT TRANSITION - COOL

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - SNOW COVERED H1	: -6.5000+000
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L4	: 2.4700+002
LAND - WATER AND VEG H1	: 6.4000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L1	: -9.0000+000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L2	: .0000	OCEAN - MAYBE RAIN MIN	: -1.1794+001
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN DEL	: -2.7270+002
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - HEAVY RAIN DEL	: 9.9200+002
LAND - WATER AND VEG L5	: .0000		
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000+001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000+001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		
LAND - RAIN OVER SOIL H2	: -5.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (9) UPPER LAT TRANSITION - COLD												
PARAM	ALG	CONST	19V	19M	22V	37V	37M	85V	85M	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000	.000
SM	4	-2.917+002	1.900+001	-2.430+000	1.280+000	.000	.000	2.160+000	.000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800+001	5.933+001	.000	7.299+001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	-5.604+003	2.948+003	.000	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000	.000
LWD	4	-8.477+001	.000	4.800+003	1.770+002	-1.370+002	-1.400+003	.000	.000	.000	.000	.000
CWG	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	-3.011+003	.000	.000	.000
LWG	0	2.329+002	-1.486+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (9) UPPER LAT TRANSITION - COLD

LAND - FLOODED SOIL DELTA	:	4.0000+000	LAND - RAIN OVER SOIL H3	:	-4.0000+000
LAND - DENSE VEGETATION H1	:	2.0000+000	LAND - RAIN OVER SOIL L1	:	4.0000+000
LAND - DENSE VEGETATION H2	:	3.9000+000	LAND - RAIN OVER SOIL L2	:	2.6700+002
LAND - DENSE VEGETATION L1	:	2.6200+002	LAND - SNOW COVERED H1	:	-6.5000+000
LAND - DENSE VEGETATION L2	:	.0000	LAND - SNOW COVERED H2	:	2.6700+002
LAND - LESS DENSE VEG H1	:	4.0000+000	LAND - SNOW COVERED L1	:	4.0000+000
LAND - LESS DENSE VEG H2	:	3.9000+000	LAND - SNOW COVERED L2	:	5.0000+000
LAND - LESS DENSE VEG L1	:	2.0000+000	LAND - SNOW AND SOIL H1	:	-5.5000+000
LAND - LESS DENSE VEG L2	:	2.6200+002	LAND - SNOW AND SOIL H2	:	2.6700+002
LAND - LESS DENSE VEG L3	:	.0000	LAND - SNOW AND SOIL L1	:	4.0000+000
LAND - RAIN OVER VEG H1	:	4.0000+000	LAND - SNOW AND SOIL L2	:	6.5000+000
LAND - RAIN OVER VEG H2	:	.0000	LAND - SNOW AND SOIL L3	:	5.0000+000
LAND - RAIN OVER VEG L1	:	2.6200+002	LAND - SNOW AND SOIL L4	:	2.4700+002
LAND - WATER AND VEG H1	:	6.4000+000	LAND - GLACIAL H1	:	2.0000+002
LAND - WATER AND VEG H2	:	-5.5000+000	LAND - GLACIAL L1	:	4.0000+000
LAND - WATER AND VEG H3	:	-7.5000+000	LAND - GLACIAL L2	:	-1.5000+001
LAND - WATER AND VEG L1	:	-9.0000+000	BAD DATA DELTA	:	-2.0000+000
LAND - WATER AND VEG L2	:	.0000	OCEAN - MAYBE RAIN MIN	:	-1.1794+001
LAND - WATER AND VEG L3	:	3.9000+000	OCEAN - MAYBE RAIN DEL	:	-2.7270+002
LAND - WATER AND VEG L4	:	3.4000+000	OCEAN - HEAVY RAIN DEL	:	9.9200+002
LAND - WATER AND VEG L5	:	.0000			
LAND - DRY ARABLE SOIL H1	:	9.8000+000			
LAND - DRY ARABLE SOIL H2	:	.0000			
LAND - DRY ARABLE SOIL H3	:	3.9000+000			
LAND - DRY ARABLE SOIL L1	:	4.0000+000			
LAND - DRY ARABLE SOIL L2	:	-6.5000+000			
LAND - DRY ARABLE SOIL L3	:	-5.0000+000			
LAND - DRY ARABLE SOIL L4	:	2.4700+002			
LAND - MOIST ARABLE SOIL H1	:	1.9000+001			
LAND - MOIST ARABLE SOIL H2	:	4.0000+000			
LAND - MOIST ARABLE SOIL H3	:	3.9000+000			
LAND - MOIST ARABLE SOIL L1	:	4.0000+000			
LAND - MOIST ARABLE SOIL L2	:	-6.5000+000			
LAND - MOIST ARABLE SOIL L3	:	.0000			
LAND - MOIST ARABLE SOIL L4	:	2.4700+002			
LAND - VERY WET SOIL H1	:	-4.5000+000			
LAND - VERY WET SOIL L1	:	6.4000+000			
LAND - VERY WET SOIL L2	:	-2.0000+000			
LAND - VERY WET SOIL L3	:	3.9000+000			
LAND - VERY WET SOIL L4	:	.0000			
LAND - SEMI-DESERTIC H1	:	9.0000+001			
LAND - SEMI-DESERTIC H2	:	6.0000+000			
LAND - SEMI-DESERTIC H3	:	1.9000+001			
LAND - SEMI-DESERTIC L1	:	9.8000+000			
LAND - SEMI-DESERTIC L2	:	7.0000+000			
LAND - SEMI-DESERTIC L3	:	2.4700+002			
LAND - SEMI-DESERTIC L4	:	-1.0500+001			
LAND - SEMI-DESERTIC L5	:	-4.0000+000			
LAND - SEMI-DESERT #1 H1	:	.0000			
LAND - SEMI-DESERT #2 L1	:	.0000			
LAND - DESERT H1	:	8.0000+001			
LAND - DESERT L1	:	1.9000+001			
LAND - DESERT L2	:	2.6200+002			
LAND - DESERT L3	:	-1.0000+000			
LAND - RAIN OVER SOIL H1	:	-3.0000+000			
LAND - RAIN OVER SOIL H2	:	-5.0000+000			

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (10) POLAR - COOL		PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
RL	2	3.297+000	.000	.000	.000	.000	.000	.000	.000	-1.290+002	8.770+003	.000	.000	.000
SM	4	-2.917+002	1.900+001	-2.430+000	1.280+000	.000	.000	.000	.000	2.160+000	.000	.000	.000	.000
LVL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598+001	5.984+001	8.828+001	.000	.000	.000	-2.623+001	.000	.000	.000	.000
STL	4	6.970+000	.000	-6.266+001	2.716+001	-1.297+001	.000	.000	.000	1.482+000	.000	.000	.000	.000
STV	4	2.316+001	.000	-1.873+001	5.221+001	-6.271+001	.000	.000	.000	1.232+000	.000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800+001	5.933+001	.000	.000	.000	7.299+001	.000	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755+003	.000	-7.500+003	-1.812+003	.000	.000	.000	-5.604+003	2.948+003	.000	.000	.000
SV	4	1.479+002	1.097+000	.000	-4.555+001	-1.760+000	7.860+001	.000	.000	.000	.000	.000	.000	.000
LWO	4	3.091+001	.000	2.090+002	-4.900+003	3.700+003	-1.420+002	.000	.000	.000	.000	.000	.000	.000
CWO	4	-3.146+000	.000	6.026+003	-4.880+003	.000	1.959+002	.000	.000	-3.011+003	.000	.000	.000	.000
VVO	0	2.329+002	-1.486+001	.000	-1.829+000	6.193+003	-3.700+001	.000	.000	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (10) POLAR - COOL

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H2	: -5.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H1	: -6.5000+000
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - WATER AND VEG H1	: 6.4000+000	LAND - SNOW AND SOIL L4	: 2.6700+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG L1	: -9.0000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L2	: .0000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN MIN	: -1.1794+001
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - MAYBE RAIN DEL	: -2.7270+002
LAND - WATER AND VEG L5	: .0000	OCEAN - HEAVY RAIN DEL	: 9.9200+002
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.6700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.6700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000+001		
SYSTEM WARNING - MAX PAGES			
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.6700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC #1 H1	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000+001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (11) POLAR - COLD											
PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF
RL	2	3.297+000	.000	.000	.000	.000	.000	-1.290-002	8.770-003	.000	.000
SM	4	-2.917+002	1.900-001	-2.630+000	1.280+000	.000	.000	2.160+000	.000	.000	.000
LWL	2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
STD	4	7.268+001	.000	-4.598-001	5.984-001	8.828-001	.000	-2.623-001	.000	.000	.000
STL	4	6.970+000	.000	-6.266-001	2.716-001	-1.297-001	.000	1.482+000	.000	.000	.000
STV	4	2.316+001	.000	-1.873-001	5.221-001	-6.271-001	.000	1.232+000	.000	.000	.000
STV	4	2.494+001	.000	-1.278+000	8.800-001	5.933-001	.000	7.299-001	.000	.000	.000
SNW	4	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
RO	5	3.062+000	9.755-003	.000	-7.500-003	-1.812-003	.000	-5.604-003	2.948-003	.000	.000
SW	4	1.479+002	1.097+000	.000	-4.555-001	-1.760+000	7.860-001	.000	.000	.000	.000
LWD	4	-8.477-001	.000	4.800-003	1.770-002	-1.370-002	-1.400-003	.000	.000	.000	.000
CWD	4	-3.146+000	.000	6.026-003	-4.880-003	.000	1.959-002	.000	-3.011-003	.000	.000
WVD	0	2.329+002	-1.486-001	.000	-1.829+000	6.193-003	-3.700-001	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (11) POLAR - COLD

LAND - FLOODED SOIL DELTA	: 4.0000+000	LAND - RAIN OVER SOIL H3	: -4.0000+000
LAND - DENSE VEGETATION H1	: 2.0000+000	LAND - RAIN OVER SOIL L1	: 4.0000+000
LAND - DENSE VEGETATION H2	: 3.9000+000	LAND - RAIN OVER SOIL L2	: 2.6700+002
LAND - DENSE VEGETATION L1	: 2.6200+002	LAND - SNOW COVERED H1	: -6.5000+000
LAND - DENSE VEGETATION L2	: .0000	LAND - SNOW COVERED H2	: 2.6700+002
LAND - LESS DENSE VEG H1	: 4.0000+000	LAND - SNOW COVERED L1	: 4.0000+000
LAND - LESS DENSE VEG H2	: 3.9000+000	LAND - SNOW COVERED L2	: 5.0000+000
LAND - LESS DENSE VEG L1	: 2.0000+000	LAND - SNOW AND SOIL H1	: -5.5000+000
LAND - LESS DENSE VEG L2	: 2.6200+002	LAND - SNOW AND SOIL H2	: 2.6700+002
LAND - LESS DENSE VEG L3	: .0000	LAND - SNOW AND SOIL L1	: 4.0000+000
LAND - RAIN OVER VEG H1	: 4.0000+000	LAND - SNOW AND SOIL L2	: 6.5000+000
LAND - RAIN OVER VEG H2	: .0000	LAND - SNOW AND SOIL L3	: 5.0000+000
LAND - RAIN OVER VEG L1	: 2.6200+002	LAND - SNOW AND SOIL L4	: 2.4700+002
LAND - WATER AND VEG H1	: 6.4000+000	LAND - GLACIAL H1	: 2.0000+002
LAND - WATER AND VEG H2	: -5.5000+000	LAND - GLACIAL L1	: 4.0000+000
LAND - WATER AND VEG H3	: -7.5000+000	LAND - GLACIAL L2	: -1.5000+001
LAND - WATER AND VEG L1	: -9.0000+000	BAD DATA DELTA	: -2.0000+000
LAND - WATER AND VEG L2	: .0000	OCEAN - MAYBE RAIN MIN	: -1.1794+001
LAND - WATER AND VEG L3	: 3.9000+000	OCEAN - MAYBE RAIN DEL	: -2.7270-002
LAND - WATER AND VEG L4	: 3.4000+000	OCEAN - HEAVY RAIN DEL	: 9.9200-002
LAND - WATER AND VEG L5	: .0000		
LAND - DRY ARABLE SOIL H1	: 9.8000+000		
LAND - DRY ARABLE SOIL H2	: .0000		
LAND - DRY ARABLE SOIL H3	: 3.9000+000		
LAND - DRY ARABLE SOIL L1	: 4.0000+000		
LAND - DRY ARABLE SOIL L2	: -6.5000+000		
LAND - DRY ARABLE SOIL L3	: -5.0000+000		
LAND - DRY ARABLE SOIL L4	: 2.4700+002		
LAND - MOIST ARABLE SOIL H1	: 1.9000+001		
LAND - MOIST ARABLE SOIL H2	: 4.0000+000		
LAND - MOIST ARABLE SOIL H3	: 3.9000+000		
LAND - MOIST ARABLE SOIL L1	: 4.0000+000		
LAND - MOIST ARABLE SOIL L2	: -6.5000+000		
LAND - MOIST ARABLE SOIL L3	: .0000		
LAND - MOIST ARABLE SOIL L4	: 2.4700+002		
LAND - VERY WET SOIL H1	: -4.5000+000		
LAND - VERY WET SOIL L1	: 6.4000+000		
LAND - VERY WET SOIL L2	: -2.0000+000		
LAND - VERY WET SOIL L3	: 3.9000+000		
LAND - VERY WET SOIL L4	: .0000		
LAND - SEMI-DESERTIC H1	: 9.0000-001		
LAND - SEMI-DESERTIC H2	: 6.0000+000		
LAND - SEMI-DESERTIC H3	: 1.9000+001		
LAND - SEMI-DESERTIC L1	: 9.8000+000		
LAND - SEMI-DESERTIC L2	: 7.0000+000		
LAND - SEMI-DESERTIC L3	: 2.4700+002		
LAND - SEMI-DESERTIC L4	: -1.0500+001		
LAND - SEMI-DESERTIC L5	: -4.0000+000		
LAND - SEMI-DESERT #1 H1	: .0000		
LAND - SEMI-DESERT #2 L1	: .0000		
LAND - DESERT H1	: 8.0000-001		
LAND - DESERT L1	: 1.9000+001		
LAND - DESERT L2	: 2.6200+002		
LAND - DESERT L3	: -1.0000+000		
LAND - RAIN OVER SOIL H1	: -3.0000+000		
LAND - RAIN OVER SOIL H2	: -5.0000+000		

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (12) TROPICAL - WARM
CHANNEL/SURFACE TYPE CONST

	CONST	19V	19H	22V	37V	37H	85V	85H
19GHZ-LAND	-1.109+000	8.846-003	-7.580-003	2.487-003	-3.427-003	8.739-004	1.311-003	2.565-003
22GHZ-LAND	5.921-002	1.036-002	-6.866-003	-2.170-003	-5.149-003	-2.869-003	3.560-003	3.247-003
37GHZ-LAND	-2.538+000	6.392-003	-5.867-003	2.147-003	-2.078-002	1.014-002	9.089-003	8.681-003
85GHZ-LAND	1.199+000	4.471-003	-3.958-003	1.488-003	-2.007-002	-5.855-003	1.096-002	8.296-003
19GHZ-OCN	-4.226-001	5.302-004	-1.124-002	1.223-002	-1.967-002	1.441-002	1.704-002	-1.135-002
22GHZ-OCN	4.129-001	4.266-003	-9.388-003	1.291-003	-1.620-002	1.218-002	1.650-002	-1.009-002
37GHZ-OCN	6.202-001	-1.311-002	-8.473-004	9.841-003	-1.573-002	7.464-003	1.776-002	-7.780-003
85GHZ-OCN	7.945-001	-1.393-003	-1.851-003	4.649-003	-1.852-002	8.234-003	2.155-002	-1.594-002
19GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000
22GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000
37GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000
85GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000

CLIMATIC ZONE (13) TROPICAL - COOL
CHANNEL/SURFACE TYPE CONST

	CONST	19V	19H	22V	37V	37H	85V	85H
19GHZ-LAND	-9.842-001	9.053-003	-8.350-003	3.401-003	1.997-003	-3.327-003	-7.966-004	2.499-003
22GHZ-LAND	-1.282-001	1.195-002	-7.762-003	-2.683-003	-3.135-003	-2.623-003	2.185-003	2.771-003
37GHZ-LAND	-2.179+000	6.901-003	-7.097-003	4.084-003	-3.833-003	-5.815-003	7.214-003	6.812-003
85GHZ-LAND	1.223+000	8.058-003	-5.481-003	-1.016-003	-2.004-002	-5.304-003	1.124-002	7.453-003
19GHZ-OCN	-3.927-001	-4.484-004	-9.948-003	8.899-003	-1.735-002	1.375-002	1.914-002	-1.202-002
22GHZ-OCN	5.813-001	3.449-003	-8.440-003	-1.095-003	-1.530-002	1.191-002	1.728-002	-9.756-003
37GHZ-OCN	3.528-001	-1.119-002	-1.475-003	8.350-003	-1.641-002	8.222-003	2.081-002	-9.644-003
85GHZ-OCN	1.431+000	-3.327-005	-2.459-003	3.540-003	-2.137-002	9.061-003	1.895-002	-1.337-002
19GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000
22GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000
37GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000
85GHZ-ICE	.000	.000	.000	.000	.000	.000	.000	.000

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (14) MID-LAT - SPRING/FALL

CHANNEL/SURFACE TYPE	CONST	19V	19H	22V	37V	37H	85V	85H
19GHZ-LAND	5.522-001	7.958-003	-4.684-003	-1.558-003	-1.091-002	5.067-003	3.082-004	3.668-003
22GHZ-LAND	1.100+000	1.402-002	-5.180-003	-8.505-003	-9.669-003	1.351-003	1.868-003	3.309-003
37GHZ-LAND	-1.285-001	7.410-003	-4.777-003	-4.163-004	-1.808-002	3.023-003	6.272-003	8.014-003
85GHZ-LAND	3.310-001	1.260-002	-2.390-003	-1.140-002	-1.897-002	-1.191-002	1.861-002	1.193-002
19GHZ-OCN	2.014+000	-1.340-002	1.734-004	3.342-003	-5.970-003	5.121-003	7.905-003	-3.708-003
22GHZ-OCN	1.895+000	-8.205-003	2.189-004	-3.962-003	-6.747-003	5.665-003	1.108-002	-4.513-003
37GHZ-OCN	2.289+000	-1.860-002	4.883-003	3.259-003	-1.062-002	2.710-003	1.405-002	-4.259-003
85GHZ-OCN	2.712+000	-4.297-003	1.908-003	2.860-004	-1.968-002	5.596-003	1.433-002	-8.577-003
19GHZ-ICE	9.264-001	2.187-003	1.918-003	-3.855-003	5.329-005	-2.712-003	1.277-002	-1.054-002
22GHZ-ICE	1.130+000	5.324-003	1.447-003	-8.911-003	-2.301-003	1.139-003	2.030-002	-1.825-002
37GHZ-ICE	4.188-001	2.394-003	6.634-003	-4.988-003	3.145-003	-1.334-002	3.337-002	-2.628-002
85GHZ-ICE	2.889-001	4.290-003	3.699-003	-7.166-003	2.957-003	-8.955-003	6.793-002	-6.297-002

CLIMATIC ZONE (15) MID-LAT - SUMMER

CHANNEL/SURFACE TYPE	CONST	19V	19H	22V	37V	37H	85V	85H
19GHZ-LAND	-1.460+000	8.256-003	-5.225-003	-1.632-003	-3.414-003	3.880-003	4.793-003	3.399-004
22GHZ-LAND	-4.860-001	1.290-002	-5.387-003	-8.134-003	-2.433-003	-2.588-003	6.420-003	1.904-003
37GHZ-LAND	-2.059+000	6.353-003	-4.478-003	-5.060-004	-7.378-003	-1.715-003	1.096-002	5.255-003
85GHZ-LAND	1.020+000	7.638-003	-4.185-003	-2.348-003	-1.586-002	-1.346-002	1.360-002	1.035-002
19GHZ-OCN	1.194+000	-6.473-003	-6.517-003	6.154-003	-1.358-002	1.112-002	1.291-002	-7.577-003
22GHZ-OCN	9.633-001	3.909-004	-5.799-003	-3.007-003	-1.307-002	1.007-002	1.548-002	-7.334-003
37GHZ-OCN	1.401+000	-1.809-002	3.838-003	4.608-003	-8.265-003	2.814-003	1.640-002	-6.498-003
85GHZ-OCN	1.554+000	-7.969-004	-1.342-003	1.368-003	-1.913-002	7.508-003	1.859-002	-1.236-002
19GHZ-ICE	9.264-001	2.187-003	1.918-003	-3.855-003	5.329-005	-2.712-003	1.277-002	-1.054-002
22GHZ-ICE	1.130+000	5.324-003	1.447-003	-8.911-003	-2.301-003	1.139-003	2.030-002	-1.825-002
37GHZ-ICE	4.188-001	2.394-003	6.634-003	-4.988-003	3.145-003	-1.334-002	3.337-002	-2.628-002
85GHZ-ICE	2.889-001	4.290-003	3.699-003	-7.166-003	2.957-003	-8.955-003	6.793-002	-6.297-002

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (16) MID-LAT - WINTER

CHANNEL/SURFACE TYPE	CONST	19V	19H	22V	37V	37H	85V	85H
19GHZ-LAND	1.072+000	2.540-003	-2.033-003	3.206-004	-1.832-003	-7.001-003	5.391-003	1.027-003
22GHZ-LAND	1.509+000	7.299-003	-2.279-003	-4.963-003	-2.655-003	-9.400-003	8.165-003	5.139-005
37GHZ-LAND	4.095-001	3.514-003	-2.460-003	2.212-005	-1.252-002	-7.250-003	1.145-002	6.974-003
85GHZ-LAND	7.195-001	1.085-002	-1.752-003	-9.709-003	-3.205-002	-2.666-003	1.844-002	1.381-002
19GHZ-OCN	2.411+000	-1.321-002	-8.232-004	3.826-003	-8.247-003	6.435-003	7.167-003	-3.447-003
22GHZ-OCN	2.458+000	-9.258-003	-4.598-004	-2.470-003	-8.474-003	6.587-003	9.214-003	-3.994-003
37GHZ-OCN	2.943+000	-1.941-002	5.158-003	2.791-003	-1.123-002	2.887-003	1.191-002	-3.289-003
85GHZ-OCN	3.217+000	-5.240-003	2.082-003	1.539-004	-2.009-002	5.989-003	1.317-002	-8.522-003
19GHZ-ICE	1.006+000	6.166-004	7.450-004	-1.154-003	-2.444-003	1.706-003	9.809-003	-9.615-003
22GHZ-ICE	1.211+000	4.041-003	-1.276-003	-5.190-003	-6.695-003	9.510-003	1.519-002	-1.690-002
37GHZ-ICE	6.846-001	-1.746-003	5.523-003	6.262-004	-1.904-003	-5.772-003	2.697-002	-2.349-002
85GHZ-ICE	6.418-001	-1.552-004	3.984-003	-1.318-003	-8.254-003	3.428-003	6.173-002	-6.042-002

CLIMATIC ZONE (17) POLAR - COOL

CHANNEL/SURFACE TYPE	CONST	19V	19H	22V	37V	37H	85V	85H
19GHZ-LAND	5.282-001	1.494-003	-1.942-003	2.274-003	2.575-003	-1.338-002	1.615-003	7.742-003
22GHZ-LAND	1.368+000	2.789-003	-2.330-003	1.255-003	1.139-003	-1.613-002	1.536-003	8.349-003
37GHZ-LAND	-5.260-001	2.830-003	-2.571-003	2.111-003	2.929-003	-2.320-002	8.322-003	1.280-002
85GHZ-LAND	4.051-001	7.132-003	-1.354-003	-6.150-003	-1.649-002	-1.478-002	1.559-002	1.453-002
19GHZ-OCN	2.056+000	-1.002-002	2.303-003	-5.660-005	-3.339-003	1.497-003	4.936-003	-1.325-003
22GHZ-OCN	1.927+000	-2.143-003	4.537-003	-1.012-002	-2.209-003	-1.238-003	6.169-003	-2.566-004
37GHZ-OCN	2.887+000	-1.765-002	5.818-003	1.196-003	-1.105-002	1.572-003	1.172-002	-2.431-003
85GHZ-OCN	4.407+000	-7.839-003	4.691-003	-4.330-005	-1.665-002	2.183-003	4.806-003	-4.008-003
19GHZ-ICE	9.264-001	2.187-003	1.918-003	-3.855-003	5.329-005	-2.712-003	1.277-002	-1.054-002
22GHZ-ICE	1.130+000	5.324-003	1.447-003	-8.911-003	-2.301-003	1.139-003	2.030-002	-1.825-002
37GHZ-ICE	4.188-001	2.394-003	6.634-003	-4.988-003	3.145-003	-1.334-002	3.337-002	-2.628-002
85GHZ-ICE	2.889-001	4.290-003	3.699-003	-7.166-003	2.957-003	-8.955-003	6.793-002	-6.297-002

TABLE 2.1.2-1 PARAMETER EXTRACTION COEFFICIENTS
FILE CONTENTS (Continued)

CLIMATIC ZONE (18) POLAR - COLD
CHANNEL/SURFACE TYPE

CLIMATIC_ZONE (10) POLAR	CONST	19V	19H	22V	37V	37H	85V	85H
CHANNEL/SURFACE TYPE								
19GHZ-LAND	9.996-001	2.253-003	-2.009-004	-2.117-003	-3.143-003	-2.605-003	2.754-003	2.432-003
22GHZ-LAND	1.276+000	6.305-003	-2.462-004	-6.521-003	-6.325-003	-1.032-003	3.825-003	1.989-003
37GHZ-LAND	5.402-001	2.798-003	-6.599-004	-1.842-003	-7.586-003	-1.031-002	8.293-003	9.148-003
85GHZ-LAND	5.593-001	1.128-002	-1.507-003	-9.672-003	-1.933-002	-1.949-002	1.815-002	1.794-002
19GHZ-OCN	1.946+000	-1.294-002	1.792-003	2.363-004	-4.602-003	3.550-003	8.889-003	-3.128-003
22GHZ-OCN	2.310+000	-1.086-002	2.464-003	-5.102-003	-3.777-003	3.380-003	8.947-003	-3.119-003
37GHZ-OCN	3.120+000	-1.937-002	5.240-003	1.185-003	-1.173-002	3.096-003	1.305-002	-3.650-003
85GHZ-OCN	5.184+000	-1.381-002	6.377-003	-3.852-004	-1.515-002	1.733-003	4.317-003	-3.681-003
19GHZ-ICE	1.006+000	6.166-004	7.450-004	-1.154-003	-2.444-003	1.706-003	9.809-003	-9.615-003
22GHZ-ICE	1.211+000	4.041-003	-1.276-003	-5.190-003	-6.695-003	9.510-003	1.519-002	-1.690-002
37GHZ-ICE	6.846-001	-1.746-003	5.523-003	6.262-004	-1.904-003	-5.772-003	2.697-002	-2.349-002
85GHZ-ICE	6.418-001	-1.552-004	3.984-003	-1.318-003	-8.254-003	3.428-003	6.173-002	-6.042-002

CLIMATIC ZONE (19) POLAR - COOL

PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
IC	2	-1.657+000	2.591-002	.000	.000	-1.523-002	.000	.000	.000	.000	.000	.000
IA	0	-2.191+002	.000	.000	.000	1.105+000	.000	.000	.000	1.936+002	.000	.000
CWI	4	3.415-001	-1.000-003	-4.800-003	.000	-6.670-002	7.440-002	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (19) POLAR - COOL

MULTI-YEAR LEVEL : 2.3800+002

CLIMATIC ZONE (20) POLAR - COLD

PARAM	ALG	CONST	19V	19H	22V	37V	37H	85V	85H	C8 CONST	C9 COEF	C10 EXP
IC	2	-1.678+000	2.441-002	.000	.000	-1.366-002	.000	.000	.000	.000	.000	.000
IA	0	-2.177+002	.000	.000	.000	1.105+000	.000	.000	.000	1.923+002	.000	.000
CWI	4	-2.082-001	-3.000-004	-1.210-002	.000	-3.200-002	4.680-002	.000	.000	.000	.000	.000

DISCRIMINANTS FOR CLIMATIC ZONE (20) POLAR - COLD

MULTI-YEAR LEVEL : 2.3800+002

3. Permanent Ice and Possible Ice were superimposed over 1) and 2) for those areas containing the minimum and maximum seasonal Ice coverage, respectively.
4. Coastal Boundaries were constructed between the Land and Ocean and the Land and Possible Ice areas. These Coastal Boundaries were defined to be approximately 75 km in width in order to ensure that antenna pattern corrections were performed using neighboring scene stations with similar surface types.

Figures 2.1.3-1 and 2.1.3-2 shows the overall format of the Surface Type File; Table 2.1.3-1 explicitly define the contents of each Section.

2.2 LOGICAL ORGANIZATION OF DYNAMIC INPUT DATA

The dynamic input data required by the SMI CPCI consists of raw sensor data and spacecraft ephemeris information. These data are contained in the Raw Sensor Data File and the Ephemeris File, described below in Sections 2.2.1 and 2.2.2 respectively. For each file, a functional description and a detailed interface specification are given.

2.2.1 Raw Sensor Data File

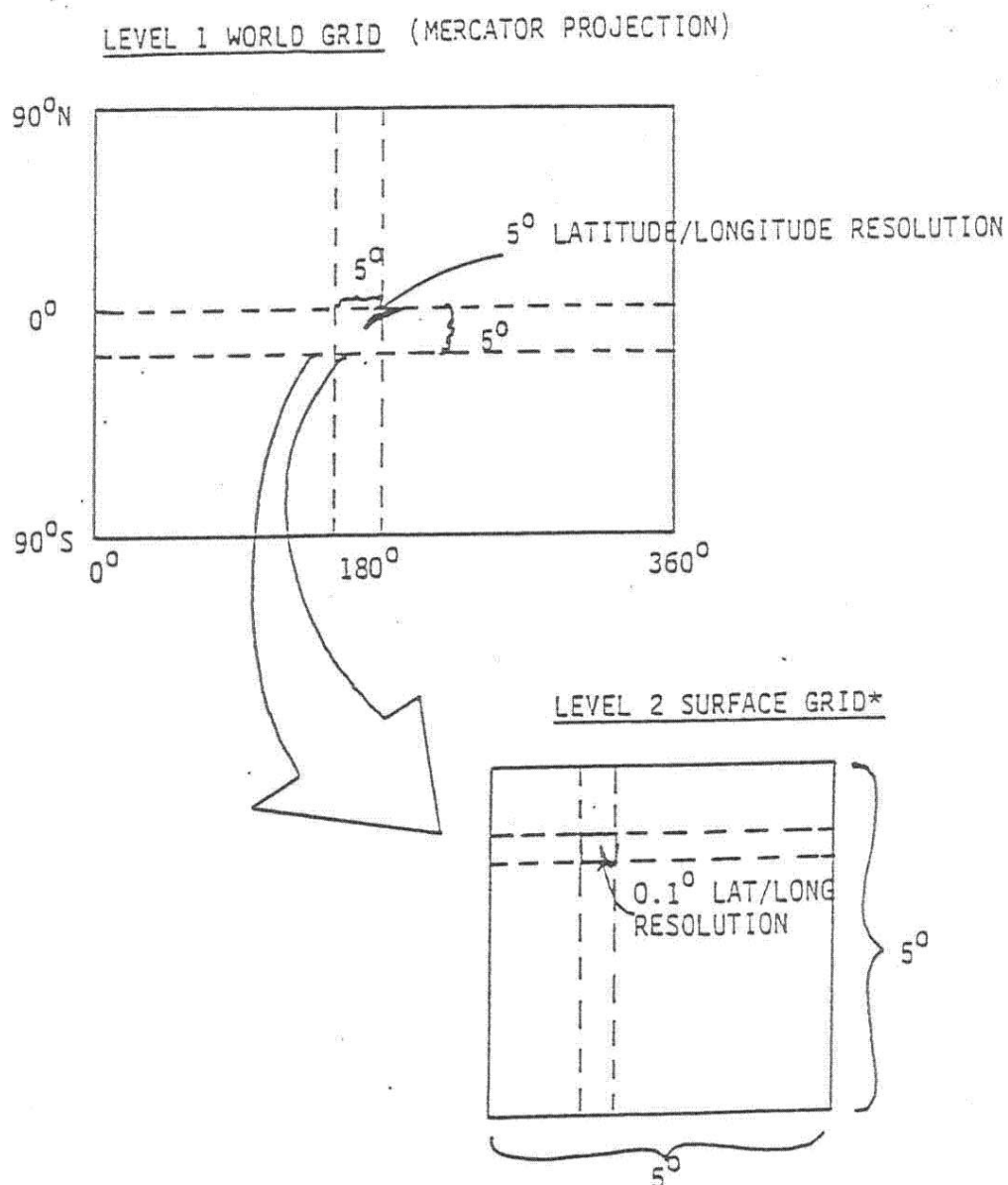
2.2.1.1 Functional Description

This file contains header information and raw sensor data from all special sensors including SSM/I. This file is read and processed by the SMISDP CPC and is constructed by an FNOC preprocessing system external to SMI.

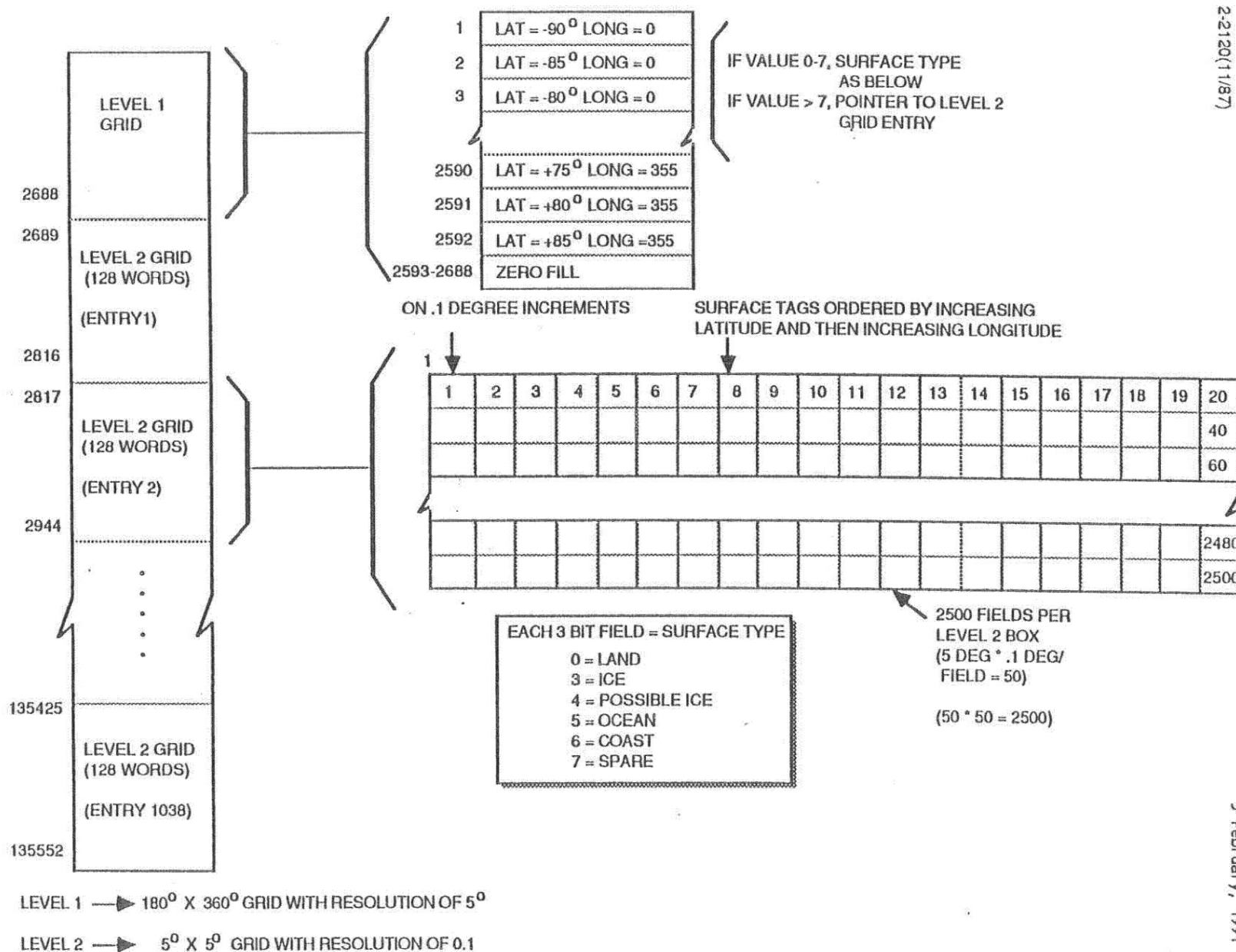
2.2.1.2 Physical Interface Specification

The raw data file layout is principally composed of 36-bit raw data words for up to 12 special sensors reformatted into 32-bit words. Unused bits in the last 32-bit computer word in a message are zero filled if necessary. Each message contains one second's worth of special sensor data.

FIGURE 2.1.3-1 TWO LEVEL RECTANGULAR SURFACE GRID



*LEVEL 2 BOXES (0.1° RESOLUTION) EXIST FOR ONLY THOSE LEVEL 1 BOXES WITH MORE THAN ONE SURFACE TYPE.



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FIGURE 2.1.3-2 SURFACE TYPE FILE (SMISURFTYP)

WORD(S)	VARIABLE DESCRIPTION	TYPE	RANGE FOR NOMINAL VALUE	UNITS	SOURCE	DEFINITION
1-2688	LEVEL 1 GRID	I	0-N	ND	USER	VALUE 0-7 SURFACE TYPE* VALUE > 7 POINTER TO LEVEL 2 GRID
2689-2816	LEVEL 2 GRID ENTRY 1	I	0-7	ND	USER	5 X 5 DEGREE GRID WITH 20 INDICATORS PER WORD OF SURFACE TYPE * (3 BITS EACH) FOR A 0.1 DEGREE RESOLUTION
2817-2944	LEVEL 2 GRID ENTRY 2	I	0-7	ND	USER	BREAKDOWNS FOR NEXT ENTRY (SAME AS 2689-2816)
2945-135552	LEVEL 2 GRID ENTRIES 3-1038	I	0-7	ND	USER	REPEATED BREAKDOWNS FOR THE REMAINING ENTRIES (SAME AS 2689-2816)
						* SURFACE TYPE 0 = LAND 3 = ICE 4 = POSSIBLE ICE 5 = OCEAN 6 = COASTAL BOUNDARY 7 = SPARE

TABLE 2.1.3-1 CONTENTS OF THE SURFACE TYPE FILE

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Figure 2.2.1-1 shows the message format. The first 384 bits of the message contain a header consisting of a 16-bit sync code, eight 16-bit missing bits pointers, 16 bits defining the message length in 60 bit words, five zero bits, the 27-bit OLS timeword, and twelve 16-bit format words. The format words contain the information noted in the Figure.

Following the header section is the data for up to twelve special sensors packed as a continuous string of bits without regard for the Cyber word boundaries. Access to the data for a particular special sensor requires that all format words be unpacked so that the starting word and bit location for the desired sensor may be found.

Figure 2.2.1-1 shows the overall format of the Special Sensor Message within the Raw Sensor Data File.

2.2.2 Ephemeris File (SSPEPH.XXX)

2.2.2.1 Functional Description

This file contains the ephemeris data for the Block 5D-2 satellites. This file is read by the SMISDP CPC and is constructed for SMI by an FNOC program external to SMI.

2.2.2.2 Physical Interface Description

The Ephemeris File Format for the VTPR system described by FNOC Subroutine/Utility Program Documentation specifies the format of the ephemeris data. There is a separate file for each satellite, and within each file the data is organized by orbit number. Within each orbit, the ephemeris data is supplied each minute and contains latitude, longitude, altitude, and time.

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FIGURE 2.2.1-1 SPECIAL SENSOR MESSAGE FORMAT

2.3 LOGICAL ORGANIZATION OF DYNAMIC OUTPUT DATA

The dynamic output data generated by the SMI CPCI may be found in the following output files:

- Temperature Data Record (TDR) File
- Sensor Data Record (SDR) File
- Environmental Data Record (EDR) File
- Radiative Transmissivity (RT) File
- Quality Data Record (QDR) File.

A detailed description of these files is given below in Sections 2.3.1 through 2.3.5. For each file, a functional description and a detailed interface specification is given, along with any Figures and Tables needed to describe the format of the file.

DEF is defined in "Standard Formats for Weather Data Exchange Among Automated Weather Information Systems" (FCM-S2-1982).

2.3.1 Temperature Data Record File (DEF Format) (TDRXXXXX.DEF)

2.3.1.1 Functional Description

This file contains all the data contained in the SMI TDR File but in DEF.

2.3.1.2 Physical Interface Specification

The DEF TDR File begins with the following DEF header blocks:

1. Product Identification block
2. Data Sequence block
3. Rev Header Data Description block
4. Scan Header #1 Data Description block
5. Scan Header #2 Data Description block
6. TDR Data Description block

Following the header blocks are the DEF TDR data blocks. These blocks contain the data from the SMI TDR file reformatted into DEF. The Rev header information is contained in the Rev Header Data block. Scan header data for one A/B scan pair is stored into two scan header data blocks. (This data is divided into two blocks because of DEF size restrictions.) The scan data is stored in the TDR Data block. The two scan header blocks and the data block are repeated in the file once for every A/B scan pair contained in the SMI TDR File. An End of Product block concludes the file. Figure 2.3.1-1 shows the overall file

FIGURE 2.3.1-1 DEFTDR FILE FORMAT

e ₁₆	PRODUCT IDENTIFICATION BLOCK (28 BYTES)
10 ₁₆	DATA SEQUENCE BLOCK (32 BYTES)
5F ₁₆	REV HEADER DATA DESCRIPTION BLOCK (190 BYTES)
89 ₁₆	SCAN HEADER DATA DESCRIPTION BLOCK #1 (370 BYTES)
239 ₁₆	SCAN HEADER DATA DESCRIPTION BLOCK #2 (1138 BYTES)
89 ₁₆	TDR DATA DESCRIPTION BLOCK (370 BYTES)
F ₁₆	REV HEADER BLOCK (30 BYTES)
26 ₁₆	SCAN HEADER BLOCK #1 (76 BYTES)
63 ₁₆	SCAN HEADER BLOCK #2 (194 BYTES)
603 ₁₆	TDR DATA BLOCK - 64 4-SCENE STATIONS (3334 BYTES)
(SCAN HEADER BLOCKS AND TDR DATA BLOCK REPEATED ONCE FOR EVERY A/B SCAN PAIR IN FILE)	
	END OF PRODUCT BLOCK (6 BYTES)

(TDR DEF FILE LENGTH APPROXIMATELY 6.129 MB PER ORBIT)

structure. Figures 2.3.1-2 through 2.3.1-12 show the formats for each block in the file. Numeric data shown in the blocks are right-justified; ASCII character data are left-justified. The numeric values are displayed in decimal except for Mode, Submode, Units, and Checksum; these values are displayed in octal.

Each DEF block made in SMIDEF starts with block length and ends with checksum. DEF does not require the length or checksum of the block to be included. To indicate whether or not these two byte pairs are included, the first two bits of the block are flags. The first flag indicates if length has been left off and the second flag indicates if checksum has been left off. Since SMIDEF includes both length and checksum in all of its blocks, these two bits are always set to zero. For this reason, their presence is not indicated in the diagrams.

FIGURE 2.3.1-2 TDR PRODUCT IDENTIFICATION BLOCK

0-1	BLOCK LENGTH	
	14	
2-3	MODE	SUBMODE
	1	1
4-5	CHAR. 1	CHAR. 2
	F	N
6-7	CHAR. 3	CHAR. 4
	O	C
8-9	CLASSI- FICATION	FILE LIFETIME
	U	255
10-11	FILE IN- DICATOR	CHAR. 2
	T	S
12-13	CHAR. 3	CHAR. 4
	M	I
14-15	CHAR. 5	CHAR. 6
	T	D
16-17	CHAR. 7	CHAR. 8
	R	
18-19	CHAR. 9	CHAR. 10
	0	8
20-21	YEAR	
	(Set by SMIDEF)	
22-23	MONTH	DAY
	(Set by SMIDEF)	
24-25	HOUR	MINUTE
	(Set by SMIDEF)	
26-27	CHECKSUM	
	(Calc. in SMIDEF)	

*Origin-
ator ID*

*Product
Identifi-
fier*

FIGURE 2.3.1-3 TDR DATA SEQUENCE BLOCK

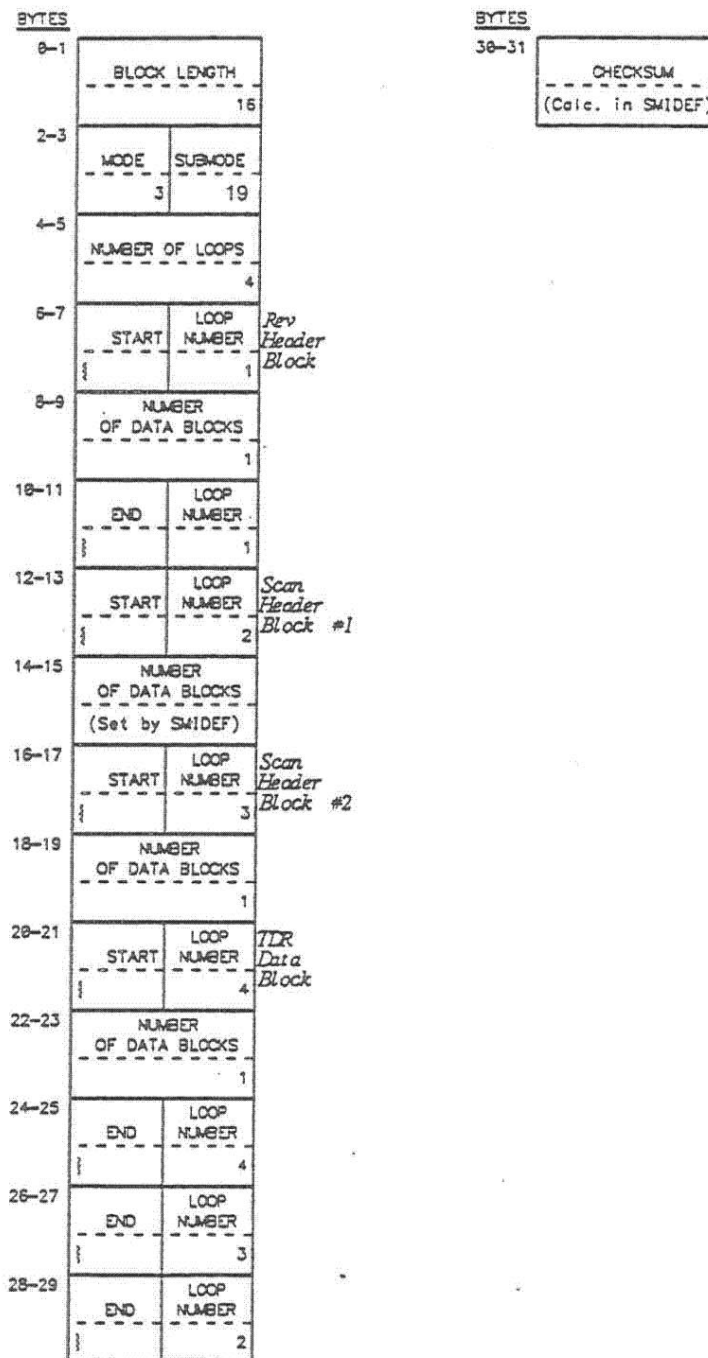


FIGURE 2.3.1-4 REV HEADER DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH		30-31	ADDITIVE CONSTANT		60-61	START BYTE	BYTES/ELEMENT
	95			0			15	1
2-3	MODE	SUBMODE	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	3	17		B	J		0	49
4-5	NUMBER ELEMENTS	BYTES/SECTION	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
	15	24		L	D		1	0
6-7	NUMBER OF SECTIONS		36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	
	1			12	2		0	
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
	S	C		0	51		B	S
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
	I	D		1	0		E	C
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT		72-73	START BYTE	BYTES/ELEMENT
	4	4		0			18	1
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	19		B	H		0	12
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
	1	0		R			1	0
18-19	ADDITIVE CONSTANT		48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	
	0			14	1		0	
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	R	E		0	50		E	J
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
	V	#		1	0		L	D
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT		84-85	START BYTE	BYTES/ELEMENT
	8	4		0			17	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	19		B	M		0	51
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT
	1	0		N			1	0

5F

Space-Craft ID

Rev/Orbit Number

Julian Day Data Begins

Hour of Day Data Begins

Minute of Hour Data Begins

Second of Min. Data Begins

Julian Day Data Ends

FIGURE 2.3.1-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES				BYTES				BYTES			
90-91	ADDITIVE CONSTANT		0	120-121	START BYTE	BYTES/ELEMENT	1	150-151	ADDITIVE CONSTANT		0
92-93	CHAR. 1	CHAR. 2	<i>Hour of Dry Data Ends</i>	122-123	UNUSED	UNITS CODE	12	152-153	CHAR. 1	CHAR. 2	<i>Minute of Ascending Node</i>
	E	H			0				A	M	
94-95	CHAR. 3	CHAR. 4		124-125	MULT. MANTISSA	EXPONENT	0	154-155	CHAR. 3	CHAR. 4	
	R				1	0			N		
96-97	START BYTE	BYTES/ELEMENT		126-127	ADDITIVE CONSTANT		0	156-157	START BYTE	BYTES/ELEMENT	
	19	1							25	1	
98-99	UNUSED	UNITS CODE		128-129	CHAR. 1	CHAR. 2	<i>Dry of Ascending Node</i>	158-159	UNUSED	UNITS CODE	
	0	50			A	J			0	49	
100-101	MULT. MANTISSA	EXPONENT		130-131	CHAR. 3	CHAR. 4		160-161	MULT. MANTISSA	EXPONENT	
	1	0			L	D			1	0	
102-103	ADDITIVE CONSTANT		0	132-133	START BYTE	BYTES/ELEMENT		162-163	ADDITIVE CONSTANT		0
					22	2					
104-105	CHAR. 1	CHAR. 2	<i>Minute of Hour Data Ends</i>	134-135	UNUSED	UNITS CODE	51	164-165	CHAR. 1	CHAR. 2	<i>Second of Ascending Node</i>
	E	M			0				A	S	
106-107	CHAR. 3	CHAR. 4		136-137	MULT. MANTISSA	EXPONENT	0	166-167	CHAR. 3	CHAR. 4	
	N				1	0			E	C	
108-109	START BYTE	BYTES/ELEMENT		138-139	ADDITIVE CONSTANT		0	168-169	START BYTE	BYTES/ELEMENT	
	20	1							26	1	
110-111	UNUSED	UNITS CODE		140-141	CHAR. 1	CHAR. 2	<i>Hour of Ascending Node</i>	170-171	UNUSED	UNITS CODE	
	0	49			A	H			0	12	
112-113	MULT. MANTISSA	EXPONENT		142-143	CHAR. 3	CHAR. 4		172-173	MULT. MANTISSA	EXPONENT	
	1	0			R				1	0	
114-115	ADDITIVE CONSTANT		0	144-145	START BYTE	BYTES/ELEMENT		174-175	ADDITIVE CONSTANT		0
					24	1					
116-117	CHAR. 1	CHAR. 2	<i>Second of Minute Data Ends</i>	146-157	UNUSED	UNITS CODE	50	176-177	CHAR. 1	CHAR. 2	<i>Logical Satellite ID</i>
	E	S			0				L	S	
118-119	CHAR. 3	CHAR. 4		148-149	MULT. MANTISSA	EXPONENT	0	178-179	CHAR. 3	CHAR. 4	
	E	C			1	0			I		

FIGURE 2.3.1-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES	
180-181	START BYTE
	27
182-183	BYTES/ ELEMENT
	1
182-183	UNUSED
	0
184-185	UNITS CODE
	19
184-185	MULT. MANTISSA
	1
186-187	EXPONENT
	0
186-187	ADDITIVE CONSTANT
	0
188-189	CHECKSUM
	(CALC. IN SMIDEF)

FIGURE 2.3.1-5 TDR SCAN HEADER #1 DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH	185	30-31	ADDITIVE CONSTANT	0	60-61	START BYTE	BYTES/ELEMENT
2-3	MODE	3	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
4-5	NUMBER ELEMENTS	30	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
6-7	NUMBER OF SECTIONS	1	36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	0
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT	0	72-73	START BYTE	BYTES/ELEMENT
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
18-19	ADDITIVE CONSTANT	0	48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	0
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT	0	84-85	START BYTE	BYTES/ELEMENT
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT

B Scan Start Time

Echometer Minute Vector

Altitude

Latitude

Longitude

Hot Load Thermal Temp. 3

FIGURE 2.3.1-5 TDR SCAN HEADER #1 DATA DESCRIPTION BLOCK
(Continued)

BYTES			BYTES			BYTES		
90-91	ADDITIVE CONSTANT		120-121	START BYTE	BYTES/ ELEMENT	150-151	ADDITIVE CONSTANT	
	0			32	2		0	
92-93	CHAR. 1	CHAR. 2	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1	CHAR. 2
	H	L		0	19		T	P
94-95	CHAR. 3	CHAR. 4	124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3	CHAR. 4
	D	2		1	0		C	
96-97	START BYTE	BYTES/ ELEMENT	126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ ELEMENT
	28	2		0			38	2
98-99	UNUSED	UNITS CODE	128-129	CHAR. 1	CHAR. 2	158-159	UNUSED	UNITS CODE
	0	1		C	R		0	1
100-101	MULT. MANTISSA	EXPONENT	130-131	CHAR. 3	CHAR. 4	160-161	MULT. MANTISSA	EXPONENT
	1	-2		1			1	-2
102-103	ADDITIVE CONSTANT		132-133	START BYTE	BYTES/ ELEMENT	162-163	ADDITIVE CONSTANT	
	0			34	2		0	
104-105	CHAR. 1	CHAR. 2	134-135	UNUSED	UNITS CODE	164-165	CHAR. 1	CHAR. 2
	H	L		0	19		A	G
106-107	CHAR. 3	CHAR. 4	136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3	CHAR. 4
	D	1		1	0		C	3
108-109	START BYTE	BYTES/ ELEMENT	138-139	ADDITIVE CONSTANT		168-169	START BYTE	BYTES/ ELEMENT
	30	2		0			40	2
110-111	UNUSED	UNITS CODE	140-141	CHAR. 1	CHAR. 2	170-171	UNUSED	UNITS CODE
	0	1		T	R		0	19
112-113	MULT. MANTISSA	EXPONENT	142-143	CHAR. 3	CHAR. 4	172-173	MULT. MANTISSA	EXPONENT
	1	-2					1	0
114-115	ADDITIVE CONSTANT		144-145	START BYTE	BYTES/ ELEMENT	174-175	ADDITIVE CONSTANT	
	0			36	2		0	
116-117	CHAR. 1	CHAR. 2	146-157	UNUSED	UNITS CODE	176-177	CHAR. 1	CHAR. 2
	C	R		0	1		A	G
118-119	CHAR. 3	CHAR. 4	148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3	CHAR. 4
	2			1	-2		C	2

FIGURE 2.3.1-5 TDR SCAN HEADER #1 DATA DESCRIPTION BLOCK
(Continued)

BYTES	START BYTE	BYTES/ ELEMENT		BYTES	START BYTE	BYTES/ ELEMENT		BYTES	START BYTE	BYTES/ ELEMENT	
180-181	42	2		210-211				240-241	52	2	
182-183	UNUSED	19	UNITS CODE	212-213	CHAR. 1	CHAR. 2	<i>Offset 19 GHz V</i>	242-243	UNUSED	1	UNITS CODE
184-185	MULT. MANTISSA	8	EXPONENT	214-215	CHAR. 3	CHAR. 4		244-245	MULT. MANTISSA	2	EXPONENT
186-187	1	0		216-217	START BYTE	BYTES/ ELEMENT		246-247	ADDITIVE CONSTANT	0	
188-189	0			218-219	48	2		248-249	CHAR. 1	CHAR. 2	<i>Slope 22 GHz V</i>
190-191	CHAR. 1	CHAR. 2	<i>Auto Gain Control Setting 1</i>	220-221	UNUSED	1	UNITS CODE	250-251	CHAR. 3	CHAR. 4	
192-193	A	G		222-223	MULT. MANTISSA	2	EXPONENT	252-253	2	V	
194-195	CHAR. 3	CHAR. 4		224-225	ADDITIVE CONSTANT	0		254-255	START BYTE	BYTES/ ELEMENT	
196-197	C	1		226-227	CHAR. 1	CHAR. 2	<i>Slope 19 GHz H</i>	256-257	54	2	
198-199	START BYTE	44	BYTES/ ELEMENT	228-229	CHAR. 3	CHAR. 4		258-259	UNUSED	69	UNITS CODE
200-201	UNUSED	19		230-231	9	H		260-261	MULT. MANTISSA	1	EXPONENT
202-203	MULT. MANTISSA	1	EXPONENT	232-233	START BYTE	BYTES/ ELEMENT		262-263	ADDITIVE CONSTANT	0	
204-205	1	0		234-235	50	2		264-265	CHAR. 1	CHAR. 2	<i>Offset 22 GHz V</i>
206-207	ADDITIVE CONSTANT	0		236-237	UNUSED	69	UNITS CODE	266-267	CHAR. 3	CHAR. 4	
208-209	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>	238-239	MULT. MANTISSA	1	EXPONENT	268-269	2	V	
	S	1			1	-5			START BYTE	BYTES/ ELEMENT	
	CHAR. 3	CHAR. 4			0	1	<i>Offset 19 GHz H</i>		56	2	
	9	V			CHAR. 3	CHAR. 4			UNUSED	69	UNITS CODE
	START BYTE	46	BYTES/ ELEMENT		9	H			MULT. MANTISSA	1	EXPONENT
	UNUSED	19							2	-2	
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2	<i>Slope 19 GHz V</i>								
	S	1									
	CHAR. 3	CHAR. 4									
	9	V									
	START BYTE	46	BYTES/ ELEMENT								
	UNUSED	19									
	1	0									
	ADDITIVE CONSTANT	0									
	CHAR. 1	CHAR. 2									
	A	G									
	CHAR. 3	CHAR. 4									
	C	1									
	START BYTE	44	BYTES/ ELEMENT								
	UNUSED	19									
	MULT. MANTISSA	1	EXPONENT								
	1	0									

FIGURE 2.3.1-5 TDR SCAN HEADER #1 DATA DESCRIPTION BLOCK
(Continued)

BYTES	BYTES	BYTES
270-271	300-301	330-331
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	62	0
272-273	302-303	332-333
CHAR. 1 CHAR. 2	UNUSED UNITS CODE	CHAR. 1 CHAR. 2
S 3	0 69	0 8
274-275	304-305	334-335
CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4
7 V	1 -5	5 V
276-277	306-307	336-337
START BYTE BYTES/ ELEMENT	ADDITIVE CONSTANT	START BYTE BYTES/ ELEMENT
58 2	0	68 2
278-279	308-309	338-339
UNUSED UNITS CODE	CHAR. 1 CHAR. 2	UNUSED UNITS CODE
0 69	0 3	0 1
280-281	310-311	340-341
MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT
1 -5	7 H	2 -2
282-283	312-313	342-343
ADDITIVE CONSTANT	START BYTE BYTES/ ELEMENT	ADDITIVE CONSTANT
0	64 2	0
284-285	314-315	344-345
CHAR. 1 CHAR. 2	UNUSED UNITS CODE	CHAR. 1 CHAR. 2
0 3	0 1	S 8
286-287	316-317	346-347
CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4
7 V	2 -2	5 H
288-289	318-319	348-349
START BYTE BYTES/ ELEMENT	ADDITIVE CONSTANT	START BYTE BYTES/ ELEMENT
60 2	0	70 2
290-291	320-321	350-351
UNUSED UNITS CODE	CHAR. 1 CHAR. 2	UNUSED UNITS CODE
0 1	S 8	0 69
292-293	322-323	352-353
MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT
2 -2	5 V	1 -5
294-295	324-325	354-355
ADDITIVE CONSTANT	START BYTE BYTES/ ELEMENT	ADDITIVE CONSTANT
0	66 2	0
296-297	326-327	356-357
CHAR. 1 CHAR. 2	UNUSED UNITS CODE	CHAR. 1 CHAR. 2
S 3	0 69	0 8
298-299	328-329	358-359
CHAR. 3 CHAR. 4	MULT. MANTISSA EXPONENT	CHAR. 3 CHAR. 4
7 H	1 -5	5 H

FIGURE 2.3.1-5 TDR SCAN HEADER #1 DATA DESCRIPTION BLOCK
(Continued)

BYTES		
360-361	START BYTE	BYTES/ ELEMENT
	72	2
362-363	UNUSED	UNITS CODE
	0	1
364-365	MULT. MANTISSA	EXPONENT
	2	-2
366-367	ADDITIVE CONSTANT	
	0	
368-369	CHECKSUM	
	(Calc. by DFUSUM)	

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH 569	30-31	ADDITIVE CONSTANT 0	60-61	START BYTE 12
2-3	MODE 3	32-33	CHAR. 1 C	62-63	UNUSED 0
	SUBMODE 17		CHAR. 2 1		UNITS CODE 19
4-5	NUMBER OF ELEMENTS 94	34-35	CHAR. 3	64-65	MULT. MANTISSA 1
	BYTES/SECTION 188		CHAR. 4		EXPONENT 0
6-7	NUMBER OF SECTIONS 1	36-37	START BYTE 8	66-67	ADDITIVE CONSTANT 0
8-9	CHAR. 1 C	38-39	UNUSED 0	68-69	CHAR. 1 C
	CHAR. 2 N		UNITS CODE 19		CHAR. 2 1
10-11	CHAR. 3 T	40-41	MULT. MANTISSA 1	70-71	CHAR. 3
	CHAR. 4 R		EXPONENT 0		CHAR. 4
12-13	START BYTE 4	42-43	ADDITIVE CONSTANT 0	72-73	START BYTE 14
	BYTES/ELEMENT 2				BYTES/ELEMENT 2
14-15	UNUSED 0	44-45	CHAR. 1 C	74-75	UNUSED 0
	UNITS CODE 19		CHAR. 2 1		UNITS CODE 19
16-17	MULT. MANTISSA 1	46-47	CHAR. 3	76-77	MULT. MANTISSA 1
	EXPONENT 0		CHAR. 4		EXPONENT 0
18-19	ADDITIVE CONSTANT 0	48-49	START BYTE 10	78-79	ADDITIVE CONSTANT 0
20-21	CHAR. 1 C	50-51	UNUSED 0	80-81	CHAR. 1 C
	CHAR. 2 1		UNITS CODE 19		CHAR. 2 2
22-23	CHAR. 3	52-53	MULT. MANTISSA 1	82-83	CHAR. 3
	CHAR. 4		EXPONENT 0		CHAR. 4
24-25	START BYTE 6	54-55	ADDITIVE CONSTANT 0	84-85	START BYTE 16
	BYTES/ELEMENT 2				BYTES/ELEMENT 2
26-27	UNUSED 0	56-57	CHAR. 1 C	86-87	UNUSED 0
	UNITS CODE 19		CHAR. 2 1		UNITS CODE 19
28-29	MULT. MANTISSA 1	58-59	CHAR. 3	88-89	MULT. MANTISSA 1
	EXPONENT 0		CHAR. 4		EXPONENT 0

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES		
98-91	ADDITIVE CONSTANT	
	0	
92-93	CHAR. 1 CHAR. 2	19 GHz H Cold Load Reading
	C 2	
94-95	CHAR. 3 CHAR. 4	
96-97	START BYTE	
	18	
98-99	BYTES/ ELEMENT	
	2	
100-101	UNUSED	
	0	
102-103	UNITS CODE	
	19	
104-105	MULT. MANTISSA	
	1	
106-107	EXPONENT	
	0	
108-109	ADDITIVE CONSTANT	
	0	
110-111	CHAR. 1 CHAR. 2	19 GHz H Cold Load Reading
	C 2	
112-113	CHAR. 3 CHAR. 4	
114-115	START BYTE	
	20	
116-117	BYTES/ ELEMENT	
	2	
118-119	UNUSED	
	0	
120-121	UNITS CODE	
	19	
122-123	MULT. MANTISSA	
	1	
124-125	EXPONENT	
	0	
126-127	ADDITIVE CONSTANT	
	0	
128-129	CHAR. 1 CHAR. 2	19 GHz H Cold Load Reading
	C 2	
130-131	CHAR. 3 CHAR. 4	
132-133	START BYTE	
	24	
134-135	BYTES/ ELEMENT	
	2	
136-137	UNUSED	
	0	
138-139	UNITS CODE	
	19	
140-141	MULT. MANTISSA	
	1	
142-143	EXPONENT	
	0	
144-145	ADDITIVE CONSTANT	
	0	
146-147	CHAR. 1 CHAR. 2	22 GHz V Cold Load Reading
	C 3	
148-149	CHAR. 3 CHAR. 4	
150-151	START BYTE	
	26	
152-153	BYTES/ ELEMENT	
	2	
154-155	UNUSED	
	0	
156-157	UNITS CODE	
	19	
158-159	MULT. MANTISSA	
	1	
160-161	EXPONENT	
	0	
162-163	ADDITIVE CONSTANT	
	0	
164-165	CHAR. 1 CHAR. 2	22 GHz V Cold Load Reading
	C 3	
166-167	CHAR. 3 CHAR. 4	
168-169	START BYTE	
	30	
170-171	BYTES/ ELEMENT	
	2	
172-173	UNUSED	
	0	
174-175	UNITS CODE	
	19	
176-177	MULT. MANTISSA	
	1	
178-179	EXPONENT	
	0	

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES			BYTES			BYTES		
180-181	START BYTE	BYTES/ ELEMENT	210-211	ADDITIVE CONSTANT		240-241	START BYTE	BYTES/ ELEMENT
	32	2		0			42	2
182-183	UNUSED	UNITS CODE	212-213	CHAR. 1	CHAR. 2	242-243	UNUSED	UNITS CODE
	0	19		C	4		0	19
184-185	MULT. MANTISSA	EXPONENT	214-215	CHAR. 3	CHAR. 4	244-245	MULT. MANTISSA	EXPONENT
	1	0					1	0
186-187	ADDITIVE CONSTANT		216-217	START BYTE	BYTES/ ELEMENT	246-247	ADDITIVE CONSTANT	
	0			38	2		0	
188-189	CHAR. 1	CHAR. 2	218-219	UNUSED	UNITS CODE	248-249	CHAR. 1	CHAR. 2
	C	3		0	19		C	4
190-191	CHAR. 3	CHAR. 4	220-221	MULT. MANTISSA	EXPONENT	250-251	CHAR. 3	CHAR. 4
				1	0			
192-193	START BYTE	BYTES/ ELEMENT	222-223	ADDITIVE CONSTANT		252-253	START BYTE	BYTES/ ELEMENT
	34	2		0			44	2
194-195	UNUSED	UNITS CODE	224-225	CHAR. 1	CHAR. 2	254-255	UNUSED	UNITS CODE
	0	19		C	4		0	19
196-197	MULT. MANTISSA	EXPONENT	226-227	CHAR. 3	CHAR. 4	256-257	MULT. MANTISSA	EXPONENT
	1	0					1	0
198-199	ADDITIVE CONSTANT		228-229	START BYTE	BYTES/ ELEMENT	258-259	ADDITIVE CONSTANT	
	0			40	2		0	
200-201	CHAR. 1	CHAR. 2	230-231	UNUSED	UNITS CODE	260-261	CHAR. 1	CHAR. 2
	C	4		0	19		C	5
202-203	CHAR. 3	CHAR. 4	232-233	MULT. MANTISSA	EXPONENT	262-263	CHAR. 3	CHAR. 4
				1	0			
204-205	START BYTE	BYTES/ ELEMENT	234-235	ADDITIVE CONSTANT		264-265	START BYTE	BYTES/ ELEMENT
	36	2		0			46	2
206-207	UNUSED	UNITS CODE	236-237	CHAR. 1	CHAR. 2	266-267	UNUSED	UNITS CODE
	0	19		C	4		0	19
208-209	MULT. MANTISSA	EXPONENT	238-239	CHAR. 3	CHAR. 4	268-269	MULT. MANTISSA	EXPONENT
	1	0					1	0

22 GHz V Cold Load Reading			37 GHz V Cold Load Reading			37 GHz V Cold Load Reading			37 GHz V Cold Load Reading			37 GHz H Cold Load Reading		
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FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES <table border="1"> <tr> <td>360-361</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>60</td><td>2</td></tr> <tr> <td>362-363</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>364-365</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> <tr> <td>366-367</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>368-369</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>C</td><td>6</td></tr> <tr> <td>370-371</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>372-373</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>62</td><td>2</td></tr> <tr> <td>374-375</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>376-377</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> <tr> <td>378-379</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>380-381</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>C</td><td>7</td></tr> <tr> <td>382-383</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>384-385</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>64</td><td>2</td></tr> <tr> <td>386-387</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>388-389</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> </table>	360-361	START BYTE	BYTES/ ELEMENT		60	2	362-363	UNUSED	UNITS CODE		0	19	364-365	MULT. MANTISSA	EXPONENT		1	0	366-367	ADDITIVE CONSTANT			0		368-369	CHAR. 1	CHAR. 2		C	6	370-371	CHAR. 3	CHAR. 4				372-373	START BYTE	BYTES/ ELEMENT		62	2	374-375	UNUSED	UNITS CODE		0	19	376-377	MULT. MANTISSA	EXPONENT		1	0	378-379	ADDITIVE CONSTANT			0		380-381	CHAR. 1	CHAR. 2		C	7	382-383	CHAR. 3	CHAR. 4				384-385	START BYTE	BYTES/ ELEMENT		64	2	386-387	UNUSED	UNITS CODE		0	19	388-389	MULT. MANTISSA	EXPONENT		1	0	BYTES <table border="1"> <tr> <td>390-391</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>392-393</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>C</td><td>7</td></tr> <tr> <td>394-395</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>396-397</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>68</td><td>2</td></tr> <tr> <td>398-399</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>400-401</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> <tr> <td>402-403</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>404-405</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>C</td><td>7</td></tr> <tr> <td>406-407</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>408-409</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>70</td><td>2</td></tr> <tr> <td>410-411</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>412-413</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> <tr> <td>414-415</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>416-417</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>C</td><td>7</td></tr> <tr> <td>418-419</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> </table>	390-391	ADDITIVE CONSTANT			0		392-393	CHAR. 1	CHAR. 2		C	7	394-395	CHAR. 3	CHAR. 4				396-397	START BYTE	BYTES/ ELEMENT		68	2	398-399	UNUSED	UNITS CODE		0	19	400-401	MULT. MANTISSA	EXPONENT		1	0	402-403	ADDITIVE CONSTANT			0		404-405	CHAR. 1	CHAR. 2		C	7	406-407	CHAR. 3	CHAR. 4				408-409	START BYTE	BYTES/ ELEMENT		70	2	410-411	UNUSED	UNITS CODE		0	19	412-413	MULT. MANTISSA	EXPONENT		1	0	414-415	ADDITIVE CONSTANT			0		416-417	CHAR. 1	CHAR. 2		C	7	418-419	CHAR. 3	CHAR. 4				BYTES <table border="1"> <tr> <td>420-421</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>72</td><td>2</td></tr> <tr> <td>422-423</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>424-425</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> <tr> <td>426-427</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>428-429</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>C</td><td>7</td></tr> <tr> <td>430-431</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>432-433</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>74</td><td>2</td></tr> <tr> <td>434-435</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>436-437</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> <tr> <td>438-439</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>440-441</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr> <td></td><td>H</td><td>1</td></tr> <tr> <td>442-443</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>444-445</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>76</td><td>2</td></tr> <tr> <td>446-447</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>19</td></tr> <tr> <td>448-449</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>0</td></tr> </table>	420-421	START BYTE	BYTES/ ELEMENT		72	2	422-423	UNUSED	UNITS CODE		0	19	424-425	MULT. MANTISSA	EXPONENT		1	0	426-427	ADDITIVE CONSTANT			0		428-429	CHAR. 1	CHAR. 2		C	7	430-431	CHAR. 3	CHAR. 4				432-433	START BYTE	BYTES/ ELEMENT		74	2	434-435	UNUSED	UNITS CODE		0	19	436-437	MULT. MANTISSA	EXPONENT		1	0	438-439	ADDITIVE CONSTANT			0		440-441	CHAR. 1	CHAR. 2		H	1	442-443	CHAR. 3	CHAR. 4				444-445	START BYTE	BYTES/ ELEMENT		76	2	446-447	UNUSED	UNITS CODE		0	19	448-449	MULT. MANTISSA	EXPONENT		1	0
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FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES		BYTES		BYTES	
270-271	ADDITIVE CONSTANT	300-301	START BYTE	330-331	ADDITIVE CONSTANT
	0		52		0
272-273	CHAR. 1 CHAR. 2	302-303	UNUSED	332-333	CHAR. 1 CHAR. 2
	C 5		0		C 6
274-275	CHAR. 3 CHAR. 4	304-305	MULT. MANTISSA	334-335	CHAR. 3 CHAR. 4
			1 0		
276-277	START BYTE	306-307	ADDITIVE CONSTANT	336-337	START BYTE
	48		0		58
278-279	UNUSED	308-309	CHAR. 1 CHAR. 2	338-339	UNUSED
	0		C 5		0
280-281	MULT. MANTISSA	310-311	CHAR. 3 CHAR. 4	340-341	MULT. MANTISSA
	1 0				1 0
282-283	ADDITIVE CONSTANT	312-313	START BYTE	342-343	ADDITIVE CONSTANT
	0		54		0
284-285	CHAR. 1 CHAR. 2	314-315	UNUSED	344-345	CHAR. 1 CHAR. 2
	C 5		0		C 6
286-287	CHAR. 3 CHAR. 4	316-317	MULT. MANTISSA	346-347	CHAR. 3 CHAR. 4
			1 0		
288-289	START BYTE	318-319	ADDITIVE CONSTANT	348-349	START BYTE
	50		0		60
290-291	UNUSED	320-321	CHAR. 1 CHAR. 2	350-351	UNUSED
	0		C 6		0
292-293	MULT. MANTISSA	322-323	CHAR. 3 CHAR. 4	352-353	MULT. MANTISSA
	1 0				1 0
294-295	ADDITIVE CONSTANT	324-325	START BYTE	354-355	ADDITIVE CONSTANT
	0		56		0
296-297	CHAR. 1 CHAR. 2	326-327	UNUSED	356-357	CHAR. 1 CHAR. 2
	C 5		0		C 6
298-299	CHAR. 3 CHAR. 4	328-329	MULT. MANTISSA	358-359	CHAR. 3 CHAR. 4
			1 0		

37 GHz H
Cold Load
Reading

37 GHz H
Cold Load
Reading

37 GHz H
Cold Load
Reading

37 GHz H
Cold Load
Reading

85 GHz V
Cold Load
Reading

37 GHz H
Cold Load
Reading

85 GHz V
Cold Load
Reading

85 GHz V
Cold Load
Reading

85 GHz V
Cold Load
Reading

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES			BYTES			BYTES		
450-451	ADDITIVE CONSTANT		480-481	START BYTE	BYTES/ ELEMENT	510-511	ADDITIVE CONSTANT	
	0			82	2		0	
452-453	CHAR. 1	CHAR. 2	482-483	UNUSED	UNITS CODE	512-513	CHAR. 1	CHAR. 2
	H	1		0	19		H	2
454-455	CHAR. 3	CHAR. 4	484-485	MULT. MANTISSA	EXPONENT	514-515	CHAR. 3	CHAR. 4
				1	0			
456-457	START BYTE	BYTES/ ELEMENT	486-487	ADDITIVE CONSTANT		516-517	START BYTE	BYTES/ ELEMENT
	78	2		0			88	2
458-459	UNUSED	UNITS CODE	488-489	CHAR. 1	CHAR. 2	518-519	UNUSED	UNITS CODE
	0	19		H	1		0	19
460-461	MULT. MANTISSA	EXPONENT	490-491	CHAR. 3	CHAR. 4	520-521	MULT. MANTISSA	EXPONENT
	1	0					1	0
462-463	ADDITIVE CONSTANT		492-493	START BYTE	BYTES/ ELEMENT	522-523	ADDITIVE CONSTANT	
	0			84	2		0	
464-465	CHAR. 1	CHAR. 2	494-495	UNUSED	UNITS CODE	524-525	CHAR. 1	CHAR. 2
	H	1		0	19		H	2
466-467	CHAR. 3	CHAR. 4	496-497	MULT. MANTISSA	EXPONENT	526-527	CHAR. 3	CHAR. 4
				1	0			
468-469	START BYTE	BYTES/ ELEMENT	498-499	ADDITIVE CONSTANT		528-529	START BYTE	BYTES/ ELEMENT
	80	2		0			90	2
470-471	UNUSED	UNITS CODE	500-501	CHAR. 1	CHAR. 2	530-531	UNUSED	UNITS CODE
	0	19		H	2		0	19
472-473	MULT. MANTISSA	EXPONENT	502-503	CHAR. 3	CHAR. 4	532-533	MULT. MANTISSA	EXPONENT
	1	0					1	0
474-475	ADDITIVE CONSTANT		504-505	START BYTE	BYTES/ ELEMENT	534-535	ADDITIVE CONSTANT	
	0			86	2		0	
476-477	CHAR. 1	CHAR. 2	506-507	UNUSED	UNITS CODE	536-537	CHAR. 1	CHAR. 2
	H	1		0	19		H	2
478-479	CHAR. 3	CHAR. 4	508-509	MULT. MANTISSA	EXPONENT	538-539	CHAR. 3	CHAR. 4
				1	0			

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES <table border="1"> <tr><td>540-541</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>92</td><td>2</td></tr> <tr><td>542-543</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>544-545</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>546-547</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>548-549</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>2</td></tr> <tr><td>550-551</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>552-553</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>94</td><td>2</td></tr> <tr><td>554-555</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>556-557</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>558-559</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>560-561</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>3</td></tr> <tr><td>562-563</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>564-565</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>96</td><td>2</td></tr> <tr><td>566-567</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>568-569</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> </table>	540-541	START BYTE	BYTES/ ELEMENT		92	2	542-543	UNUSED	UNITS CODE		0	19	544-545	MULT. MANTISSA	EXPONENT		1	0	546-547	ADDITIVE CONSTANT			0		548-549	CHAR. 1	CHAR. 2		H	2	550-551	CHAR. 3	CHAR. 4				552-553	START BYTE	BYTES/ ELEMENT		94	2	554-555	UNUSED	UNITS CODE		0	19	556-557	MULT. MANTISSA	EXPONENT		1	0	558-559	ADDITIVE CONSTANT			0		560-561	CHAR. 1	CHAR. 2		H	3	562-563	CHAR. 3	CHAR. 4				564-565	START BYTE	BYTES/ ELEMENT		96	2	566-567	UNUSED	UNITS CODE		0	19	568-569	MULT. MANTISSA	EXPONENT		1	0	BYTES <table border="1"> <tr><td>570-571</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>572-573</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>3</td></tr> <tr><td>574-575</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>576-577</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>98</td><td>2</td></tr> <tr><td>578-579</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>580-581</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>582-583</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>584-585</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>3</td></tr> <tr><td>586-587</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>588-589</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>100</td><td>2</td></tr> <tr><td>590-591</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>592-593</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>594-595</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>596-597</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>3</td></tr> <tr><td>598-599</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> </table>	570-571	ADDITIVE CONSTANT			0		572-573	CHAR. 1	CHAR. 2		H	3	574-575	CHAR. 3	CHAR. 4				576-577	START BYTE	BYTES/ ELEMENT		98	2	578-579	UNUSED	UNITS CODE		0	19	580-581	MULT. MANTISSA	EXPONENT		1	0	582-583	ADDITIVE CONSTANT			0		584-585	CHAR. 1	CHAR. 2		H	3	586-587	CHAR. 3	CHAR. 4				588-589	START BYTE	BYTES/ ELEMENT		100	2	590-591	UNUSED	UNITS CODE		0	19	592-593	MULT. MANTISSA	EXPONENT		1	0	594-595	ADDITIVE CONSTANT			0		596-597	CHAR. 1	CHAR. 2		H	3	598-599	CHAR. 3	CHAR. 4				BYTES <table border="1"> <tr><td>600-601</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>102</td><td>2</td></tr> <tr><td>602-603</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>604-605</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>606-607</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>608-609</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>3</td></tr> <tr><td>610-611</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>612-613</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>104</td><td>2</td></tr> <tr><td>614-615</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>616-617</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>618-619</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>620-621</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>H</td><td>4</td></tr> <tr><td>622-623</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td>624-625</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr><td></td><td>106</td><td>2</td></tr> <tr><td>626-627</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>19</td></tr> <tr><td>628-629</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> </table>	600-601	START BYTE	BYTES/ ELEMENT		102	2	602-603	UNUSED	UNITS CODE		0	19	604-605	MULT. MANTISSA	EXPONENT		1	0	606-607	ADDITIVE CONSTANT			0		608-609	CHAR. 1	CHAR. 2		H	3	610-611	CHAR. 3	CHAR. 4				612-613	START BYTE	BYTES/ ELEMENT		104	2	614-615	UNUSED	UNITS CODE		0	19	616-617	MULT. MANTISSA	EXPONENT		1	0	618-619	ADDITIVE CONSTANT			0		620-621	CHAR. 1	CHAR. 2		H	4	622-623	CHAR. 3	CHAR. 4				624-625	START BYTE	BYTES/ ELEMENT		106	2	626-627	UNUSED	UNITS CODE		0	19	628-629	MULT. MANTISSA	EXPONENT		1	0
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FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES		BYTES		BYTES	
630-631	ADDITIVE CONSTANT	660-661	START BYTE	690-691	ADDITIVE CONSTANT
	0		112		0
632-633	CHAR. 1 CHAR. 2	662-663	UNUSED	692-693	CHAR. 1 CHAR. 2
	H 4		0		H 5
634-635	CHAR. 3 CHAR. 4	664-665	MULT. MANTISSA	694-695	CHAR. 3 CHAR. 4
			1		
636-637	START BYTE	666-667	ADDITIVE CONSTANT	696-697	START BYTE
	108		0		118
638-639	UNUSED	668-669	CHAR. 1 CHAR. 2	698-699	UNUSED
	0		H 4		0
640-641	MULT. MANTISSA	670-671	CHAR. 3 CHAR. 4	700-701	MULT. MANTISSA
	1				1
642-643	ADDITIVE CONSTANT	672-673	START BYTE	702-703	ADDITIVE CONSTANT
	0		114		0
644-645	CHAR. 1 CHAR. 2	674-675	UNUSED	704-705	CHAR. 1 CHAR. 2
	H 4		0		H 5
646-647	CHAR. 3 CHAR. 4	676-677	MULT. MANTISSA	706-707	CHAR. 3 CHAR. 4
			1		
648-649	START BYTE	678-679	ADDITIVE CONSTANT	708-709	START BYTE
	110		0		120
650-651	UNUSED	680-681	CHAR. 1 CHAR. 2	710-711	UNUSED
	0		H 5		0
652-653	MULT. MANTISSA	682-683	CHAR. 3 CHAR. 4	712-713	MULT. MANTISSA
	1				1
654-655	ADDITIVE CONSTANT	684-685	START BYTE	714-715	ADDITIVE CONSTANT
	0		116		0
656-657	CHAR. 1 CHAR. 2	686-687	UNUSED	716-717	CHAR. 1 CHAR. 2
	H 4		0		H 5
658-659	CHAR. 3 CHAR. 4	688-689	MULT. MANTISSA	718-719	CHAR. 3 CHAR. 4
			1		

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES			BYTES			BYTES		
720-721	START BYTE	BYTES/ ELEMENT	750-751	ADDITIVE CONSTANT		780-781	START BYTE	BYTES/ ELEMENT
	122	2		0			132	2
722-723	UNUSED	UNITS CODE	752-753	CHAR. 1	CHAR. 2	782-783	UNUSED	UNITS CODE
	0	19		H	6		0	19
724-725	MULT. MANTISSA	EXPONENT	754-755	CHAR. 3	CHAR. 4	784-785	MULT. MANTISSA	EXPONENT
	1	0					1	0
726-727	ADDITIVE CONSTANT		756-757	START BYTE	BYTES/ ELEMENT	786-787	ADDITIVE CONSTANT	
	0			128	2		0	
728-729	CHAR. 1	CHAR. 2	758-759	UNUSED	UNITS CODE	788-789	CHAR. 1	CHAR. 2
	H	5		0	19		H	6
730-731	CHAR. 3	CHAR. 4	760-761	MULT. MANTISSA	EXPONENT	790-791	CHAR. 3	CHAR. 4
				1	0			
732-733	START BYTE	BYTES/ ELEMENT	762-763	ADDITIVE CONSTANT		792-793	START BYTE	BYTES/ ELEMENT
	124	2		0			134	2
734-735	UNUSED	UNITS CODE	764-765	CHAR. 1	CHAR. 2	794-795	UNUSED	UNITS CODE
	0	19		H	6		0	19
736-737	MULT. MANTISSA	EXPONENT	766-767	CHAR. 3	CHAR. 4	796-797	MULT. MANTISSA	EXPONENT
	1	0					1	0
738-739	ADDITIVE CONSTANT		768-769	START BYTE	BYTES/ ELEMENT	798-799	ADDITIVE CONSTANT	
	0			130	2		0	
740-741	CHAR. 1	CHAR. 2	770-771	UNUSED	UNITS CODE	800-801	CHAR. 1	CHAR. 2
	H	6		0	19		H	7
742-743	CHAR. 3	CHAR. 4	772-773	MULT. MANTISSA	EXPONENT	802-803	CHAR. 3	CHAR. 4
				1	0			
744-745	START BYTE	BYTES/ ELEMENT	774-775	ADDITIVE CONSTANT		804-805	START BYTE	BYTES/ ELEMENT
	126	2		0			136	2
746-747	UNUSED	UNITS CODE	776-777	CHAR. 1	CHAR. 2	806-807	UNUSED	UNITS CODE
	0	19		H	6		0	19
748-749	MULT. MANTISSA	EXPONENT	778-779	CHAR. 3	CHAR. 4	808-809	MULT. MANTISSA	EXPONENT
	1	0					1	0

37 GHz H
Hot Load
Reading

85 GHz V
Hot Load
Reading

85 GHz V
Hot Load
Reading

85 GHz V
Hot Load
Reading

85 GHz V
Hot Load
Reading

85 GHz H
Hot Load
Reading

85 GHz V
Hot Load
Reading

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

810-811		ADDITIVE CONSTANT ----- 0		85 GHz H Hot Load Reading	840-841		START BYTE		BYTES/ ELEMENT 142		2		870-871		ADDITIVE CONSTANT ----- 0		Auto Gain Control Setting 2																										
812-813		CHAR. 1 H			CHAR. 2 7		842-843		UNUSED 0		UNITS CODE 19		872-873		CHAR. 1 A			CHAR. 2 G																									
814-815		CHAR. 3 ----- -----			CHAR. 4 ----- -----		844-845		MULT. MANTISSA 1		EXPONENT 0		874-875		CHAR. 3 C			CHAR. 4 2																									
816-817		START BYTE 138		BYTES/ ELEMENT 2		846-847		ADDITIVE CONSTANT ----- 0		848-849		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		876-877		START BYTE 148		BYTES/ ELEMENT 2																					
818-819		UNUSED 0		UNITS CODE 19		850-851		CHAR. 3 ----- -----		CHAR. 4 ----- -----		852-853		START BYTE 144		BYTES/ ELEMENT 2		854-855		UNUSED 0		UNITS CODE 19																					
820-821		MULT. MANTISSA 1		EXPONENT 0		856-857		MULT. MANTISSA 1		EXPONENT 0		858-859		ADDITIVE CONSTANT ----- 0		860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1																					
822-823		ADDITIVE CONSTANT ----- 0		824-825		CHAR. 1 H		CHAR. 2 7		826-827		CHAR. 3 ----- -----		CHAR. 4 ----- -----		828-829		START BYTE 140		BYTES/ ELEMENT 2		830-831		UNUSED 0		UNITS CODE 19																	
826-827		CHAR. 3 ----- -----		CHAR. 4 ----- -----		832-833		MULT. MANTISSA 1		EXPONENT 0		834-835		ADDITIVE CONSTANT ----- 0		836-837		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		838-839		CHAR. 3 ----- -----		CHAR. 4 ----- -----															
828-829		START BYTE 140		BYTES/ ELEMENT 2		830-831		UNUSED 0		UNITS CODE 19		832-833		MULT. MANTISSA 1		EXPONENT 0		834-835		ADDITIVE CONSTANT ----- 0		836-837		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading															
830-831		UNUSED 0		UNITS CODE 19		832-833		MULT. MANTISSA 1		EXPONENT 0		834-835		ADDITIVE CONSTANT ----- 0		836-837		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		838-839		CHAR. 3 ----- -----		CHAR. 4 ----- -----															
832-833		MULT. MANTISSA 1		EXPONENT 0		834-835		ADDITIVE CONSTANT ----- 0		836-837		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		838-839		CHAR. 3 ----- -----		CHAR. 4 ----- -----		840-841		START BYTE 142		BYTES/ ELEMENT 2															
834-835		ADDITIVE CONSTANT ----- 0		836-837		CHAR. 1 H		CHAR. 2 7		838-839		CHAR. 3 ----- -----		CHAR. 4 ----- -----		840-841		START BYTE 142		BYTES/ ELEMENT 2		842-843		UNUSED 0		UNITS CODE 19																	
836-837		CHAR. 1 H		CHAR. 2 7		838-839		CHAR. 3 ----- -----		CHAR. 4 ----- -----		840-841		START BYTE 142		BYTES/ ELEMENT 2		842-843		UNUSED 0		UNITS CODE 19		844-845		MULT. MANTISSA 1		EXPONENT 0															
838-839		CHAR. 3 ----- -----		CHAR. 4 ----- -----		840-841		START BYTE 142		BYTES/ ELEMENT 2		842-843		UNUSED 0		UNITS CODE 19		844-845		MULT. MANTISSA 1		EXPONENT 0		846-847		ADDITIVE CONSTANT ----- 0																	
840-841		START BYTE 142		BYTES/ ELEMENT 2		842-843		UNUSED 0		UNITS CODE 19		844-845		MULT. MANTISSA 1		EXPONENT 0		846-847		ADDITIVE CONSTANT ----- 0		848-849		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading															
842-843		UNUSED 0		UNITS CODE 19		844-845		MULT. MANTISSA 1		EXPONENT 0		846-847		ADDITIVE CONSTANT ----- 0		848-849		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		850-851		CHAR. 3 ----- -----		CHAR. 4 ----- -----															
844-845		MULT. MANTISSA 1		EXPONENT 0		846-847		ADDITIVE CONSTANT ----- 0		848-849		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		850-851		CHAR. 3 ----- -----		CHAR. 4 ----- -----		852-853		START BYTE 144		BYTES/ ELEMENT 2															
846-847		ADDITIVE CONSTANT ----- 0		848-849		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		850-851		CHAR. 3 ----- -----		CHAR. 4 ----- -----		852-853		START BYTE 144		BYTES/ ELEMENT 2		854-855		UNUSED 0		UNITS CODE 19															
848-849		CHAR. 1 H		CHAR. 2 7		85 GHz H Hot Load Reading		850-851		CHAR. 3 ----- -----		CHAR. 4 ----- -----		852-853		START BYTE 144		BYTES/ ELEMENT 2		854-855		UNUSED 0		UNITS CODE 19		856-857		MULT. MANTISSA 1		EXPONENT 0													
850-851		CHAR. 3 ----- -----		CHAR. 4 ----- -----		852-853		START BYTE 144		BYTES/ ELEMENT 2		854-855		UNUSED 0		UNITS CODE 19		856-857		MULT. MANTISSA 1		EXPONENT 0		858-859		ADDITIVE CONSTANT ----- 0		860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 3									
852-853		START BYTE 144		BYTES/ ELEMENT 2		854-855		UNUSED 0		UNITS CODE 19		856-857		MULT. MANTISSA 1		EXPONENT 0		858-859		ADDITIVE CONSTANT ----- 0		860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 3		862-863		CHAR. 3 C		CHAR. 4 3									
854-855		UNUSED 0		UNITS CODE 19		856-857		MULT. MANTISSA 1		EXPONENT 0		858-859		ADDITIVE CONSTANT ----- 0		860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 3		862-863		CHAR. 3 C		CHAR. 4 3		864-865		START BYTE 146		BYTES/ ELEMENT 2									
856-857		MULT. MANTISSA 1		EXPONENT 0		858-859		ADDITIVE CONSTANT ----- 0		860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 3		862-863		CHAR. 3 C		CHAR. 4 3		864-865		START BYTE 146		BYTES/ ELEMENT 2		866-867		UNUSED 0		UNITS CODE 19									
858-859		ADDITIVE CONSTANT ----- 0		860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 3		862-863		CHAR. 3 C		CHAR. 4 3		864-865		START BYTE 146		BYTES/ ELEMENT 2		866-867		UNUSED 0		UNITS CODE 19		868-869		MULT. MANTISSA 1		EXPONENT 0									
860-861		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 3		862-863		CHAR. 3 C		CHAR. 4 3		864-865		START BYTE 146		BYTES/ ELEMENT 2		866-867		UNUSED 0		UNITS CODE 19		868-869		MULT. MANTISSA 1		EXPONENT 0		870-871		ADDITIVE CONSTANT ----- 0		872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2	
862-863		CHAR. 3 C		CHAR. 4 3		864-865		START BYTE 146		BYTES/ ELEMENT 2		866-867		UNUSED 0		UNITS CODE 19		868-869		MULT. MANTISSA 1		EXPONENT 0		870-871		ADDITIVE CONSTANT ----- 0		872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2									
864-865		START BYTE 146		BYTES/ ELEMENT 2		866-867		UNUSED 0		UNITS CODE 19		868-869		MULT. MANTISSA 1		EXPONENT 0		870-871		ADDITIVE CONSTANT ----- 0		872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2		874-875		CHAR. 3 C		CHAR. 4 2									
866-867		UNUSED 0		UNITS CODE 19		868-869		MULT. MANTISSA 1		EXPONENT 0		870-871		ADDITIVE CONSTANT ----- 0		872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2		874-875		CHAR. 3 C		CHAR. 4 2		876-877		START BYTE 148		BYTES/ ELEMENT 2									
868-869		MULT. MANTISSA 1		EXPONENT 0		870-871		ADDITIVE CONSTANT ----- 0		872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2		874-875		CHAR. 3 C		CHAR. 4 2		876-877		START BYTE 148		BYTES/ ELEMENT 2		878-879		UNUSED 0		UNITS CODE 19									
870-871		ADDITIVE CONSTANT ----- 0		872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2		874-875		CHAR. 3 C		CHAR. 4 2		876-877		START BYTE 148		BYTES/ ELEMENT 2		878-879		UNUSED 0		UNITS CODE 19		880-881		MULT. MANTISSA 1		EXPONENT 0									
872-873		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 2		874-875		CHAR. 3 C		CHAR. 4 2		876-877		START BYTE 148		BYTES/ ELEMENT 2		878-879		UNUSED 0		UNITS CODE 19		880-881		MULT. MANTISSA 1		EXPONENT 0		882-883		ADDITIVE CONSTANT ----- 0		884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1	
874-875		CHAR. 3 C		CHAR. 4 2		876-877		START BYTE 148		BYTES/ ELEMENT 2		878-879		UNUSED 0		UNITS CODE 19		880-881		MULT. MANTISSA 1		EXPONENT 0		882-883		ADDITIVE CONSTANT ----- 0		884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1									
876-877		START BYTE 148		BYTES/ ELEMENT 2		878-879		UNUSED 0		UNITS CODE 19		880-881		MULT. MANTISSA 1		EXPONENT 0		882-883		ADDITIVE CONSTANT ----- 0		884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1		886-887		CHAR. 3 C		CHAR. 4 1									
878-879		UNUSED 0		UNITS CODE 19		880-881		MULT. MANTISSA 1		EXPONENT 0		882-883		ADDITIVE CONSTANT ----- 0		884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1		886-887		CHAR. 3 C		CHAR. 4 1		888-889		START BYTE 150		BYTES/ ELEMENT 2									
880-881		MULT. MANTISSA 1		EXPONENT 0		882-883		ADDITIVE CONSTANT ----- 0		884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1		886-887		CHAR. 3 C		CHAR. 4 1		888-889		START BYTE 150		BYTES/ ELEMENT 2		890-891		UNUSED 0		UNITS CODE 19									
882-883		ADDITIVE CONSTANT ----- 0		884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1		886-887		CHAR. 3 C		CHAR. 4 1		888-889		START BYTE 150		BYTES/ ELEMENT 2		890-891		UNUSED 0		UNITS CODE 19		892-893		MULT. MANTISSA 1		EXPONENT 0									
884-885		CHAR. 1 A		CHAR. 2 G		Auto Gain Control Setting 1		886-887		CHAR. 3 C		CHAR. 4 1		888-889		START BYTE 150		BYTES/ ELEMENT 2		890-891		UNUSED 0		UNITS CODE 19		892-893		MULT. MANTISSA 1		EXPONENT 0		894-895		ADDITIVE CONSTANT ----- 0		896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading	
886-887		CHAR. 3 C		CHAR. 4 1		888-889		START BYTE 150		BYTES/ ELEMENT 2		890-891		UNUSED 0		UNITS CODE 19		892-893		MULT. MANTISSA 1		EXPONENT 0		894-895		ADDITIVE CONSTANT ----- 0		896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading									
888-889		START BYTE 150		BYTES/ ELEMENT 2		890-891		UNUSED 0		UNITS CODE 19		892-893		MULT. MANTISSA 1		EXPONENT 0		894-895		ADDITIVE CONSTANT ----- 0		896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading		898-899		CHAR. 3 ----- -----		CHAR. 4 ----- -----									
890-891		UNUSED 0		UNITS CODE 19		892-893		MULT. MANTISSA 1		EXPONENT 0		894-895		ADDITIVE CONSTANT ----- 0		896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading		898-899		CHAR. 3 ----- -----		CHAR. 4 ----- -----															
892-893		MULT. MANTISSA 1		EXPONENT 0		894-895		ADDITIVE CONSTANT ----- 0		896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading		898-899		CHAR. 3 ----- -----		CHAR. 4 ----- -----																					
894-895		ADDITIVE CONSTANT ----- 0		896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading		898-899		CHAR. 3 ----- -----		CHAR. 4 ----- -----																											
896-897		CHAR. 1 C		CHAR. 2 6		85 GHz V Cold Load Reading		898-899		CHAR. 3 ----- -----		CHAR. 4 ----- -----																															
898-899		CHAR. 3 ----- -----		CHAR. 4 ----- -----																																							

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES			BYTES			BYTES		
900-901	START BYTE	BYTES/ ELEMENT	930-931	ADDITIVE CONSTANT		960-961	START BYTE	BYTES/ ELEMENT
	152	2		0			162	2
902-903	UNUSED	UNITS CODE	932-933	CHAR. 1 CHAR. 2	85 GHz V Cold Load Reading	962-963	UNUSED	UNITS CODE
	0	19		C 6			0	19
904-905	MULT. MANTISSA	EXPONENT	934-935	CHAR. 3 CHAR. 4		964-965	MULT. MANTISSA	EXPONENT
	1	0					1	0
906-907	ADDITIVE CONSTANT		936-937	START BYTE		966-967	ADDITIVE CONSTANT	
	0			158			0	
908-909	CHAR. 1 CHAR. 2	85 GHz V Cold Load Reading	938-939	UNUSED	UNITS CODE	968-969	CHAR. 1 CHAR. 2	85 GHz H Cold Load Reading
	C 6			0	19		C 7	
910-911	CHAR. 3 CHAR. 4		940-941	MULT. MANTISSA	EXPONENT	970-971	CHAR. 3 CHAR. 4	
				1	0			
912-913	START BYTE	BYTES/ ELEMENT	942-943	ADDITIVE CONSTANT		972-973	START BYTE	BYTES/ ELEMENT
	154	2		0			164	2
914-915	UNUSED	UNITS CODE	944-945	CHAR. 1 CHAR. 2	85 GHz V Cold Load Reading	974-975	UNUSED	UNITS CODE
	0	19		C 6			0	19
916-917	MULT. MANTISSA	EXPONENT	946-947	CHAR. 3 CHAR. 4		976-977	MULT. MANTISSA	EXPONENT
	1	0					1	0
918-919	ADDITIVE CONSTANT		948-949	START BYTE		978-979	ADDITIVE CONSTANT	
	0			160			0	
920-921	CHAR. 1 CHAR. 2	85 GHz V Cold Load Reading	950-951	UNUSED	UNITS CODE	980-981	CHAR. 1 CHAR. 2	85 GHz H Cold Load Reading
	C 6			0	19		C 7	
922-923	CHAR. 3 CHAR. 4		952-953	MULT. MANTISSA	EXPONENT	982-983	CHAR. 3 CHAR. 4	
				1	0			
924-925	START BYTE	BYTES/ ELEMENT	954-955	ADDITIVE CONSTANT		984-985	START BYTE	BYTES/ ELEMENT
	156	2		0			166	2
926-927	UNUSED	UNITS CODE	956-957	CHAR. 1 CHAR. 2	85 GHz H Cold Load Reading	986-987	UNUSED	UNITS CODE
	0	19		C 7			0	19
928-929	MULT. MANTISSA	EXPONENT	958-959	CHAR. 3 CHAR. 4		988-989	MULT. MANTISSA	EXPONENT
	1	0					1	0

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES		BYTES		BYTES	
990-991	ADDITIVE CONSTANT	1020-1021	START BYTE	1050-1051	ADDITIVE CONSTANT
	0		172		0
992-993	CHAR. 1 CHAR. 2	1022-1023	UNUSED UNITS CODE	1052-1053	CHAR. 1 CHAR. 2
	C 7		0 19		H 6
994-995	CHAR. 3 CHAR. 4	1024-1025	MULT. MANTISSA EXPONENT	1054-1055	CHAR. 3 CHAR. 4
			1 0		
996-997	START BYTE	1026-1027	ADDITIVE CONSTANT	1056-1057	START BYTE
	168		0		178
998-999	UNUSED UNITS CODE	1028-1029	CHAR. 1 CHAR. 2	1058-1059	UNUSED UNITS CODE
	0 19		H 6		0 19
1000-1001	MULT. MANTISSA EXPONENT	1030-1031	CHAR. 3 CHAR. 4	1060-1061	MULT. MANTISSA EXPONENT
	1 0				1 0
1002-1003	ADDITIVE CONSTANT	1032-1033	START BYTE	1062-1063	ADDITIVE CONSTANT
	0		174		0
1004-1005	CHAR. 1 CHAR. 2	1034-1035	UNUSED UNITS CODE	1064-1065	CHAR. 1 CHAR. 2
	C 7		0 19		H 6
1006-1007	CHAR. 3 CHAR. 4	1036-1037	MULT. MANTISSA EXPONENT	1066-1067	CHAR. 3 CHAR. 4
			1 0		
1008-1009	START BYTE	1038-1039	ADDITIVE CONSTANT	1068-1069	START BYTE
	170		0		180
1010-1011	UNUSED UNITS CODE	1040-1041	CHAR. 1 CHAR. 2	1070-1071	UNUSED UNITS CODE
	0 19		H 6		0 19
1012-1013	MULT. MANTISSA EXPONENT	1042-1043	CHAR. 3 CHAR. 4	1072-1073	MULT. MANTISSA EXPONENT
	1 0				1 0
1014-1015	ADDITIVE CONSTANT	1044-1045	START BYTE	1074-1075	ADDITIVE CONSTANT
	0		176		0
1016-1017	CHAR. 1 CHAR. 2	1046-1047	UNUSED UNITS CODE	1076-1077	CHAR. 1 CHAR. 2
	H 6		0 19		H 7
1018-1019	CHAR. 3 CHAR. 4	1048-1049	MULT. MANTISSA EXPONENT	1078-1079	CHAR. 3 CHAR. 4
			1 0		

FIGURE 2.3.1-6 TDR SCAN HEADER #2 DATA DESCRIPTION BLOCK
(Continued)

BYTES		BYTES	
1080-1081	START BYTE 182	1110-1111	ADDITIVE CONSTANT 0
1082-1083	UNUSED 0	1112-1113	CHAR. 1 H
1084-1085	MULT. MANTISSA 1	1114-1115	CHAR. 2 7
1086-1087	ADDITIVE CONSTANT 0	1116-1117	START BYTE 188
1088-1089	CHAR. 1 H	1118-1119	UNUSED 0
1090-1091	CHAR. 2 7	1120-1121	MULT. MANTISSA 1
1092-1093	START BYTE 184	1122-1123	ADDITIVE CONSTANT 0
1094-1095	UNUSED 0	1124-1125	CHAR. 1 H
1096-1097	MULT. MANTISSA 1	1126-1127	CHAR. 2 7
1098-1099	ADDITIVE CONSTANT 0	1128-1129	START BYTE 190
1100-1101	CHAR. 1 H	1130-1131	UNUSED 0
1102-1103	CHAR. 2 7	1132-1133	MULT. MANTISSA 1
1104-1105	START BYTE 186	1134-1135	ADDITIVE CONSTANT 0
1106-1107	UNUSED 0	1136-1137	CHECKSUM (Calc. in SWIDEF)
1108-1109	MULT. MANTISSA 1		

FIGURE 2.3.1-7 TDR DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH	185	30-31	ADDITIVE CONSTANT	0	60-61	START BYTE	BYTES/ELEMENT
2-3	MODE	3	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
4-5	NUMBER ELEMENTS	30	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
6-7	NUMBER OF SECTIONS	64	36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	0
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT	0	72-73	START BYTE	BYTES/ELEMENT
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
18-19	ADDITIVE CONSTANT	0	48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	0
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT	0	84-85	START BYTE	BYTES/ELEMENT
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT

Counter

Latitude

Longitude

22 GHz V Antenna Temp.

19 GHz V Antenna Temp.

37 GHz V Antenna Temp.

19 GHz H Antenna Temp.

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FIGURE 2.3.1-7 TDR DATA DESCRIPTION BLOCK (Continued)

BYTES	BYTES	BYTES
180-181	210-211	240-241
START BYTE	ADDITIVE CONSTANT	START BYTE
30	0	38
182-183	212-213	242-243
UNUSED	CHAR. 1	UNUSED
0	CHAR. 2	UNITS CODE
1	P	0
184-185	214-215	244-245
MULT. MANTISSA	CHAR. 3	MULT. MANTISSA
1	CHAR. 4	EXONENT
-2	N	1
186-187	216-217	246-247
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	BYTES/ ELEMENT	0
188-189	218-219	248-249
CHAR. 1	UNUSED	CHAR. 1
CHAR. 2	UNITS CODE	CHAR. 2
8	0	8
190-191	220-221	250-251
CHAR. 3	MULT. MANTISSA	CHAR. 3
CHAR. 4	EXONENT	CHAR. 4
5	1	5
H	0	V
192-193	222-223	252-253
START BYTE	ADDITIVE CONSTANT	START BYTE
32	0	BYTES/ ELEMENT
2	0	40
194-195	224-225	254-255
UNUSED	CHAR. 1	UNUSED
UNITS CODE	CHAR. 2	UNITS CODE
0	L	0
1	A	1
196-197	226-227	256-257
MULT. MANTISSA	CHAR. 3	MULT. MANTISSA
EXONENT	CHAR. 4	EXONENT
1	T	1
-2	0	-2
198-199	228-229	258-259
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	BYTES/ ELEMENT	0
200-201	230-231	260-261
CHAR. 1	UNUSED	CHAR. 1
CHAR. 2	UNITS CODE	CHAR. 2
S	0	8
202-203	232-233	262-263
CHAR. 3	MULT. MANTISSA	CHAR. 3
CHAR. 4	EXONENT	CHAR. 4
Y	1	5
P	-2	H
204-205	234-235	264-265
START BYTE	ADDITIVE CONSTANT	START BYTE
34	0	BYTES/ ELEMENT
1	0	42
206-207	236-237	266-267
UNUSED	CHAR. 1	UNUSED
UNITS CODE	CHAR. 2	UNITS CODE
0	L	0
19	O	1
208-209	238-239	268-269
MULT. MANTISSA	CHAR. 3	MULT. MANTISSA
EXONENT	CHAR. 4	EXONENT
1	N	1
0	0	-2

FIGURE 2.3.1-7 TDR DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
270-271	ADDITIVE CONSTANT		300-301	START BYTE	BYTES/ELEMENT	330-331	ADDITIVE CONSTANT	
	0			46	2		0	
272-273	CHAR. 1	CHAR. 2	302-303	UNUSED	UNITS CODE	332-333	CHAR. 1	CHAR. 2
	S	T		0	45		T	8
274-275	CHAR. 3	CHAR. 4	304-305	MULT. MANTISSA	EXPONENT	334-335	CHAR. 3	CHAR. 4
	Y	P		1	-2		S	H
276-277	START BYTE	BYTES/ELEMENT	306-307	ADDITIVE CONSTANT		336-337	START BYTE	BYTES/ELEMENT
	44	1		0			52	2
278-279	UNUSED	UNITS CODE	308-309	CHAR. 1	CHAR. 2	338-339	UNUSED	UNITS CODE
	0	19		L	0		0	1
280-281	MULT. MANTISSA	EXPONENT	310-311	CHAR. 3	CHAR. 4	340-341	MULT. MANTISSA	EXPONENT
	1	0		N			1	-2
282-283	ADDITIVE CONSTANT		312-313	START BYTE	BYTES/ELEMENT	342-343	ADDITIVE CONSTANT	
	0			48	2		0	
284-285	CHAR. 1	CHAR. 2	314-315	UNUSED	UNITS CODE	344-345	CHAR. 1	CHAR. 2
	P	0		0	45		S	T
286-287	CHAR. 3	CHAR. 4	316-317	MULT. MANTISSA	EXPONENT	346-347	CHAR. 3	CHAR. 4
	N	0		1	-2		Y	P
288-289	START BYTE	BYTES/ELEMENT	318-319	ADDITIVE CONSTANT		348-349	START BYTE	BYTES/ELEMENT
	45	1		0			54	1
290-291	UNUSED	UNITS CODE	320-321	CHAR. 1	CHAR. 2	350-351	UNUSED	UNITS CODE
	0	19		T	8		0	19
292-293	MULT. MANTISSA	EXPONENT	322-323	CHAR. 3	CHAR. 4	352-353	MULT. MANTISSA	EXPONENT
	1	0		5	V		1	0
294-295	ADDITIVE CONSTANT		324-325	START BYTE	BYTES/ELEMENT	354-355	ADDITIVE CONSTANT	
	0			50	2		0	
296-297	CHAR. 1	CHAR. 2	326-327	UNUSED	UNITS CODE	356-357	CHAR. 1	CHAR. 2
	L	A		0	1		P	0
298-299	CHAR. 3	CHAR. 4	328-329	MULT. MANTISSA	EXPONENT	358-359	CHAR. 3	CHAR. 4
	T			1	-2		N	0

Surface Type

Position Number

Latitude

Longitude

85 GHz V Antenna Temp.

85 GHz H Antenna Temp.

Surface Type

Position Number

FIGURE 2.3.1-7 TDR DATA DESCRIPTION BLOCK (Continued)

BYTES	
360-361	START BYTE
	55
362-363	BYTES/ ELEMENT
	1
362-363	UNUSED
	0
364-365	UNITS CODE
	19
364-365	MULT. MANTISSA
	1
366-367	EXPONENT
	0
366-367	ADDITIVE CONSTANT
	0
368-369	CHECKSUM
	(Calc. in SMIDEF)

FIGURE 2.3.1-8 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
16-17	SEC. DATA BEGINS
18-19	DAY DATA ENDS(2)
20-21	MIN. DATA ENDS
22-23	JULIAN DAY OF 1ST ASCENDING NODE
24-25	HR. 1ST A.N.
26-27	SEC. 1ST A.N.
28-29	CHECKSUM

FIGURE 2.3.1-9 TDR SCAN HEADER BLOCK #1 FORMAT

BYTES		BYTES	
0-1	BLOCK LENGTH	40-41	SCAN AUTO GAIN CONTROL SETTING 3
2-3	BLOCK ID	42-43	SCAN AUTO GAIN CONTROL SETTING 2
4-5	SCAN COUNTER	44-45	SCAN AUTO GAIN CONTROL SETTING 1
6-9	B-SCAN START TIME	46-47	SLOPE 19 GHz V
10-13	EPHEMERIS MINUTE VECTOR	48-49	OFFSET 19 GHz V
14-17	LATITUDE	50-51	SLOPE 19 GHz H
18-21	LONGITUDE	52-53	OFFSET 19 GHz H
22-25	ALTITUDE	54-55	SLOPE 22 GHz V
26-27	HOT LOAD THERMAL TEMPERATURE 3	56-57	OFFSET 22 GHz V
28-29	HOT LOAD THERMAL TEMPERATURE 2	58-59	SLOPE 37 GHz V
30-31	HOT LOAD THERMAL TEMPERATURE 1	60-61	OFFSET 37 GHz V
32-33	REFERENCE VOLTAGE 2	62-63	SLOPE 37 GHz H
34-35	REFERENCE VOLTAGE 1	64-65	OFFSET 37 GHz H
36-37	RF MIXER TEMPERATURE	66-67	SLOPE 85 GHz V
38-39	FORWARD RADIATOR TEMPERATURE	68-69	OFFSET 85 GHz V
		70-71	SLOPE 85 GHz H
		72-73	OFFSET 85 GHz H
		74-75	CHECKSUM

FIGURE 2.3.1-10 TDR SCAN HEADER BLOCK #2 FORMAT

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH	40-41	37 GHz V COLD LOAD READING	88-81	19 GHz V HOT LOAD READING
2-3	BLOCK ID	42-43	37 GHz V COLD LOAD READING	82-83	19 GHz V HOT LOAD READING
4-5	COUNTER	44-45	37 GHz V COLD LOAD READING	84-85	19 GHz V HOT LOAD READING
6-7	19 GHz V COLD LOAD READING	46-47	37 GHz H COLD LOAD READING	86-87	19 GHz H HOT LOAD READING
8-9	19 GHz V COLD LOAD READING	48-49	37 GHz H COLD LOAD READING	88-89	19 GHz H HOT LOAD READING
10-11	19 GHz V COLD LOAD READING	50-51	37 GHz H COLD LOAD READING	90-91	19 GHz H HOT LOAD READING
12-13	19 GHz V COLD LOAD READING	52-53	37 GHz H COLD LOAD READING	92-93	19 GHz H HOT LOAD READING
14-15	19 GHz V COLD LOAD READING	54-55	37 GHz H COLD LOAD READING	94-95	19 GHz H HOT LOAD READING
16-17	19 GHz H COLD LOAD READING	56-57	85 GHz V COLD LOAD READING	96-97	22 GHz V HOT LOAD READING
18-19	19 GHz H COLD LOAD READING	58-59	85 GHz V COLD LOAD READING	98-99	22 GHz V HOT LOAD READING
20-21	19 GHz H COLD LOAD READING	60-61	85 GHz V COLD LOAD READING	100-101	22 GHz V HOT LOAD READING
22-23	19 GHz H COLD LOAD READING	62-63	85 GHz V COLD LOAD READING	102-103	22 GHz V HOT LOAD READING
24-25	19 GHz H COLD LOAD READING	64-65	85 GHz V COLD LOAD READING	104-105	22 GHz V HOT LOAD READING
26-27	22 GHz V COLD LOAD READING	66-67	85 GHz H COLD LOAD READING	106-107	37 GHz V HOT LOAD READING
28-29	22 GHz V COLD LOAD READING	68-69	85 GHz H COLD LOAD READING	108-109	37 GHz V HOT LOAD READING
30-31	22 GHz V COLD LOAD READING	70-71	85 GHz H COLD LOAD READING	110-111	37 GHz V HOT LOAD READING
32-33	22 GHz V COLD LOAD READING	72-73	85 GHz H COLD LOAD READING	112-113	37 GHz V HOT LOAD READING
34-35	22 GHz V COLD LOAD READING	74-75	85 GHz H COLD LOAD READING	114-115	37 GHz V HOT LOAD READING
36-37	37 GHz V COLD LOAD READING	76-77	19 GHz V HOT LOAD READING	116-117	37 GHz H HOT LOAD READING
38-39	37 GHz V COLD LOAD READING	78-79	19 GHz V HOT LOAD READING	118-119	37 GHz H HOT LOAD READING

FIGURE 2.3.1-11 TDR DATA BLOCK FORMAT

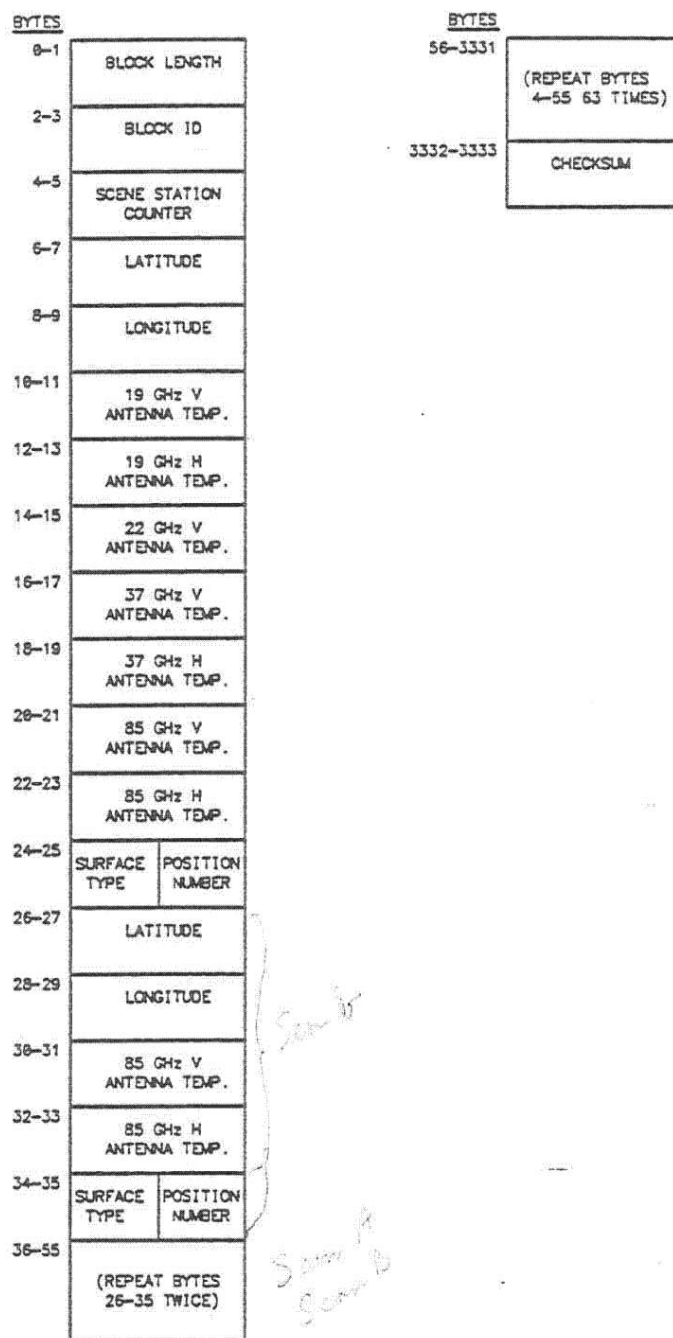


FIGURE 2.3.1-12 END OF PRODUCT BLOCK

<u>BYTES</u>							
0-1	<table><tr><td colspan="2">BLOCK LENGTH</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">3</td></tr></table>	BLOCK LENGTH		-----		3	
BLOCK LENGTH							

3							
2-3	<table><tr><td>MODE</td><td>SUBMODE</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>1</td><td>2</td></tr></table>	MODE	SUBMODE	-----	-----	1	2
MODE	SUBMODE						
-----	-----						
1	2						
4-5	<table><tr><td colspan="2">CHECKSUM</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">177373</td></tr></table>	CHECKSUM		-----		177373	
CHECKSUM							

177373							

2.3.2 Sensor Data Record File (DEF Format) (SDRXXXXX.DEF)

2.3.2.1 Functional Description

This file contains all the data contained in the SMI SDR File but in DEF.

2.3.2.2 Physical Interface Specification

Following the header blocks are the DEF SDR data blocks. These blocks contain the data from the SMI SDR File reformatted into DEF. The Rev Header information is contained in the Rev Header block. Scan header data for one A/B scan pair is stored in the Scan Header Data block. The scan data is stored in the SDR Data block. The Scan Header block and the SDR Data block are repeated in the file once for every A/B scan pair contained in the SMI SDR File. An end of Product block concludes the file. Figure 2.3.2-1 shows the overall file structure. Figures 2.3.2-2 through 2.3.2-10 show the formats for each block in the file. Numeric data shown in the block figures are right-justified; ASCII character data are left-justified. The numeric values are displayed in decimal except for Mode, Submode, Units Code and Checksum; these values are displayed in octal.

Each DEF block made in SMIDEF starts with block length and ends with checksum. DEF does not require the length or checksum of the block to be included. To indicate whether or not these two byte pairs are included, the first two bits of the block are flags.

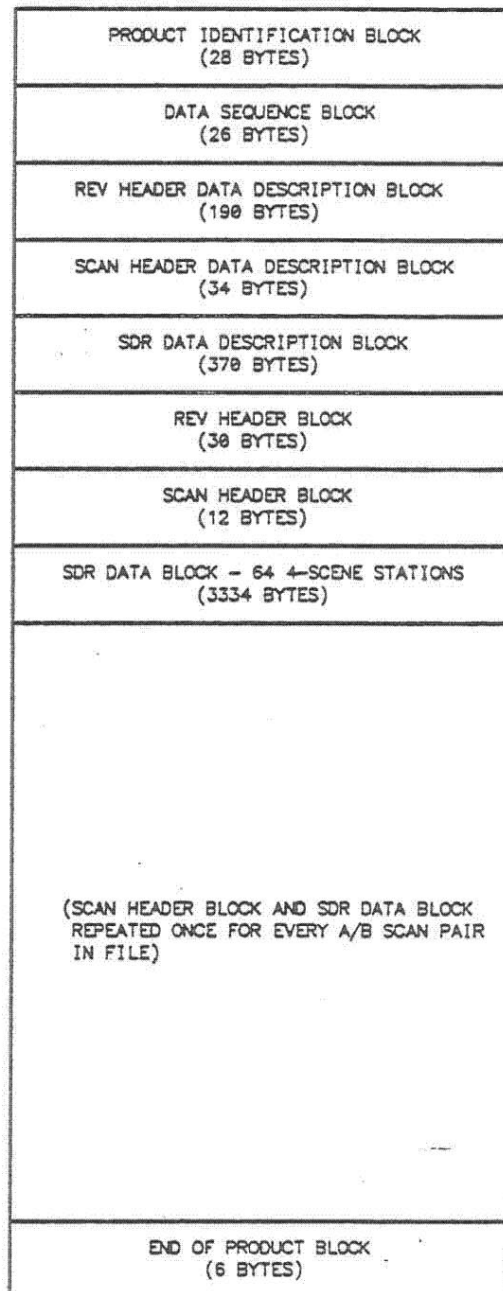
The first flag indicates if length has been left off and the second flag indicates if checksum has been left off. Since SMIDEF includes both length and checksum in all of its blocks, these two bits are always set to zero. For this reason, their presence is not indicated in the diagrams.

2.3.3 Environmental Data Record File (DEF Format) (EDRXXXXX.DEF)

2.3.3.1 Functional Description

This file contains all the data contained in the SMI EDR File but in DEF.

FIGURE 2.3.2-1 DEFSDR FILE FORMAT



(SDR DEF FILE LENGTH APPROXIMATELY 5.689 Mb PER ORBIT)

FIGURE 2.3.2-2 SDR PRODUCT IDENTIFICATION BLOCK

<u>BYTES</u>	
0-1	BLOCK LENGTH 14
2-3	MODE SUBMODE 1 1
4-5	CHAR. 1 CHAR. 2 F N
6-7	CHAR. 3 CHAR. 4 O C
8-9	CLASSI- FILE FICATION LIFETIME U 255
10-11	FILE IN- CHAR. 2 DICATOR CHAR. 2 T 5
12-13	CHAR. 3 CHAR. 4 M I
14-15	CHAR. 5 CHAR. 6 5 D
16-17	CHAR. 7 CHAR. 8 R
18-19	CHAR. 9 CHAR. 10 0 8
20-21	YEAR (Set by SMIDEF)
22-23	MONTH DAY (Set by SMIDEF)
24-25	HOUR MINUTE (Set by SMIDEF)
26-27	CHECKSUM (Calc. in SMIDEF)

Originator ID

Product Identifier

FIGURE 2.3.2-3 SDR DATA SEQUENCE BLOCK

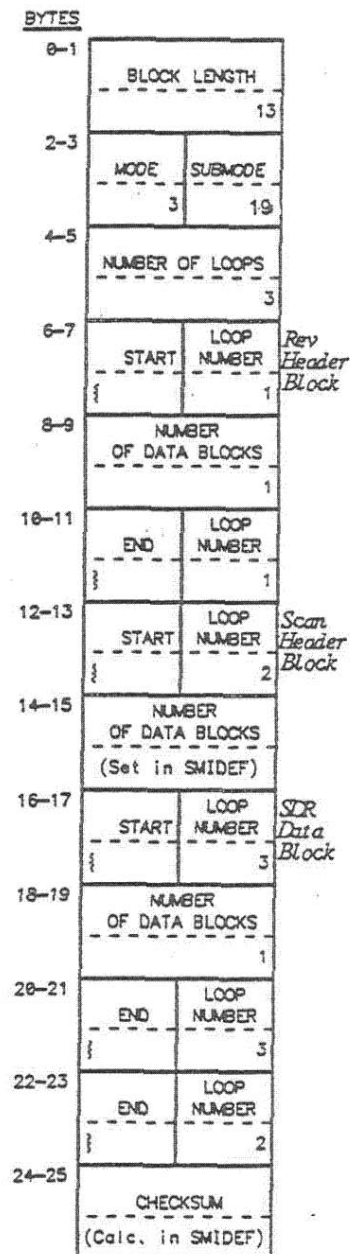


FIGURE 2.3.2-4 REV HEADER DATA DESCRIPTION BLOCK

[illegible]

FIGURE 2.3.2-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES				BYTES				BYTES			
90-91	ADDITIVE CONSTANT		0	120-121	START BYTE	BYTES/ ELEMENT	21 1	150-151	ADDITIVE CONSTANT		0
92-93	CHAR. 1	CHAR. 2	<i>Hour of Day Data Ends</i>	122-123	UNUSED	UNITS CODE	0 12	152-153	CHAR. 1	CHAR. 2	<i>Minute of Ascending Node</i>
	E	H				0		A	M		
94-95	CHAR. 3	CHAR. 4		124-125	MULT. MANTISSA	EXPONENT	1 0	154-155	CHAR. 3	CHAR. 4	
	R				1	0		N			
96-97	START BYTE	BYTES/ ELEMENT		126-127	ADDITIVE CONSTANT		0	156-157	START BYTE	BYTES/ ELEMENT	
	19	1							25	1	
98-99	UNUSED	UNITS CODE		128-129	CHAR. 1	CHAR. 2	<i>Dry of Ascending Node</i>	158-159	UNUSED	UNITS CODE	
	0	50			A	J			0	49	
100-101	MULT. MANTISSA	EXPONENT		130-131	CHAR. 3	CHAR. 4		160-161	MULT. MANTISSA	EXPONENT	
	1	0			L	D			1	0	
102-103	ADDITIVE CONSTANT		0	132-133	START BYTE	BYTES/ ELEMENT	22 2	162-163	ADDITIVE CONSTANT		0
104-105	CHAR. 1	CHAR. 2	<i>Minute of Hour Data Ends</i>	134-135	UNUSED	UNITS CODE	0 51	164-165	CHAR. 1	CHAR. 2	<i>Second of Ascending Node</i>
	E	M				0		A	S		
106-107	CHAR. 3	CHAR. 4		136-137	MULT. MANTISSA	EXPONENT	1 0	166-167	CHAR. 3	CHAR. 4	
	N				1	0		E	C		
108-109	START BYTE	BYTES/ ELEMENT		138-139	ADDITIVE CONSTANT		0	168-169	START BYTE	BYTES/ ELEMENT	
	20	1							26	1	
110-111	UNUSED	UNITS CODE		140-141	CHAR. 1	CHAR. 2	<i>Hour of Ascending Node</i>	170-171	UNUSED	UNITS CODE	
	0	49			A	H			0	12	
112-113	MULT. MANTISSA	EXPONENT		142-143	CHAR. 3	CHAR. 4		172-173	MULT. MANTISSA	EXPONENT	
	1	0			R				1	0	
114-115	ADDITIVE CONSTANT		0	144-145	START BYTE	BYTES/ ELEMENT	24 1	174-175	ADDITIVE CONSTANT		0
116-117	CHAR. 1	CHAR. 2	<i>Second of Minute Data Ends</i>	146-157	UNUSED	UNITS CODE	0 50	176-177	CHAR. 1	CHAR. 2	<i>Logical Satellite ID</i>
	E	S				0		L	S		
118-119	CHAR. 3	CHAR. 4		148-149	MULT. MANTISSA	EXPONENT	1 0	178-179	CHAR. 3	CHAR. 4	
	E	C			1	0		I			

FIGURE 2.3.2-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

<u>BYTES</u>	
180-181	START BYTE
	27
182-183	BYTES/ ELEMENT
	1
182-183	UNUSED
	0
184-185	UNITS CODE
	19
184-185	MULT. MANTISSA
	1
186-187	EXPONENT
	0
186-187	ADDITIVE CONSTANT
	0
188-189	CHECKSUM
	(CALC. IN SMIDEF)

FIGURE 2.3.2-5 SDR SCAN HEADER DATA DESCRIPTION BLOCK

<u>BYTES</u>		
0-1	BLOCK LENGTH	17
2-3	MODE	SUBMODE
	3	17
4-5	NUMBER ELEMENTS	BYTES/SECTION
	2	6
6-7	NUMBER OF SECTIONS	
	1	
8-9	CHAR. 1	CHAR. 2
	C	N
10-11	CHAR. 3	CHAR. 4
	T	R
12-13	START BYTE	BYTES/ELEMENT
	4	2
14-15	UNUSED	UNITS CODE
	0	19
16-17	MULT. MANTISSA	EXPONENT
	1	0
18-19	ADDITIVE CONSTANT	
	0	
20-21	CHAR. 1	CHAR. 2
	B	S
22-23	CHAR. 3	CHAR. 4
	T	M
24-25	START BYTE	BYTES/ELEMENT
	6	4
26-27	UNUSED	UNITS CODE
	0	12
28-29	MULT. MANTISSA	EXPONENT
	1	0

Counter

B-Scan Start Time

<u>BYTES</u>	
30-31	ADDITIVE CONSTANT
	0
32-33	CHECKSUM (CALC. IN SMIDEF)

FIGURE 2.3.2-6 SDR DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH	185	30-31	ADDITIVE CONSTANT	0	60-61	START BYTE	BYTES/ELEMENT
2-3	MODE	3	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	SUBMODE	17		L	0		0	1
4-5	NUMBER ELEMENTS	30	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXONENT
	BYTES/SECTION	52		N			1	-2
6-7	NUMBER OF SECTIONS	64	36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	0
				8	2			
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
	C	N		0	45		T	2
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXONENT	70-71	CHAR. 3	CHAR. 4
	T	R		1	-2		2	V
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT	0	72-73	START BYTE	BYTES/ELEMENT
	4	2					14	2
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	19		T	1		0	1
16-17	MULT. MANTISSA	EXONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXONENT
	1	0		9	V		1	-2
18-19	ADDITIVE CONSTANT	0	48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	0
				10	2			
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	L	A		0	1		T	3
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXONENT	82-83	CHAR. 3	CHAR. 4
	T			1	-2		7	V
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT	0	84-85	START BYTE	BYTES/ELEMENT
	6	2					14	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	45		T	1		0	1
28-29	MULT. MANTISSA	EXONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXONENT
	1	-2		9	H		1	-2

Counter

Latitude

Longitude

19 GHz V
Brightness
Temp.

19 GHz H
Brightness
Temp.

22 GHz V
Brightness
Temp.

37 GHz V
Brightness
Temp.

FIGURE 2.3.2-6 SDR DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
98-91	ADDITIVE CONSTANT		120-121	START BYTE	BYTES/ ELEMENT	150-151	ADDITIVE CONSTANT	
	0			22	2		0	
92-93	CHAR. 1	CHAR. 2	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1	CHAR. 2
	T	3		0	1		L	A
94-95	CHAR. 3	CHAR. 4	124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3	CHAR. 4
	7	H		1	-2		T	
96-97	START BYTE	BYTES/ ELEMENT	126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ ELEMENT
	16	2		0			26	2
98-99	UNUSED	UNITS CODE	128-129	CHAR. 1	CHAR. 2	158-159	UNUSED	UNITS CODE
	0	1		S	T		0	45
100-101	MULT. MANTISSA	EXPONENT	130-131	CHAR. 3	CHAR. 4	160-161	MULT. MANTISSA	EXPONENT
	1	-2		Y	P		1	-2
102-103	ADDITIVE CONSTANT		132-133	START BYTE	BYTES/ ELEMENT	162-163	ADDITIVE CONSTANT	
	0			24	1		0	
104-105	CHAR. 1	CHAR. 2	134-135	UNUSED	UNITS CODE	164-165	CHAR. 1	CHAR. 2
	T	8		0	19		L	0
106-107	CHAR. 3	CHAR. 4	136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3	CHAR. 4
	5	V		1	0		N	
108-109	START BYTE	BYTES/ ELEMENT	138-139	ADDITIVE CONSTANT		168-169	START BYTE	BYTES/ ELEMENT
	18	2		0			28	2
110-111	UNUSED	UNITS CODE	140-141	CHAR. 1	CHAR. 2	170-171	UNUSED	UNITS CODE
	0	1		P	O		0	45
112-113	MULT. MANTISSA	EXPONENT	142-143	CHAR. 3	CHAR. 4	172-173	MULT. MANTISSA	EXPONENT
	1	-2		N	O		1	-2
114-115	ADDITIVE CONSTANT		144-145	START BYTE	BYTES/ ELEMENT	174-175	ADDITIVE CONSTANT	
	0			25	1		0	
116-117	CHAR. 1	CHAR. 2	146-157	UNUSED	UNITS CODE	176-177	CHAR. 1	CHAR. 2
	T	8		0	19		T	8
118-119	CHAR. 3	CHAR. 4	148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3	CHAR. 4
	5	H		1	0		5	V

FIGURE 2.3.2-6 SDR DATA DESCRIPTION BLOCK (Continued)

BYTES	START BYTE	BYTES/ ELEMENT	BYTES	ADDITIVE CONSTANT	BYTES	START BYTE	BYTES/ ELEMENT
180-181	30	2	210-211	0	240-241	38	2
182-183	UNUSED 0	UNITS CODE 1	212-213	CHAR. 1 P	242-243	UNUSED 0	UNITS CODE 45
184-185	MULT. MANTISSA 1	EXPONENT -2	214-215	CHAR. 2 O	244-245	MULT. MANTISSA 1	EXPONENT -2
186-187	ADDITIVE CONSTANT 0		216-217	CHAR. 3 N	246-247	ADDITIVE CONSTANT 0	
188-189	CHAR. 1 T	CHAR. 2 8	218-219	START BYTE 35	248-249	CHAR. 1 T	CHAR. 2 8
190-191	CHAR. 3 5	CHAR. 4 H	220-221	UNITS CODE 19	250-251	CHAR. 3 5	CHAR. 4 V
192-193	START BYTE 32	BYTES/ ELEMENT 2	222-223	MULT. MANTISSA 1	252-253	START BYTE 40	BYTES/ ELEMENT 2
194-195	UNUSED 0	UNITS CODE 1	224-225	EXPONENT 0	254-255	UNUSED 0	UNITS CODE 1
196-197	MULT. MANTISSA 1	EXPONENT -2	226-227	ADDITIVE CONSTANT 0	256-257	MULT. MANTISSA 1	EXPONENT -2
198-199	CHAR. 1 S	CHAR. 2 T	228-229	CHAR. 1 L	258-259	ADDITIVE CONSTANT 0	
200-201	CHAR. 3 Y	CHAR. 4 P	230-231	CHAR. 2 A	260-261	CHAR. 1 T	CHAR. 2 8
202-203	START BYTE 34	BYTES/ ELEMENT 1	232-233	UNITS CODE 45	262-263	CHAR. 3 5	CHAR. 4 H
204-205	UNUSED 0	UNITS CODE 19	234-235	MULT. MANTISSA 1	264-265	START BYTE 42	BYTES/ ELEMENT 2
206-207	MULT. MANTISSA 1	EXPONENT 0	236-237	EXPONENT -2	266-267	UNUSED 0	UNITS CODE 1
208-209	ADDITIVE CONSTANT 0		238-239	ADDITIVE CONSTANT 0	268-269	MULT. MANTISSA 1	EXPONENT -2

FIGURE 2.3.2-6 SDR DATA DESCRIPTION BLOCK (Continued)

270-271	BYTES ADDITIVE CONSTANT 0			300-301	START BYTE 46	BYTES/ ELEMENT 2		330-331	BYTES ADDITIVE CONSTANT 0		
272-273	CHAR. 1 S	CHAR. 2 T	Surface Type	302-303	UNUSED 0	UNITS CODE 45		332-333	CHAR. 1 T	CHAR. 2 8	85 GHz H Brightness Temp.
274-275	CHAR. 3 Y	CHAR. 4 P		304-305	MULT. MANTISSA 1	EXPONENT -2		334-335	CHAR. 3 S	CHAR. 4 H	
276-277	START BYTE 44	BYTES/ ELEMENT 1		306-307	ADDITIVE CONSTANT 0			336-337	START BYTE 52	BYTES/ ELEMENT 2	
278-279	UNUSED 0	UNITS CODE 19		308-309	CHAR. 1 L	CHAR. 2 O	Longitude	338-339	UNUSED 0	UNITS CODE 1	
280-281	MULT. MANTISSA 1	EXPONENT 0	310-311	CHAR. 3 N	CHAR. 4			340-341	MULT. MANTISSA 1	EXPONENT -2	
282-283	ADDITIVE CONSTANT 0		312-313	START BYTE 48	BYTES/ ELEMENT 2			342-343	ADDITIVE CONSTANT 0		
284-285	CHAR. 1 P	CHAR. 2 0	Position Number	314-315	UNUSED 0	UNITS CODE 45		344-345	CHAR. 1 S	CHAR. 2 T	Surface Type
286-287	CHAR. 3 N	CHAR. 4 O		316-317	MULT. MANTISSA 1	EXPONENT -2		346-347	CHAR. 3 Y	CHAR. 4 P	
288-289	START BYTE 45	BYTES/ ELEMENT 1		318-319	ADDITIVE CONSTANT 0			348-349	START BYTE 54	BYTES/ ELEMENT 1	
290-291	UNUSED 0	UNITS CODE 19		320-321	CHAR. 1 T	CHAR. 2 8	85 GHz V Brightness Temp.	350-351	UNUSED 0	UNITS CODE 19	
292-293	MULT. MANTISSA 1	EXPONENT 0	322-323	CHAR. 3 5	CHAR. 4 V			352-353	MULT. MANTISSA 1	EXPONENT 0	
294-295	ADDITIVE CONSTANT 0		324-325	START BYTE 50	BYTES/ ELEMENT 2			354-355	ADDITIVE CONSTANT 0		
296-297	CHAR. 1 L	CHAR. 2 A	Latitude	326-327	UNUSED 0	UNITS CODE 1		356-357	CHAR. 1 P	CHAR. 2 O	Position Number
298-299	CHAR. 3 T	CHAR. 4		328-329	MULT. MANTISSA 1	EXPONENT -2		358-359	CHAR. 3 N	CHAR. 4 O	

FIGURE 2.3.2-6 SDR DATA DESCRIPTION BLOCK (Continued)

<u>BYTES</u>	
360-361	START BYTE
	55
362-363	BYTES/ ELEMENT
	1
362-363	UNUSED
	0
364-365	UNITS CODE
	19
364-365	MULT. MANTISSA
	1
366-367	EXPONENT
	0
366-367	ADDITIVE CONSTANT
	0
368-369	CHECKSUM
	(Calc. in SMIDEF)

FIGURE 2.3.2-7 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
16-17	SEC. DATA BEGINS
18-19	DAY DATA ENDS(2)
20-21	MIN. DATA ENDS
22-23	JULIAN DAY OF 1ST ASCENDING NODE
24-25	HR. 1ST A.N.
26-27	SEC. 1ST A.N.
28-29	CHECKSUM

FIGURE 2.3.2-8 SDR SCAN HEADER BLOCK FORMAT

<u>BYTES</u>	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	SCAN COUNTER
6-9	B-SCAN START TIME
10-11	CHECKSUM

FIGURE 2.3.2-9 SDR DATA BLOCK FORMAT

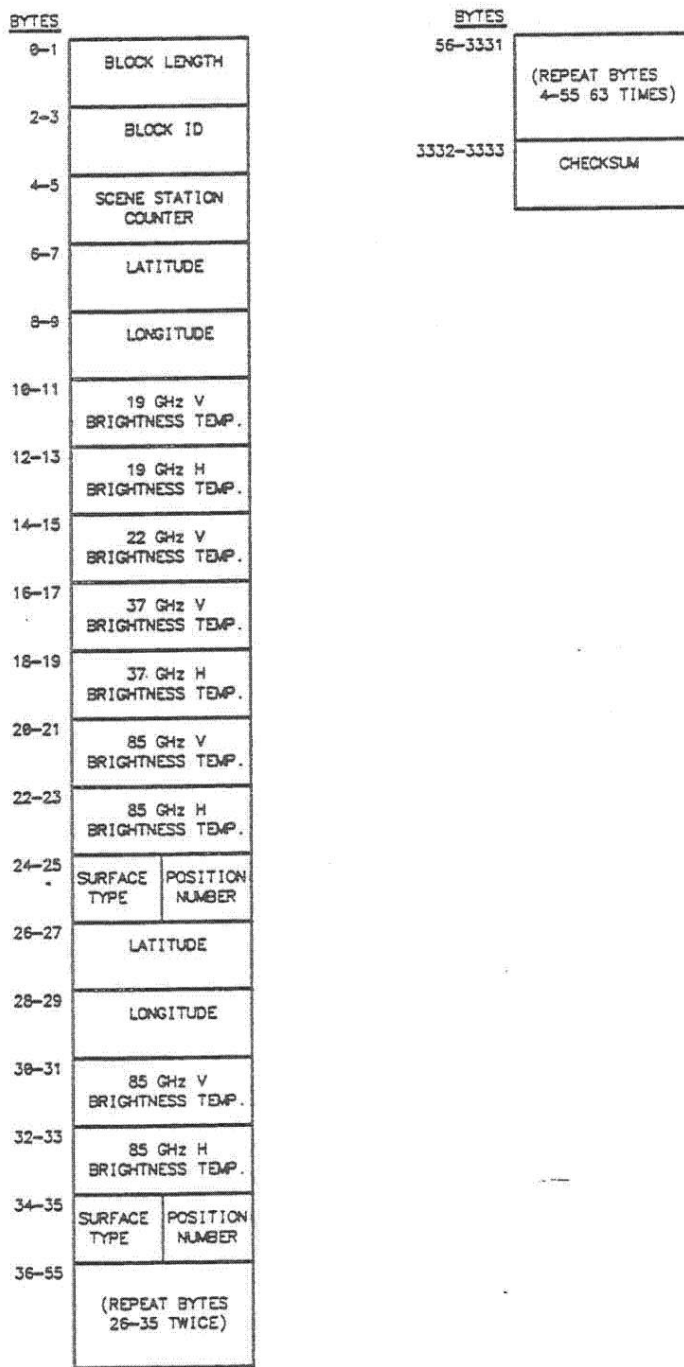


FIGURE 2.3.2-10 END OF PRODUCT BLOCK

<u>BYTES</u>							
0-1	<table><tr><td colspan="2">BLOCK LENGTH</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">3</td></tr></table>	BLOCK LENGTH		-----		3	
BLOCK LENGTH							

3							
2-3	<table><tr><td>MODE</td><td>SUBMODE</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>1</td><td>2</td></tr></table>	MODE	SUBMODE	-----	-----	1	2
MODE	SUBMODE						
-----	-----						
1	2						
4-5	<table><tr><td colspan="2">CHECKSUM</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">177373</td></tr></table>	CHECKSUM		-----		177373	
CHECKSUM							

177373							

2.3.3.2 Physical Interface Specification

1. Product Identification block
2. Data Sequence block
3. Rev Header Data Description block
4. Scan Header Data Description block
5. EDR Data Description block

Following the header blocks are the DEF EDR data blocks. These blocks contain the data from the SMI EDR file reformatted into DEF. The Rev header information is contained in the Rev Header Data block. Scan header data for one A/B scan pair is stored in the EDR Data block. The scan data is stored in the EDR Data block. The Scan Header block and the EDR Data block are repeated in the file once for every A/B scan pair contained in the SMI EDR File. An End of Product block concludes the file. Figure 2.3.3-1 shows the overall file structure. Figures 2.3.3-2 through 2.3.3-10 show the formats for each block in the file. Numeric data shown in the block figures are right-justified; ASCII character data are left-justified. The numeric values are displayed in decimal except for Mode, Submode, Units, and Checksum; these values are displayed in octal.

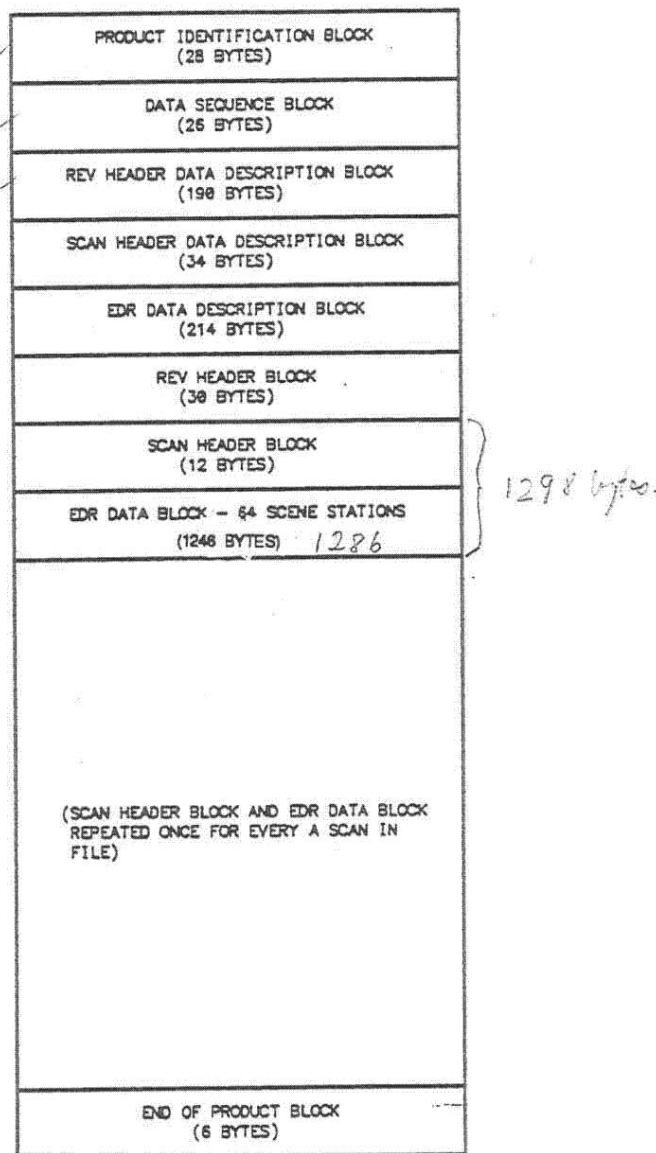
Each DEF block made in SMIDEF starts with block length and ends with checksum. DEF does not require the length or checksum of the block to be included. To indicate whether or not these two byte pairs are included, the first two bits of the block are flags. The first flag indicates if length has been left off and the second flag indicates if checksum has been left off. Since SMIDEF includes both length and checksum in all of its blocks, these two bits are always set to zero. For this reason, their presence is not indicated in the diagrams.

2.3.4 Radiative Transmissivity File (DEF Format) (RTYXXXXX.DEF)

2.3.4.1 Functional Description

This file contains all the data contained in the SMI RT File but in DEF.

FIGURE 2.3.3-1 DEFEDR FILE FORMAT



(EDR DEF FILE LENGTH APPROXIMATELY 1.718 Mb PER ORBIT)

FIGURE 2.3.3-2 EDR PRODUCT IDENTIFICATION BLOCK

<u>BYTES</u>	
0-1	BLOCK LENGTH
	14
2-3	MODE SUBMODE
	1 1
4-5	CHAR. 1 CHAR. 2
	F N
6-7	CHAR. 3 CHAR. 4
	O C
8-9	CLASSI- FILE
	FICATION LIFETIME
	U 255
10-11	FILE IN- CHAR. 2
	DICATOR
	T S
12-13	CHAR. 3 CHAR. 4
	M I
14-15	CHAR. 5 CHAR. 6
	E D
16-17	CHAR. 7 CHAR. 8
	R
18-19	CHAR. 9 CHAR. 10
	0 8
20-21	YEAR
	(Set by SMIDEF)
22-23	MONTH DAY
	(Set by SMIDEF)
24-25	HOUR MINUTE
	(Set by SMIDEF)
26-27	CHECKSUM
	(Calc. in SMIDEF)

Originator ID

Product Identifier

FIGURE 2.3.3-3 EDR DATA SEQUENCE BLOCK

BYTES	
0-1	BLOCK LENGTH 13
2-3	MODE SUBMODE 3 19
4-5	NUMBER OF LOOPS 3
6-7	START LOOP NUMBER 1 <i>Rev Header Block</i>
8-9	NUMBER OF DATA BLOCKS 1
10-11	END LOOP NUMBER 1
12-13	START LOOP NUMBER 2 <i>Scan Header Block</i>
14-15	NUMBER OF DATA BLOCKS (Set in SMIDEF)
16-17	START LOOP NUMBER 3 <i>EDR Data Block</i>
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)

FIGURE 2.3.3-4 REV HEADER DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH		30-31	ADDITIVE CONSTANT		60-61	START BYTE	BYTES/ELEMENT
	95			0			15	1
2-3	MODE	SUBMODE	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	3	17		B	J		0	49
4-5	NUMBER ELEMENTS	BYTES/SECTION	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
	15	24		L	D		1	0
6-7	NUMBER OF SECTIONS		36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	
	1			12	2		0	
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
	S	C		0	51		B	S
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
	I	D		1	0		E	C
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT		72-73	START BYTE	BYTES/ELEMENT
	4	4		0			16	1
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	19		B	H		0	12
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
	1	0		R			1	0
18-19	ADDITIVE CONSTANT		48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	
	0			14	1		0	
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	R	E		0	50		E	J
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
	V	#		1	0		L	D
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT		84-85	START BYTE	BYTES/ELEMENT
	8	4		0			17	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	19		B	M		0	51
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT
	1	0		N			1	0

Spacecraft ID

Julian Day Data Begins

Hour of Day Data Begins

Second of Min. Data Begins

Julian Day Data Ends

Minute of Hour Data Begins

FIGURE 2.3.3-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
98-91	ADDITIVE CONSTANT		120-121	START BYTE	BYTES/ELEMENT	150-151	ADDITIVE CONSTANT	
	0			21	1		0	
92-93	CHAR. 1	CHAR. 2	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1	CHAR. 2
	E	H		0	12		A	M
94-95	Hour of Day Data Ends		124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3	CHAR. 4
	CHAR. 3	CHAR. 4		1	0		N	
96-97	START BYTE	BYTES/ELEMENT	126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ELEMENT
	19	1		0			25	1
98-99	UNUSED	UNITS CODE	128-129	CHAR. 1	CHAR. 2	158-159	UNUSED	UNITS CODE
	0	50		A	J		0	49
100-101	MULT. MANTISSA	EXPONENT	130-131	CHAR. 3	CHAR. 4	160-161	MULT. MANTISSA	EXPONENT
	1	0		L	D		1	0
102-103	ADDITIVE CONSTANT		132-133	START BYTE	BYTES/ELEMENT	162-163	ADDITIVE CONSTANT	
	0			22	2		0	
104-105	CHAR. 1	CHAR. 2	134-135	UNUSED	UNITS CODE	164-165	CHAR. 1	CHAR. 2
	E	M		0	51		A	S
106-107	CHAR. 3	CHAR. 4	136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3	CHAR. 4
	N			1	0		E	C
108-109	START BYTE	BYTES/ELEMENT	138-139	ADDITIVE CONSTANT		168-169	START BYTE	BYTES/ELEMENT
	20	1		0			26	1
110-111	UNUSED	UNITS CODE	140-141	CHAR. 1	CHAR. 2	170-171	UNUSED	UNITS CODE
	0	49		A	H		0	12
112-113	MULT. MANTISSA	EXPONENT	142-143	CHAR. 3	CHAR. 4	172-173	MULT. MANTISSA	EXPONENT
	1	0		R			1	0
114-115	ADDITIVE CONSTANT		144-145	START BYTE	BYTES/ELEMENT	174-175	ADDITIVE CONSTANT	
	0			24	1		0	
116-117	CHAR. 1	CHAR. 2	146-157	UNUSED	UNITS CODE	176-177	CHAR. 1	CHAR. 2
	E	S		0	50		L	S
118-119	CHAR. 3	CHAR. 4	148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3	CHAR. 4
	E	C		1	0		I	

FIGURE 2.3.3-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES	
180-181	START BYTE
	27
182-183	BYTES/ ELEMENT
	1
182-183	UNUSED
	0
184-185	UNITS CODE
	19
184-185	MULT. MANTISSA
	1
186-187	EXPONENT
	0
186-187	ADDITIVE CONSTANT
	0
188-189	CHECKSUM (CALC. IN SMIDEF)

FIGURE 2.3.3-5 EDR SCAN HEADER DATA DESCRIPTION BLOCK

BYTES		
0-1	BLOCK LENGTH	17
2-3	MODE	SUBMODE
	3	17
4-5	NUMBER ELEMENTS	BYTES/SECTION
	2	6
6-7	NUMBER OF SECTIONS	
	1	
8-9	CHAR. 1	CHAR. 2
	C	N
10-11	CHAR. 3	CHAR. 4
	T	R
12-13	START BYTE	BYTES/ELEMENT
	4	2
14-15	UNUSED	UNITS CODE
	0	19
16-17	MULT. MANTISSA	EXPONENT
	1	0
18-19	ADDITIVE CONSTANT	
	0	
20-21	CHAR. 1	CHAR. 2
	B	S
22-23	CHAR. 3	CHAR. 4
	T	M
24-25	START BYTE	BYTES/ELEMENT
	6	4
26-27	UNUSED	UNITS CODE
	0	12
28-29	MULT. MANTISSA	EXPONENT
	1	0

Counter

B-Scan Start Time

BYTES	
30-31	ADDITIVE CONSTANT
	0
32-33	CHECKSUM
	(CALC. IN SMIDEF)

FIGURE 2.3.3-6 EDR DATA DESCRIPTION BLOCK

BYTES	0-1	BLOCK LENGTH 107	
2-3		MODE 3	SUBMODE 17
4-5		NUMBER OF ELEMENTS 17	BYTES/SECTION 28
6-7		NUMBER OF SECTIONS 62	
8-9		CHAR. 1 C	CHAR. 2 N
10-11		CHAR. 3 T	CHAR. 4 R
12-13		START BYTE 4	BYTES/ELEMENT 2
14-15		UNUSED 0	UNITS CODE 19
16-17		MULT. MANTISSA 1	EXPONENT 0
18-19		ADDITIVE CONSTANT 0	
20-21		CHAR. 1 L	CHAR. 2 A
22-23		CHAR. 3 T	CHAR. 4
24-25		START BYTE 6	BYTES/ELEMENT 2
26-27		UNUSED 0	UNITS CODE 45
28-29		MULT. MANTISSA 1	EXPONENT -2
BYTES	30-31	ADDITIVE CONSTANT 0	
32-33		CHAR. 1 L	CHAR. 2 O
34-35		CHAR. 3 N	CHAR. 4
36-37		START BYTE 8	BYTES/ELEMENT 2
38-39		UNUSED 0	UNITS CODE 45
40-41		MULT. MANTISSA 1	EXPONENT -2
42-43		ADDITIVE CONSTANT 0	
44-45		CHAR. 1 S	CHAR. 2 T
46-47		CHAR. 3 Y	CHAR. 4 P
48-49		START BYTE 10	BYTES/ELEMENT 1
50-51		UNUSED 0	UNITS CODE 19
52-53		MULT. MANTISSA 1	EXPONENT 0
54-55		ADDITIVE CONSTANT 0	
56-57		CHAR. 1 C	CHAR. 2 W
58-59		CHAR. 3	CHAR. 4
BYTES	60-61	START BYTE 11	BYTES/ELEMENT 1
62-63		UNUSED 0	UNITS CODE 22
64-65		MULT. MANTISSA 5	EXPONENT -2
66-67		ADDITIVE CONSTANT 0	
68-69		CHAR. 1 S	CHAR. 2 P
70-71		CHAR. 3 A	CHAR. 4 R
72-73		START BYTE 12	BYTES/ELEMENT 1
74-75		UNUSED 0	UNITS CODE 22
76-77		MULT. MANTISSA 1	EXPONENT -1
78-79		ADDITIVE CONSTANT 0	
80-81		CHAR. 1 R	CHAR. 2 R
82-83		CHAR. 3	CHAR. 4
84-85		START BYTE 13	BYTES/ELEMENT 1
86-87		UNUSED 0	UNITS CODE 62
88-89		MULT. MANTISSA 1	EXPONENT 0

FIGURE 2.3.3-6 EDR DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
90-91	ADDITIVE CONSTANT		120-121	START BYTE	BYTES/ELEMENT	150-151	ADDITIVE CONSTANT	
	0			16	1		0	
92-93	CHAR. 1	CHAR. 2	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1	CHAR. 2
	S	W		0	19		W	V
94-95	CHAR. 3	CHAR. 4	124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3	CHAR. 4
				1	0			
96-97	START BYTE	BYTES/ELEMENT	126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ELEMENT
	14	1		0			19	1
98-99	UNUSED	UNITS CODE	128-129	CHAR. 1	CHAR. 2	158-159	UNUSED	UNITS CODE
	0	4		I	A		0	22
100-101	MULT. MANTISSA	EXPONENT	130-131	CHAR. 3	CHAR. 4	160-161	MULT. MANTISSA	EXPONENT
	1	0					5	-1
102-103	ADDITIVE CONSTANT		132-133	START BYTE	BYTES/ELEMENT	162-163	ADDITIVE CONSTANT	
	0			17	1		0	
104-105	CHAR. 1	CHAR. 2	134-135	UNUSED	UNITS CODE	164-165	CHAR. 1	CHAR. 2
	S	M		0	19		T	M
106-107	CHAR. 3	CHAR. 4	136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3	CHAR. 4
				1	0		P	S
108-109	START BYTE	BYTES/ELEMENT	138-139	ADDITIVE CONSTANT		168-169	START BYTE	BYTES/ELEMENT
	15	1		0			20	1
110-111	UNUSED	UNITS CODE	140-141	CHAR. 1	CHAR. 2	170-171	UNUSED	UNITS CODE
	0	19		I	E		0	1
112-113	MULT. MANTISSA	EXPONENT	142-143	CHAR. 3	CHAR. 4	172-173	MULT. MANTISSA	EXPONENT
	1	0					1	0
114-115	ADDITIVE CONSTANT		144-145	START BYTE	BYTES/ELEMENT	174-175	ADDITIVE CONSTANT	
	0			18	1		180	
116-117	CHAR. 1	CHAR. 2	146-157	UNUSED	UNITS CODE	176-177	CHAR. 1	CHAR. 2
	I	C		0	19		S	P
118-119	CHAR. 3	CHAR. 4	148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3	CHAR. 4
				1	0		A	R

FIGURE 2.3.3-6 EDR DATA DESCRIPTION BLOCK (Continued)

BYTES	
180-181	START BYTE
21	1
182-183	UNUSED
0	8
184-185	MULT. MANTISSA
1	0
186-187	ADDITIVE CONSTANT
0	
188-189	CHAR. 1 CHAR. 2
R	F
190-191	CHAR. 3 CHAR. 4
L	G
192-193	START BYTE
22	1
194-195	UNUSED
0	22
196-197	MULT. MANTISSA
1	0
198-199	ADDITIVE CONSTANT
0	
200-201	CHAR. 1 CHAR. 2
E	T
202-203	CHAR. 3 CHAR. 4
Y	P
204-205	START BYTE
23	1
206-207	UNUSED
0	19
208-209	MULT. MANTISSA
1	0

Rain
Flag

HR
Surface
Type

BYTES	
210-211	ADDITIVE CONSTANT
0	
212-213	CHECKSUM
(CALC. IN SMIDEF)	

FIGURE 2.3.3-7 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

FIGURE 2.3.3-8 EDR SCAN HEADER BLOCK FORMAT

<u>BYTES</u>	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	SCAN COUNTER
6-9	B-SCAN START TIME
10-11	CHECKSUM

FIGURE 2.3.3-9 EDR DATA BLOCK FORMAT

BYTES	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	ALL SCENE STATION COUNTER
6-7	LATITUDE
8-9	LONGITUDE
10-11	SURFACE TAG CLOUD WATER
12-13	SPARE RAIN RATE
14-15	WIND SPEED SOIL MOISTURE
16-17	ICE CONC. ICE AGE
18-19	ICE EDGE WATER VAPOR
20-21	SURFACE TEMP. SPARE
22-23	RAIN FLAG CALC. S. TYPE
24-1243	(REPEAT BYTES 4-23 61 TIMES)
1244-1245	CHECKSUM

FIGURE 2.3.3-10 END OF PRODUCT BLOCK

<u>BYTES</u>							
0-1	<table><tr><td colspan="2">BLOCK LENGTH</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">3</td></tr></table>	BLOCK LENGTH		-----		3	
BLOCK LENGTH							

3							
2-3	<table><tr><td>MODE</td><td>SUBMODE</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>1</td><td>2</td></tr></table>	MODE	SUBMODE	-----	-----	1	2
MODE	SUBMODE						
-----	-----						
1	2						
4-5	<table><tr><td colspan="2">CHECKSUM</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">177373</td></tr></table>	CHECKSUM		-----		177373	
CHECKSUM							

177373							

2.3.4.2 Physical Interface Specification

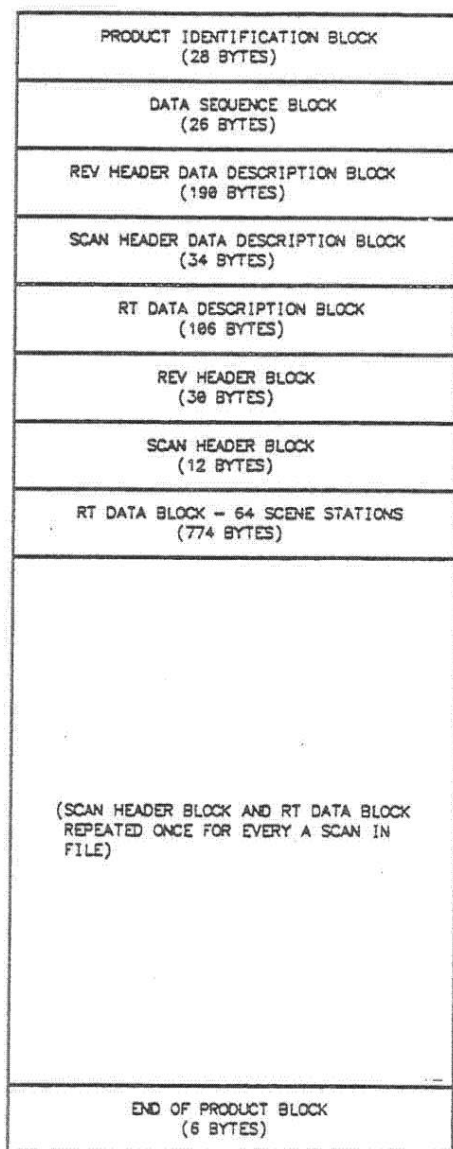
The DEF RT File begins with the following DEF header blocks:

1. Product Identification block
2. Data Sequence block
3. Rev Header Data Description block
4. Scan Header Data Description block
5. RT Data Description block

Following the header blocks are the DEF RT data blocks. These blocks contain the data from the SMI RT file reformatted into DEF. The Rev header information is contained in the Rev Header Data block. Scan header data for one A/B scan pair is stored in the Scan Header Data block. The scan data is stored in the RT Data block. The Scan Header block and the RT Data block are repeated in the file once for every A/B scan pair contained in the SMI RT File. An End of Product block concludes the file. Figure 2.3.4-1 shows the overall file structure. Figures 2.3.4-2 through 2.3.4-10 show the formats for each block in the file. Numeric data shown in the block figures are right-justified; ASCII character data are left-justified. The numeric values are displayed in decimal except for Mode, Submode, Units, and Checksum; these values are displayed in octal.

Each DEF block made in SMIDEF starts with block length and ends with checksum. DEF does not require the length or checksum of the block to be included. To indicate whether or not these two byte pairs are included, the first two bits of the block are flags. The first flag indicates if length has been left off and the second flag indicates if checksum has been left off. Since SMIDEF includes both length and checksum in all of its blocks, these two bits are always set to zero. For this reason, their presence is not indicated in the diagrams.

FIGURE 2.3.4-1 DEF RT FILE FORMAT



(DEF RT FILE LENGTH APPROXIMATELY MB PER ORBIT)

FIGURE 2.3.4-2 RT PRODUCT IDENTIFICATION BLOCK

BYTES	
8-1	BLOCK LENGTH
	14
2-3	MODE SUBMODE
	1 1
4-5	CHAR. 1 CHAR. 2
	F N
6-7	CHAR. 3 CHAR. 4
	O C
8-9	CLASSI- FILE
	FICATION LIFETIME
	U 255
10-11	FILE IN- CHAR. 2
	DICATOR
	T S
12-13	CHAR. 3 CHAR. 4
	M I
14-15	CHAR. 5 CHAR. 6
	R T
16-17	CHAR. 7 CHAR. 8
	Y
18-19	CHAR. 9 CHAR. 10
	0 8
20-21	YEAR
	(Set by SMIDEF)
22-23	MONTH DAY
	(Set by SMIDEF)
24-25	HOUR MINUTE
	(Set by SMIDEF)
26-27	CHECKSUM
	(Calc. in SMIDEF)

Originator ID

Product Identifier

FIGURE 2.3.4-3 RT DATA SEQUENCE BLOCK

BYTES	
0-1	BLOCK LENGTH 13
2-3	MODE SUBMODE 3 19
4-5	NUMBER OF LOOPS 3
6-7	START LOOP NUMBER 1 <i>Rev Header Block</i>
8-9	NUMBER OF DATA BLOCKS 1
10-11	END LOOP NUMBER 1
12-13	START LOOP NUMBER 2 <i>Scan Header Block</i>
14-15	NUMBER OF DATA BLOCKS (Set in SWIDEF)
16-17	START LOOP NUMBER 3 <i>RT Data Block</i>
18-19	NUMBER OF DATA BLOCKS 1
20-21	END LOOP NUMBER 3
22-23	END LOOP NUMBER 2
24-25	CHECKSUM (Calc. in SWIDEF)

FIGURE 2.3.4-4 REV HEADER DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH	95	30-31	ADDITIVE CONSTANT	0	60-61	START BYTE	BYTES/ELEMENT
2-3	MODE	3	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	SUBMODE	17		B	J		0	49
4-5	NUMBER OF ELEMENTS	15	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
	BYTES/SECTION	24		L	D		1	0
6-7	NUMBER OF SECTIONS	1	36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	0
8-9	CHAR. 1	CHAR. 2		12	2		0	
	S	C	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
				0	51		B	S
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
	I	D		1	0		E	C
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT	0	72-73	START BYTE	BYTES/ELEMENT
	4	4		0			16	1
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	19		B	H		0	12
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
	1	0		R			1	0
18-19	ADDITIVE CONSTANT	0	48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	0
	0			14	1		0	
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	R	E		0	50		E	J
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
	V	#		1	0		L	D
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT	0	84-85	START BYTE	BYTES/ELEMENT
	8	4		0			17	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	19		B	M		0	51
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT
	1	0		N			1	0

Space-craft ID

Rev/Orbit Number

Julian Day Data Begins

Hour of Day Data Begins

Minute of Hour Data Begins

Second of Min. Data Begins

Julian Day Data Ends

FIGURE 2.3.4-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
90-91	ADDITIVE CONSTANT		120-121	START BYTE	BYTES/ ELEMENT	150-151	ADDITIVE CONSTANT	
	0			21	1		0	
92-93	CHAR. 1	CHAR. 2	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1	CHAR. 2
	E	H		0	12		A	M
94-95	Hour of Day Data Ends		124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3	CHAR. 4
	CHAR. 3	CHAR. 4		1	0		N	
	R		126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ ELEMENT
96-97				0			25	1
98-99	START BYTE	BYTES/ ELEMENT	128-129	CHAR. 1	CHAR. 2	158-159	UNUSED	UNITS CODE
	19	1		A	J		0	49
	UNUSED	UNITS CODE	130-131	CHAR. 3	CHAR. 4	160-161	MULT. MANTISSA	EXPONENT
	0	50		L	D		1	0
100-101	MULT. MANTISSA	EXPONENT	132-133	START BYTE	BYTES/ ELEMENT	162-163	ADDITIVE CONSTANT	
	1	0		22	2		0	
102-103	ADDITIVE CONSTANT		134-135	UNUSED	UNITS CODE	164-165	CHAR. 1	CHAR. 2
	0			0	51		A	S
104-105	CHAR. 1	CHAR. 2	136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3	CHAR. 4
	E	M		1	0		E	C
106-107	CHAR. 3	CHAR. 4	138-139	ADDITIVE CONSTANT		168-169	START BYTE	BYTES/ ELEMENT
	N			0			26	1
108-109	START BYTE	BYTES/ ELEMENT	140-141	CHAR. 1	CHAR. 2	170-171	UNUSED	UNITS CODE
	20	1		A	H		0	12
110-111	UNUSED	UNITS CODE	142-143	CHAR. 3	CHAR. 4	172-173	MULT. MANTISSA	EXPONENT
	0	49		R			1	0
112-113	MULT. MANTISSA	EXPONENT	144-145	START BYTE	BYTES/ ELEMENT	174-175	ADDITIVE CONSTANT	
	1	0		24	1		0	
114-115	ADDITIVE CONSTANT		146-157	UNUSED	UNITS CODE	176-177	CHAR. 1	CHAR. 2
	0			0	50		L	S
116-117	CHAR. 1	CHAR. 2	148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3	CHAR. 4
	E	S		1	0		I	
118-119	CHAR. 3	CHAR. 4						
	E	C						

FIGURE 2.3.4-4 REV HEADER DATA DESCRIPTION BLOCK (Continued)

BYTES		
180-181	START BYTE	BYTES/ ELEMENT
	27	1
182-183	UNUSED	UNITS CODE
	0	19
184-185	MULT. MANTISSA	EXPONENT
	1	0
186-187	ADDITIVE CONSTANT	
	0	
188-189	CHECKSUM	
	(CALC. IN SMIDEF)	

FIGURE 2.3.4-5 RT SCAN HEADER DATA DESCRIPTION BLOCK

BYTES		
0-1	BLOCK LENGTH	17
2-3	MODE	SUBMODE
	3	17
4-5	NUMBER ELEMENTS	BYTES/SECTION
	2	6
6-7	NUMBER OF SECTIONS	
	1	
8-9	CHAR. 1	CHAR. 2
	C	N
10-11	CHAR. 3	CHAR. 4
	T	R
12-13	START BYTE	BYTES/ELEMENT
	4	2
14-15	UNUSED	UNITS CODE
	0	19
16-17	MULT. MANTISSA	EXPONENT
	1	0
18-19	ADDITIVE CONSTANT	
	0	
20-21	CHAR. 1	CHAR. 2
	B	S
22-23	CHAR. 3	CHAR. 4
	T	M
24-25	START BYTE	BYTES/ELEMENT
	6	4
26-27	UNUSED	UNITS CODE
	0	12
28-29	MULT. MANTISSA	EXPONENT
	1	0

Counter

B-Scan Start Time

BYTES	
30-31	ADDITIVE CONSTANT
	0
32-33	CHECKSUM
	(CALC. IN SMIDEF)

FIGURE 2.3.4-6 RT DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH	53	30-31	ADDITIVE CONSTANT	0	60-61	START BYTE	BYTES/ELEMENT
2-3	MODE	3	32-33	CHAR. 1 CHAR. 2	Longitude	62-63	UNUSED	UNITS CODE
4-5	NUMBER OF ELEMENTS	8	34-35	CHAR. 3 CHAR. 4		64-65	MULT. MANTISSA	EXPONENT
5-7	NUMBER OF SECTIONS	64	36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	0
8-9	CHAR. 1 CHAR. 2	Counter	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1 CHAR. 2	37 GHz RT
10-11	CHAR. 3 CHAR. 4		40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3 CHAR. 4	
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT	0	72-73	START BYTE	BYTES/ELEMENT
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1 CHAR. 2	19 GHz RT	74-75	UNUSED	UNITS CODE
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3 CHAR. 4		76-77	MULT. MANTISSA	EXPONENT
18-19	ADDITIVE CONSTANT	0	48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	0
20-21	CHAR. 1 CHAR. 2	Latitude	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1 CHAR. 2	85 GHz RT
22-23	CHAR. 3 CHAR. 4		52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3 CHAR. 4	
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT	0	84-85	START BYTE	BYTES/ELEMENT
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1 CHAR. 2	22 GHz RT	86-87	UNUSED	UNITS CODE
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3 CHAR. 4		88-89	MULT. MANTISSA	EXPONENT

FIGURE 2.3.4-6 RT DATA DESCRIPTION BLOCK (Continued)

BYTES							
90-91	<table><tr><td colspan="2">ADDITIVE CONSTANT</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">0</td></tr></table>	ADDITIVE CONSTANT		-----		0	
ADDITIVE CONSTANT							

0							
92-93	<table><tr><td>CHAR. 1</td><td>CHAR. 2</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>S</td><td>T</td></tr></table> <i>Surface Type</i>	CHAR. 1	CHAR. 2	-----	-----	S	T
CHAR. 1	CHAR. 2						
-----	-----						
S	T						
94-95	<table><tr><td>CHAR. 3</td><td>CHAR. 4</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>Y</td><td>P</td></tr></table>	CHAR. 3	CHAR. 4	-----	-----	Y	P
CHAR. 3	CHAR. 4						
-----	-----						
Y	P						
96-97	<table><tr><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>14</td><td>2</td></tr></table>	START BYTE	BYTES/ ELEMENT	-----	-----	14	2
START BYTE	BYTES/ ELEMENT						
-----	-----						
14	2						
98-99	<table><tr><td>UNUSED</td><td>UNITS CODE</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>0</td><td>19</td></tr></table>	UNUSED	UNITS CODE	-----	-----	0	19
UNUSED	UNITS CODE						
-----	-----						
0	19						
100-101	<table><tr><td>MULT. MANTISSA</td><td>EXPONENT</td></tr><tr><td>-----</td><td>-----</td></tr><tr><td>1</td><td>0</td></tr></table>	MULT. MANTISSA	EXPONENT	-----	-----	1	0
MULT. MANTISSA	EXPONENT						
-----	-----						
1	0						
102-103	<table><tr><td colspan="2">ADDITIVE CONSTANT</td></tr><tr><td colspan="2">-----</td></tr><tr><td colspan="2">0</td></tr></table>	ADDITIVE CONSTANT		-----		0	
ADDITIVE CONSTANT							

0							
104-105	<table><tr><td>CHECKSUM</td></tr><tr><td>-----</td></tr><tr><td>(CALC. IN SMIDEF)</td></tr></table>	CHECKSUM	-----	(CALC. IN SMIDEF)			
CHECKSUM							

(CALC. IN SMIDEF)							

FIGURE 2.3.4-7 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
16-17	SEC. DATA BEGINS
18-19	DAY DATA ENDS(2)
20-21	MIN. DATA ENDS
22-23	JULIAN DAY OF 1ST ASCENDING NODE
24-25	HR. 1ST A.N.
26-27	SEC. 1ST A.N.
28-29	CHECKSUM

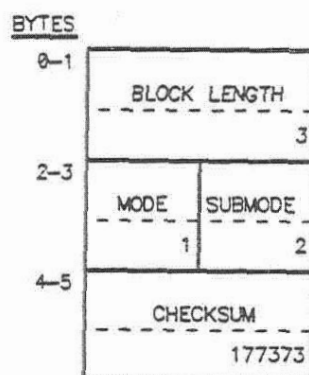
FIGURE 2.3.4-8 RT SCAN HEADER BLOCK FORMAT

<u>BYTES</u>	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	SCAN COUNTER
6-9	B-SCAN START TIME
10-11	CHECKSUM

FIGURE 2.3.4-9 RT DATA BLOCK FORMAT

BYTES	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-5	SCENE STATION COUNTER
6-7	LATITUDE
8-9	LONGITUDE
10-11	19 GHz RT 22 GHz RT
12-13	37 GHz RT 85 GHz RT
14-15	SURFACE TAG
16-771	(REPEAT BYTES 4-15 63 TIMES)
772-773	CHECKSUM

FIGURE 2.3.4-10 END OF PRODUCT BLOCK



2.3.5 Quality Data Record (SMIEQDRFL.DEF)

2.3.5.1 Functional Description

This file contains header information and statistical data gathered from the TDR File, the SDR File, and the EDR File, and limits used to analyze the statistics. All data in the file is stored in DEF. This permanent file is created by SMISHM to provide a monitor for sensor health.

2.3.5.2 Physical Interface Specification

The QDR File begins with the following DEF header blocks:

1. Product Identification block
2. Data Sequence block
3. Calibration Data Description block
4. Brightness Temperature (TBS) Header Data Description block
5. TBS Data Description block
6. Environmental Data Description block

Following the header blocks are the data blocks described below:

7. Calibration Data block - contains TDR header information, TDR calibration statistics gathered from the TDR File, limits for these statistics, and an out-of-limits flag indicating how many statistics have been determined to be out-of-limits.
8. TBS Header block - contains SDR header data, data quality checks from the SDR File, and an out-of-limits flag indicating how many brightness temperature statistics have been determined to be out-of-limits.
9. TBS Data block - contains SDR brightness temperature statistics and limits for these statistics.
10. Environmental Data block - contains header information and counts from the EDR File, maximum limits for the counts, and an out-of-limits flag indicating how many counts have been determined to be out-of-limits.

The four data blocks are repeated 20 times, once for each of the last 20 SSMI readouts processed. An end of Product block concludes the file. Figure 2.3.5-1 shows the overall file structure, and Figures 2.3.5-2 through 2.3.5-12 show the formats for each block in the file. Numeric data shown in the block figures are right-justified; ASCII character data are left-justified. The numeric values are displayed in decimal except for Mode, Submode, Units Code, and Checksum; these values are displayed in octal.

All DEF blocks made in SMISHM start with block length and ends with checksum. Data Exchange Format does not require the length or checksum of the block to be included. To indicate whether or not these two byte pairs are included, the first two bits of the block are flags. The first flag indicates if length has been left off and the second flag indicates if checksum has been left off. Since SMISHM includes both length and checksum in all of its blocks, these two bits are always set to zero. For this reason, their presence is not indicated in the diagrams.

2.4 INTERNALLY GENERATED DATA

2.4.1 Temperature Data Record File (SYVXXXXX.TDR)

2.4.1.1 Functional Description

This file contains calibrated, earth-located antenna temperatures stored prior to antenna pattern correction. It also contains all status, calibration, and radiometric quality indicators in the data stream. This file is created by selection of appropriate processing options.

2.4.1.2 Physical Interface Specification

The TDR file contains a header record that describes the orbit number and its ascending node time, the spacecraft ID, and the size of the file. Following this header, the file is ordered by A/B scan pairs; each of these is stored in a separate 3582 byte record.

Each A/B scan pair begins with a B scan start time. This is followed by the sensor status and calibration data and then the scene station data for the scan pair. All data in the file is in unsigned integer format.

FIGURE 2.3.5-1 QDR FILE FORMAT

PRODUCT IDENTIFICATION BLOCK (28 BYTES)
DATA SEQUENCE BLOCK (32 BYTES)
CALIBRATION DATA DESCRIPTION BLOCK (1318 BYTES)
TBS HEADER DATA DESCRIPTION BLOCK (94 BYTES)
TBS DATA DESCRIPTION BLOCK (478 BYTES)
ENVIRONMENTAL DATA DESCRIPTION BLOCK (622 BYTES)
CALIBRATION DATA BLOCK (232 BYTES)
TBS HEADER DATA BLOCK (32 BYTES)
TBS DATA BLOCK (786 BYTES)
ENVIRONMENTAL DATA BLOCK (208 BYTES)
(CALIBRATION, TBS HEADER, TBS AND ENVIRONMENTAL DATA BLOCKS REPEATED 19 TIMES)
END OF PRODUCT BLOCK (6 BYTES)

FIGURE 2.3.5-2 QDR PRODUCT IDENTIFICATION BLOCK

BYTES	
0-1	BLOCK LENGTH 14
2-3	MODE SUBMODE 1 1
4-5	CHAR. 1 CHAR. 2 F N
6-7	CHAR. 3 CHAR. 4 O C
8-9	CLASSI- FILE FICATION LIFETIME U 255
10-11	FILE IN- CHAR. 2 DICATOR 64 T
12-13	CHAR. 3 CHAR. 4 S M
14-15	CHAR. 5 CHAR. 6 I Q
16-17	CHAR. 7 CHAR. 8 D R
18-19	CHAR. 9 CHAR. 10 0 9
20-21	YEAR (Set by SMIDEF)
22-23	MONTH DAY (Set by SMIDEF)
24-25	HOURL MINUTE (Set by SMIDEF)
26-27	CHECKSUM (Calc. in SMIDEF)

Originator ID

Product Identifier

FIGURE 2.3.5-3 QDR DATA SEQUENCE BLOCK

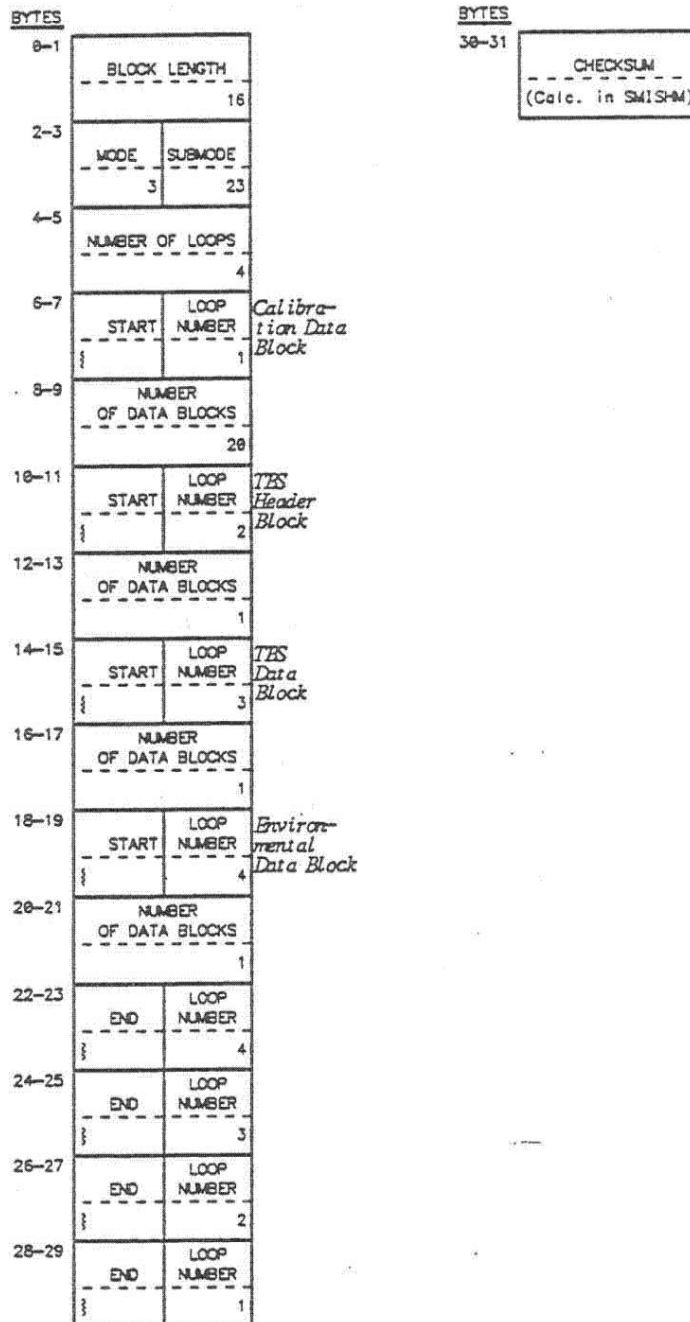


FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH		30-31	ADDITIVE CONSTANT		60-61	START BYTE	BYTES/ELEMENT
	659			0			16	2
2-3	MODE	SUBMODE	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	3	21		B	T		0	23
4-5	NUMBER ELEMENTS	BYTES/SECTION	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
	109	224		M	E		1	0
6-7	NUMBER OF SECTIONS		36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	
	1			8	4		0	
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
	S	C		0	14		S	P
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
	I	D		1	0		A	
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT		72-73	START BYTE	BYTES/ELEMENT
	0	4		0			18	2
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	23		E	T		0	14
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
	1	0		M	E		1	-4
18-19	ADDITIVE CONSTANT		48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	
	0			12	4		0	
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	R	E		0	14		S	P
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
	V	#		1	0		V	
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT		84-85	START BYTE	BYTES/ELEMENT
	4	4		0			20	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	23		C	F		0	14
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT
	1	0		L	G		1	-4

Space-
craft ID

Rev
Number

Beg. Scan,
Start
Time

End Scan
Start
Time

Calib-
ration
Flag

Spin
Period
Average

Spin
Period
Variance

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES				BYTES				BYTES			
90-91	ADDITIVE CONSTANT			120-121	START BYTE	BYTES/ELEMENT		150-151	ADDITIVE CONSTANT		
	0				26	2			0		
92-93	CHAR. 1	CHAR. 2	<i>Spin Period</i> <i>L L</i>	122-123	UNUSED	UNITS CODE		152-153	CHAR. 1	CHAR. 2	<i>Hot Load Thermistor</i> <i>L L</i>
	S	P			0	14			H	T	
94-95	CHAR. 3	CHAR. 4		124-125	MULT. MANTISSA	EXPONENT		154-155	CHAR. 3	CHAR. 4	
	A	L			1	-4			A	L	
96-97	START BYTE	BYTES/ELEMENT		126-127	ADDITIVE CONSTANT			156-157	START BYTE	BYTES/ELEMENT	
	22	2			0				32	2	
98-99	UNUSED	UNITS CODE		128-129	CHAR. 1	CHAR. 2	<i>Hot Load Thermistor Average</i>	158-159	UNUSED	UNITS CODE	
	0	14			H	T			0	1	
100-101	MULT. MANTISSA	EXPONENT		130-131	CHAR. 3	CHAR. 4		160-161	MULT. MANTISSA	EXPONENT	
	1	-4			A				1	-2	
102-103	ADDITIVE CONSTANT			132-133	START BYTE	BYTES/ELEMENT		162-163	ADDITIVE CONSTANT		
	0				28	2			0		
104-105	CHAR. 1	CHAR. 2	<i>Spin Period</i> <i>U L</i>	134-135	UNUSED	UNITS CODE		164-165	CHAR. 1	CHAR. 2	<i>Hot Load Thermistor</i> <i>U L</i>
	S	P			0	1			H	T	
106-107	CHAR. 3	CHAR. 4		136-137	MULT. MANTISSA	EXPONENT		166-167	CHAR. 3	CHAR. 4	
	A	U			1	-2			A	U	
108-109	START BYTE	BYTES/ELEMENT		138-139	ADDITIVE CONSTANT			168-169	START BYTE	BYTES/ELEMENT	
	24	2			0				34	2	
110-111	UNUSED	UNITS CODE		140-141	CHAR. 1	CHAR. 2	<i>Hot Load Thermistor Variance</i>	170-171	UNUSED	UNITS CODE	
	0	14			H	T			0	1	
112-113	MULT. MANTISSA	EXPONENT		142-143	CHAR. 3	CHAR. 4		172-173	MULT. MANTISSA	EXPONENT	
	1	-4			V				1	-2	
114-115	ADDITIVE CONSTANT			144-145	START BYTE	BYTES/ELEMENT		174-175	ADDITIVE CONSTANT		
	0				30	2			0		
116-117	CHAR. 1	CHAR. 2	<i>Spin Period</i> <i>Var. U L</i>	146-157	UNUSED	UNITS CODE		176-177	CHAR. 1	CHAR. 2	<i>Hot Load Thermistor</i> <i>Var. U L</i>
	S	P			0	1			H	T	
118-119	CHAR. 3	CHAR. 4		148-149	MULT. MANTISSA	EXPONENT		178-179	CHAR. 3	CHAR. 4	
	V	U			1	-2			V	U	

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES <table border="1"> <tr> <td>180-181</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>36</td> <td>2</td> </tr> <tr> <td>182-183</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>1</td> </tr> <tr> <td>184-185</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>-2</td> </tr> <tr> <td>186-187</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>188-189</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>1</td> </tr> <tr> <td>190-191</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>A</td> <td></td> </tr> <tr> <td>192-193</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>38</td> <td>2</td> </tr> <tr> <td>194-195</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>196-197</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>0</td> </tr> <tr> <td>198-199</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>200-201</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>1</td> </tr> <tr> <td>202-203</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>V</td> <td></td> </tr> <tr> <td>204-205</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>40</td> <td>2</td> </tr> <tr> <td>206-207</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>208-209</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>-2</td> </tr> </table>	180-181	START BYTE	BYTES/ELEMENT		36	2	182-183	UNUSED	UNITS CODE		0	1	184-185	MULT. MANTISSA	EXPONENT		1	-2	186-187	ADDITIVE CONSTANT			0		188-189	CHAR. 1	CHAR. 2		H	1	190-191	CHAR. 3	CHAR. 4		A		192-193	START BYTE	BYTES/ELEMENT		38	2	194-195	UNUSED	UNITS CODE		0	23	196-197	MULT. MANTISSA	EXPONENT		1	0	198-199	ADDITIVE CONSTANT			0		200-201	CHAR. 1	CHAR. 2		H	1	202-203	CHAR. 3	CHAR. 4		V		204-205	START BYTE	BYTES/ELEMENT		40	2	206-207	UNUSED	UNITS CODE		0	23	208-209	MULT. MANTISSA	EXPONENT		1	-2	BYTES <table border="1"> <tr> <td>210-211</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>212-213</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>2</td> </tr> <tr> <td>214-215</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>A</td> <td></td> </tr> <tr> <td>216-217</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>42</td> <td>2</td> </tr> <tr> <td>218-219</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>220-221</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>0</td> </tr> <tr> <td>222-223</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>224-225</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>2</td> </tr> <tr> <td>226-227</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>V</td> <td></td> </tr> <tr> <td>228-229</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>44</td> <td>2</td> </tr> <tr> <td>230-231</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>232-233</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>-2</td> </tr> <tr> <td>234-235</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>236-237</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>3</td> </tr> <tr> <td>238-239</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>A</td> <td></td> </tr> </table>	210-211	ADDITIVE CONSTANT			0		212-213	CHAR. 1	CHAR. 2		H	2	214-215	CHAR. 3	CHAR. 4		A		216-217	START BYTE	BYTES/ELEMENT		42	2	218-219	UNUSED	UNITS CODE		0	23	220-221	MULT. MANTISSA	EXPONENT		1	0	222-223	ADDITIVE CONSTANT			0		224-225	CHAR. 1	CHAR. 2		H	2	226-227	CHAR. 3	CHAR. 4		V		228-229	START BYTE	BYTES/ELEMENT		44	2	230-231	UNUSED	UNITS CODE		0	23	232-233	MULT. MANTISSA	EXPONENT		1	-2	234-235	ADDITIVE CONSTANT			0		236-237	CHAR. 1	CHAR. 2		H	3	238-239	CHAR. 3	CHAR. 4		A		BYTES <table border="1"> <tr> <td>240-241</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>46</td> <td>2</td> </tr> <tr> <td>242-243</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>244-245</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>0</td> </tr> <tr> <td>246-247</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>248-249</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>3</td> </tr> <tr> <td>250-251</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>V</td> <td></td> </tr> <tr> <td>252-253</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>48</td> <td>2</td> </tr> <tr> <td>254-255</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>256-257</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>-2</td> </tr> <tr> <td>258-259</td> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td></td> <td colspan="2">0</td> </tr> <tr> <td>260-261</td> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td></td> <td>H</td> <td>4</td> </tr> <tr> <td>262-263</td> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td></td> <td>A</td> <td></td> </tr> <tr> <td>264-265</td> <td>START BYTE</td> <td>BYTES/ELEMENT</td> </tr> <tr> <td></td> <td>50</td> <td>2</td> </tr> <tr> <td>266-267</td> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td></td> <td>0</td> <td>23</td> </tr> <tr> <td>268-269</td> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td></td> <td>1</td> <td>0</td> </tr> </table>	240-241	START BYTE	BYTES/ELEMENT		46	2	242-243	UNUSED	UNITS CODE		0	23	244-245	MULT. MANTISSA	EXPONENT		1	0	246-247	ADDITIVE CONSTANT			0		248-249	CHAR. 1	CHAR. 2		H	3	250-251	CHAR. 3	CHAR. 4		V		252-253	START BYTE	BYTES/ELEMENT		48	2	254-255	UNUSED	UNITS CODE		0	23	256-257	MULT. MANTISSA	EXPONENT		1	-2	258-259	ADDITIVE CONSTANT			0		260-261	CHAR. 1	CHAR. 2		H	4	262-263	CHAR. 3	CHAR. 4		A		264-265	START BYTE	BYTES/ELEMENT		50	2	266-267	UNUSED	UNITS CODE		0	23	268-269	MULT. MANTISSA	EXPONENT		1	0
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FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
270-271	ADDITIVE CONSTANT		300-301	START BYTE	BYTES/ ELEMENT	330-331	ADDITIVE CONSTANT	
	0			56	2		0	
272-273	CHAR. 1	CHAR. 2	302-303	UNUSED	UNITS CODE	332-333	CHAR. 1	CHAR. 2
	H	4		0	23		H	7
274-275	CHAR. 3	CHAR. 4	304-305	MULT. MANTISSA	EXPONENT	334-335	CHAR. 3	CHAR. 4
	V			1	-2		A	
276-277	START BYTE	BYTES/ ELEMENT	306-307	ADDITIVE CONSTANT		336-337	START BYTE	BYTES/ ELEMENT
	52	2		0			62	2
278-279	UNUSED	UNITS CODE	308-309	CHAR. 1	CHAR. 2	338-339	UNUSED	UNITS CODE
	0	23		H	6		0	23
280-281	MULT. MANTISSA	EXPONENT	310-311	CHAR. 3	CHAR. 4	340-341	MULT. MANTISSA	EXPONENT
	1	-2		A			1	0
282-283	ADDITIVE CONSTANT		312-313	START BYTE	BYTES/ ELEMENT	342-343	ADDITIVE CONSTANT	
	0			58	2		0	
284-285	CHAR. 1	CHAR. 2	314-315	UNUSED	UNITS CODE	344-345	CHAR. 1	CHAR. 2
	H	5		0	23		H	7
286-287	CHAR. 3	CHAR. 4	316-317	MULT. MANTISSA	EXPONENT	346-347	CHAR. 3	CHAR. 4
	A			1	0		V	
288-289	START BYTE	BYTES/ ELEMENT	318-319	ADDITIVE CONSTANT		348-349	START BYTE	BYTES/ ELEMENT
	54	2		0			64	2
290-291	UNUSED	UNITS CODE	320-321	CHAR. 1	CHAR. 2	350-351	UNUSED	UNITS CODE
	0	23		H	6		0	23
292-293	MULT. MANTISSA	EXPONENT	322-323	CHAR. 3	CHAR. 4	352-353	MULT. MANTISSA	EXPONENT
	1	0		V			1	-2
294-295	ADDITIVE CONSTANT		324-325	START BYTE	BYTES/ ELEMENT	354-355	ADDITIVE CONSTANT	
	0			60	2		0	
296-297	CHAR. 1	CHAR. 2	326-327	UNUSED	UNITS CODE	356-357	CHAR. 1	CHAR. 2
	H	5		0	23		H	L
298-299	CHAR. 3	CHAR. 4	328-329	MULT. MANTISSA	EXPONENT	358-359	CHAR. 3	CHAR. 4
	V			1	-2		A	L

37 V Hot
Load Count
Variance

37 H Hot
Load Count
Average

37 H Hot
Load Count
Variance

85 V Hot
Load Count
Average

85 V Hot
Load Count
Variance

85 H Hot
Load Count
Average

85 H Hot
Load Count
Variance

Hot Load
Count
L L

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES	360-361 START BYTE 66 BYTES/ELEMENT 2		BYTES	390-391 ADDITIVE CONSTANT 0		BYTES	420-421 START BYTE 76 BYTES/ELEMENT 2	
	362-363 UNUSED 0 UNITS CODE 23			392-393 CHAR. 1 C CHAR. 2 1	19 V Cold Load Count Average		422-423 UNUSED 0 UNITS CODE 23	
	364-365 MULT. MANTISSA 1 EXPONENT 0			394-395 CHAR. 3 A CHAR. 4 0			424-425 MULT. MANTISSA 1 EXPONENT 0	
	366-367 ADDITIVE CONSTANT 0			396-397 START BYTE 72 BYTES/ELEMENT 2			426-427 ADDITIVE CONSTANT 0	
	368-369 CHAR. 1 H CHAR. 2 L	Hot Load Count U L		398-399 UNUSED 0 UNITS CODE 23			428-429 CHAR. 1 C CHAR. 2 2	19 H Cold Load Count Variance
	370-371 CHAR. 3 A CHAR. 4 U			400-401 MULT. MANTISSA 1 EXPONENT 0			430-431 CHAR. 3 V CHAR. 4 0	
	372-373 START BYTE 68 BYTES/ELEMENT 2			402-403 ADDITIVE CONSTANT 0			432-433 START BYTE 78 BYTES/ELEMENT 2	
	374-375 UNUSED 0 UNITS CODE 23			404-405 CHAR. 1 C CHAR. 2 1	19 V Cold Load Count Variance		434-435 UNUSED 0 UNITS CODE 23	
	376-377 MULT. MANTISSA 1 EXPONENT 0			406-407 CHAR. 3 V CHAR. 4 0			436-437 MULT. MANTISSA 1 EXPONENT -2	
	378-379 ADDITIVE CONSTANT 0			408-409 START BYTE 74 BYTES/ELEMENT 2			438-439 ADDITIVE CONSTANT 0	
	380-381 CHAR. 1 H CHAR. 2 L	Hot Load Count Var. U L		410-411 UNUSED 0 UNITS CODE 23			440-441 CHAR. 1 C CHAR. 2 3	22 V Cold Load Count Average
	382-383 CHAR. 3 V CHAR. 4 U			412-413 MULT. MANTISSA 1 EXPONENT -2			442-443 CHAR. 3 A CHAR. 4 0	
	384-385 START BYTE 70 BYTES/ELEMENT 2			414-415 ADDITIVE CONSTANT 0			444-445 START BYTE 80 BYTES/ELEMENT 2	
	386-387 UNUSED 0 UNITS CODE 23			416-417 CHAR. 1 C CHAR. 2 2	19 H Cold Load Count Average		446-447 UNUSED 0 UNITS CODE 23	
	388-389 MULT. MANTISSA 1 EXPONENT -2			418-419 CHAR. 3 A CHAR. 4 0			448-449 MULT. MANTISSA 1 EXPONENT 0	

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
450-451	ADDITIVE CONSTANT		480-481	START BYTE	BYTES/ ELEMENT	510-511	ADDITIVE CONSTANT	
	0			86	2		0	
452-453	CHAR. 1 C	CHAR. 2 3	482-483	UNUSED	UNITS CODE	512-513	CHAR. 1 C	
				0	23		CHAR. 2 6	
454-455	CHAR. 3 V	CHAR. 4	484-485	MULT. MANTISSA	EXPONENT	514-515	CHAR. 3 A	
				1	-2		CHAR. 4	
456-457	START BYTE	BYTES/ ELEMENT	486-487	ADDITIVE CONSTANT		516-517	START BYTE	
	82	2		0			BYTES/ ELEMENT	
458-459	UNUSED	UNITS CODE	488-489	CHAR. 1 C	CHAR. 2 5	518-519	UNUSED	
	0	23					UNITS CODE	
460-461	MULT. MANTISSA	EXPONENT	490-491	CHAR. 3 A	CHAR. 4	520-521	MULT. MANTISSA	
	1	-2					EXPONENT	
462-463	ADDITIVE CONSTANT		492-493	START BYTE	BYTES/ ELEMENT	522-523	ADDITIVE CONSTANT	
	0			88	2		0	
464-465	CHAR. 1 C	CHAR. 2 4	494-495	UNUSED	UNITS CODE	524-525	CHAR. 1 C	CHAR. 2 6
				0	23			
466-467	CHAR. 3 A	CHAR. 4	496-497	MULT. MANTISSA	EXPONENT	526-527	CHAR. 3 V	CHAR. 4
				1	0			
468-469	START BYTE	BYTES/ ELEMENT	498-499	ADDITIVE CONSTANT		528-529	START BYTE	BYTES/ ELEMENT
	84	2		0			94	2
470-471	UNUSED	UNITS CODE	500-501	CHAR. 1 C	CHAR. 2 5	530-531	UNUSED	UNITS CODE
	0	23					0	23
472-473	MULT. MANTISSA	EXPONENT	502-503	CHAR. 3 V	CHAR. 4	532-533	MULT. MANTISSA	EXPONENT
	1	0					1	-2
474-475	ADDITIVE CONSTANT		504-505	START BYTE	BYTES/ ELEMENT	534-535	ADDITIVE CONSTANT	
	0			90	2		0	
476-477	CHAR. 1 C	CHAR. 2 4	506-507	UNUSED	UNITS CODE	536-537	CHAR. 1 C	CHAR. 2 7
				0	23			
478-479	CHAR. 3 V	CHAR. 4	508-509	MULT. MANTISSA	EXPONENT	538-539	CHAR. 3 A	CHAR. 4
				1	-2			

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES <table border="1"> <tr><td>540-541</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>96</td><td>2</td></tr> <tr><td>542-543</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>23</td></tr> <tr><td>544-545</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>546-547</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>548-549</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>C</td><td>7</td></tr> <tr><td>550-551</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>V</td><td></td></tr> <tr><td>552-553</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>98</td><td>2</td></tr> <tr><td>554-555</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>23</td></tr> <tr><td>556-557</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>-2</td></tr> <tr><td>558-559</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>560-561</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>C</td><td>L</td></tr> <tr><td>562-563</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>A</td><td>L</td></tr> <tr><td>564-565</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>100</td><td>2</td></tr> <tr><td>566-567</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>23</td></tr> <tr><td>568-569</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> </table>	540-541	START BYTE	BYTES/ELEMENT		96	2	542-543	UNUSED	UNITS CODE		0	23	544-545	MULT. MANTISSA	EXPONENT		1	0	546-547	ADDITIVE CONSTANT			0		548-549	CHAR. 1	CHAR. 2		C	7	550-551	CHAR. 3	CHAR. 4		V		552-553	START BYTE	BYTES/ELEMENT		98	2	554-555	UNUSED	UNITS CODE		0	23	556-557	MULT. MANTISSA	EXPONENT		1	-2	558-559	ADDITIVE CONSTANT			0		560-561	CHAR. 1	CHAR. 2		C	L	562-563	CHAR. 3	CHAR. 4		A	L	564-565	START BYTE	BYTES/ELEMENT		100	2	566-567	UNUSED	UNITS CODE		0	23	568-569	MULT. MANTISSA	EXPONENT		1	0	BYTES <table border="1"> <tr><td>570-571</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>572-573</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>C</td><td>L</td></tr> <tr><td>574-575</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>A</td><td>U</td></tr> <tr><td>576-577</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>102</td><td>2</td></tr> <tr><td>578-579</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>23</td></tr> <tr><td>580-581</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>0</td></tr> <tr><td>582-583</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>584-585</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>C</td><td>L</td></tr> <tr><td>586-587</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>V</td><td>U</td></tr> <tr><td>588-589</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>104</td><td>2</td></tr> <tr><td>590-591</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>23</td></tr> <tr><td>592-593</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>-2</td></tr> <tr><td>594-595</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>596-597</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>T</td><td>R</td></tr> <tr><td>598-599</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>A</td><td></td></tr> </table>	570-571	ADDITIVE CONSTANT			0		572-573	CHAR. 1	CHAR. 2		C	L	574-575	CHAR. 3	CHAR. 4		A	U	576-577	START BYTE	BYTES/ELEMENT		102	2	578-579	UNUSED	UNITS CODE		0	23	580-581	MULT. MANTISSA	EXPONENT		1	0	582-583	ADDITIVE CONSTANT			0		584-585	CHAR. 1	CHAR. 2		C	L	586-587	CHAR. 3	CHAR. 4		V	U	588-589	START BYTE	BYTES/ELEMENT		104	2	590-591	UNUSED	UNITS CODE		0	23	592-593	MULT. MANTISSA	EXPONENT		1	-2	594-595	ADDITIVE CONSTANT			0		596-597	CHAR. 1	CHAR. 2		T	R	598-599	CHAR. 3	CHAR. 4		A		BYTES <table border="1"> <tr><td>600-601</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>106</td><td>2</td></tr> <tr><td>602-603</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>1</td></tr> <tr><td>604-605</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>-2</td></tr> <tr><td>606-607</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>608-609</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>T</td><td>R</td></tr> <tr><td>610-611</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>V</td><td></td></tr> <tr><td>612-613</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>108</td><td>2</td></tr> <tr><td>614-615</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>1</td></tr> <tr><td>616-617</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>-2</td></tr> <tr><td>618-619</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr><td></td><td colspan="2">0</td></tr> <tr><td>620-621</td><td>CHAR. 1</td><td>CHAR. 2</td></tr> <tr><td></td><td>T</td><td>R</td></tr> <tr><td>622-623</td><td>CHAR. 3</td><td>CHAR. 4</td></tr> <tr><td></td><td>A</td><td>L</td></tr> <tr><td>624-625</td><td>START BYTE</td><td>BYTES/ELEMENT</td></tr> <tr><td></td><td>110</td><td>2</td></tr> <tr><td>626-627</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr><td></td><td>0</td><td>1</td></tr> <tr><td>628-629</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr><td></td><td>1</td><td>-2</td></tr> </table>	600-601	START BYTE	BYTES/ELEMENT		106	2	602-603	UNUSED	UNITS CODE		0	1	604-605	MULT. MANTISSA	EXPONENT		1	-2	606-607	ADDITIVE CONSTANT			0		608-609	CHAR. 1	CHAR. 2		T	R	610-611	CHAR. 3	CHAR. 4		V		612-613	START BYTE	BYTES/ELEMENT		108	2	614-615	UNUSED	UNITS CODE		0	1	616-617	MULT. MANTISSA	EXPONENT		1	-2	618-619	ADDITIVE CONSTANT			0		620-621	CHAR. 1	CHAR. 2		T	R	622-623	CHAR. 3	CHAR. 4		A	L	624-625	START BYTE	BYTES/ELEMENT		110	2	626-627	UNUSED	UNITS CODE		0	1	628-629	MULT. MANTISSA	EXPONENT		1	-2
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FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
630-631	ADDITIVE CONSTANT		660-661	START BYTE	BYTES/ELEMENT	690-691	ADDITIVE CONSTANT	
	0			116	2		0	
632-633	CHAR. 1	CHAR. 2	662-663	UNUSED	UNITS CODE	692-693	CHAR. 1	CHAR. 2
	T	R		0	1		F	R
	<i>RF Mixer Temp. U L</i>						<i>Radiator Temp. U L</i>	
634-635	CHAR. 3	CHAR. 4	664-665	MULT. MANTISSA	EXPONENT	694-695	CHAR. 3	CHAR. 4
	A	U		1	-2		A	U
636-637	START BYTE	BYTES/ELEMENT	666-667	ADDITIVE CONSTANT		696-697	START BYTE	BYTES/ELEMENT
	112	2		0			122	2
638-639	UNUSED	UNITS CODE	668-669	CHAR. 1	CHAR. 2	698-699	UNUSED	UNITS CODE
	0	1		F	R		0	1
640-641	MULT. MANTISSA	EXPONENT	670-671	CHAR. 3	CHAR. 4	700-701	MULT. MANTISSA	EXPONENT
	1	-2		V			1	-2
642-643	ADDITIVE CONSTANT		672-673	START BYTE	BYTES/ELEMENT	702-703	ADDITIVE CONSTANT	
	0			118	2		0	
644-645	CHAR. 1	CHAR. 2	674-675	UNUSED	UNITS CODE	704-705	CHAR. 1	CHAR. 2
	T	R		0	1		F	R
	<i>RF Mixer Temp. Var. U L</i>		676-677	MULT. MANTISSA	EXPONENT	706-707	CHAR. 3	CHAR. 4
646-647	CHAR. 3	CHAR. 4		1	-2		V	U
	V	U	678-679	ADDITIVE CONSTANT		708-709	START BYTE	BYTES/ELEMENT
648-649	START BYTE	BYTES/ELEMENT		0			124	2
	114	2	680-681	CHAR. 1	CHAR. 2	710-711	UNUSED	UNITS CODE
650-651	UNUSED	UNITS CODE		F	R		0	1
	0	1		<i>Radiator Temp. L L</i>		712-713	MULT. MANTISSA	EXPONENT
652-653	MULT. MANTISSA	EXPONENT	682-683	CHAR. 3	CHAR. 4		1	-2
	1	-2		A	L	714-715	ADDITIVE CONSTANT	
654-655	ADDITIVE CONSTANT		684-685	START BYTE	BYTES/ELEMENT		0	
	0			120	2	716-717	CHAR. 1	CHAR. 2
656-657	CHAR. 1	CHAR. 2	686-687	UNUSED	UNITS CODE		S	A
	F	R		0	1		<i>19 V Slope Average</i>	
	<i>Radiator Temp. Average</i>		688-689	MULT. MANTISSA	EXPONENT	718-719	CHAR. 3	CHAR. 4
658-659	CHAR. 3	CHAR. 4		1	-2		V	1
	A							

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES <table border="1"> <tr> <td>728-721</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>126</td><td>2</td></tr> <tr> <td>722-723</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>105</td></tr> <tr> <td>724-725</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>-5</td></tr> <tr> <td>726-727</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>728-729</td><td>CHAR. 1 S</td><td>CHAR. 2 M</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz V Slope Minimum</i></td></tr> <tr> <td>730-731</td><td>CHAR. 3 N</td><td>CHAR. 4 1</td></tr> <tr> <td>732-733</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>128</td><td>2</td></tr> <tr> <td>734-735</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>105</td></tr> <tr> <td>736-737</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>-5</td></tr> <tr> <td>738-739</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>740-741</td><td>CHAR. 1 S</td><td>CHAR. 2 M</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz H Slope Maximum</i></td></tr> <tr> <td>742-743</td><td>CHAR. 3 X</td><td>CHAR. 4 1</td></tr> <tr> <td>744-745</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>130</td><td>2</td></tr> <tr> <td>746-747</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>105</td></tr> <tr> <td>748-749</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>-5</td></tr> </table>	728-721	START BYTE	BYTES/ ELEMENT		126	2	722-723	UNUSED	UNITS CODE		0	105	724-725	MULT. MANTISSA	EXPONENT		1	-5	726-727	ADDITIVE CONSTANT			0		728-729	CHAR. 1 S	CHAR. 2 M		<i>19 GHz V Slope Minimum</i>		730-731	CHAR. 3 N	CHAR. 4 1	732-733	START BYTE	BYTES/ ELEMENT		128	2	734-735	UNUSED	UNITS CODE		0	105	736-737	MULT. MANTISSA	EXPONENT		1	-5	738-739	ADDITIVE CONSTANT			0		740-741	CHAR. 1 S	CHAR. 2 M		<i>19 GHz H Slope Maximum</i>		742-743	CHAR. 3 X	CHAR. 4 1	744-745	START BYTE	BYTES/ ELEMENT		130	2	746-747	UNUSED	UNITS CODE		0	105	748-749	MULT. MANTISSA	EXPONENT		1	-5	BYTES <table border="1"> <tr> <td>750-751</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>752-753</td><td>CHAR. 1 O</td><td>CHAR. 2 A</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz V Offset Average</i></td></tr> <tr> <td>754-755</td><td>CHAR. 3 V</td><td>CHAR. 4 1</td></tr> <tr> <td>756-757</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>132</td><td>2</td></tr> <tr> <td>758-759</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>1</td></tr> <tr> <td>760-761</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>2</td><td>-2</td></tr> <tr> <td>762-763</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>764-765</td><td>CHAR. 1 O</td><td>CHAR. 2 M</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz V Offset Minimum</i></td></tr> <tr> <td>766-767</td><td>CHAR. 3 N</td><td>CHAR. 4 1</td></tr> <tr> <td>768-769</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>134</td><td>2</td></tr> <tr> <td>770-771</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>1</td></tr> <tr> <td>772-773</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>2</td><td>-2</td></tr> <tr> <td>774-775</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>776-777</td><td>CHAR. 1 O</td><td>CHAR. 2 M</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz V Offset Maximum</i></td></tr> <tr> <td>778-779</td><td>CHAR. 3 X</td><td>CHAR. 4 1</td></tr> </table>	750-751	ADDITIVE CONSTANT			0		752-753	CHAR. 1 O	CHAR. 2 A		<i>19 GHz V Offset Average</i>		754-755	CHAR. 3 V	CHAR. 4 1	756-757	START BYTE	BYTES/ ELEMENT		132	2	758-759	UNUSED	UNITS CODE		0	1	760-761	MULT. MANTISSA	EXPONENT		2	-2	762-763	ADDITIVE CONSTANT			0		764-765	CHAR. 1 O	CHAR. 2 M		<i>19 GHz V Offset Minimum</i>		766-767	CHAR. 3 N	CHAR. 4 1	768-769	START BYTE	BYTES/ ELEMENT		134	2	770-771	UNUSED	UNITS CODE		0	1	772-773	MULT. MANTISSA	EXPONENT		2	-2	774-775	ADDITIVE CONSTANT			0		776-777	CHAR. 1 O	CHAR. 2 M		<i>19 GHz V Offset Maximum</i>		778-779	CHAR. 3 X	CHAR. 4 1	BYTES <table border="1"> <tr> <td>780-781</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>136</td><td>2</td></tr> <tr> <td>782-783</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>1</td></tr> <tr> <td>784-785</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>2</td><td>-2</td></tr> <tr> <td>786-787</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>788-789</td><td>CHAR. 1 S</td><td>CHAR. 2 A</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz H Slope Average</i></td></tr> <tr> <td>790-791</td><td>CHAR. 3 V</td><td>CHAR. 4 2</td></tr> <tr> <td>792-793</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>138</td><td>2</td></tr> <tr> <td>794-795</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>105</td></tr> <tr> <td>796-797</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>-5</td></tr> <tr> <td>798-799</td><td colspan="2">ADDITIVE CONSTANT</td></tr> <tr> <td></td><td colspan="2">0</td></tr> <tr> <td>800-801</td><td>CHAR. 1 S</td><td>CHAR. 2 M</td></tr> <tr> <td></td><td colspan="2"><i>19 GHz H Slope Minimum</i></td></tr> <tr> <td>802-803</td><td>CHAR. 3 N</td><td>CHAR. 4 2</td></tr> <tr> <td>804-805</td><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr> <tr> <td></td><td>140</td><td>2</td></tr> <tr> <td>806-807</td><td>UNUSED</td><td>UNITS CODE</td></tr> <tr> <td></td><td>0</td><td>105</td></tr> <tr> <td>808-809</td><td>MULT. MANTISSA</td><td>EXPONENT</td></tr> <tr> <td></td><td>1</td><td>-5</td></tr> </table>	780-781	START BYTE	BYTES/ ELEMENT		136	2	782-783	UNUSED	UNITS CODE		0	1	784-785	MULT. MANTISSA	EXPONENT		2	-2	786-787	ADDITIVE CONSTANT			0		788-789	CHAR. 1 S	CHAR. 2 A		<i>19 GHz H Slope Average</i>		790-791	CHAR. 3 V	CHAR. 4 2	792-793	START BYTE	BYTES/ ELEMENT		138	2	794-795	UNUSED	UNITS CODE		0	105	796-797	MULT. MANTISSA	EXPONENT		1	-5	798-799	ADDITIVE CONSTANT			0		800-801	CHAR. 1 S	CHAR. 2 M		<i>19 GHz H Slope Minimum</i>		802-803	CHAR. 3 N	CHAR. 4 2	804-805	START BYTE	BYTES/ ELEMENT		140	2	806-807	UNUSED	UNITS CODE		0	105	808-809	MULT. MANTISSA	EXPONENT		1	-5
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798-799	ADDITIVE CONSTANT																																																																																																																																																																																																																																																										
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800-801	CHAR. 1 S	CHAR. 2 M																																																																																																																																																																																																																																																									
	<i>19 GHz H Slope Minimum</i>																																																																																																																																																																																																																																																										
802-803	CHAR. 3 N	CHAR. 4 2																																																																																																																																																																																																																																																									
804-805	START BYTE	BYTES/ ELEMENT																																																																																																																																																																																																																																																									
	140	2																																																																																																																																																																																																																																																									
806-807	UNUSED	UNITS CODE																																																																																																																																																																																																																																																									
	0	105																																																																																																																																																																																																																																																									
808-809	MULT. MANTISSA	EXPONENT																																																																																																																																																																																																																																																									
	1	-5																																																																																																																																																																																																																																																									

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
810-811	ADDITIVE CONSTANT		840-841	START BYTE	BYTES/ ELEMENT	870-871	ADDITIVE CONSTANT	
	0			146	2		0	
812-813	CHAR. 1	CHAR. 2	842-843	UNUSED	UNITS CODE	872-873	CHAR. 1	CHAR. 2
	S	M		0	1		S	M
814-815	CHAR. 3	CHAR. 4	844-845	MULT. MANTISSA	EXPONENT	874-875	CHAR. 3	CHAR. 4
	X	2		2	-2		N	3
816-817	START BYTE	BYTES/ ELEMENT	846-847	ADDITIVE CONSTANT		876-877	START BYTE	BYTES/ ELEMENT
	142	2		0			152	2
818-819	UNUSED	UNITS CODE	848-849	CHAR. 1	CHAR. 2	878-879	UNUSED	UNITS CODE
	0	105		O	M		0	105
820-821	MULT. MANTISSA	EXPONENT	850-851	CHAR. 3	CHAR. 4	880-881	MULT. MANTISSA	EXPONENT
	1	-5		X	2		1	-5
822-823	ADDITIVE CONSTANT		852-853	START BYTE	BYTES/ ELEMENT	882-883	ADDITIVE CONSTANT	
	0			148	2		0	
824-825	CHAR. 1	CHAR. 2	854-855	UNUSED	UNITS CODE	884-885	CHAR. 1	CHAR. 2
	O	A		0	1		S	M
826-827	CHAR. 3	CHAR. 4	856-857	MULT. MANTISSA	EXPONENT	886-887	CHAR. 3	CHAR. 4
	V	2		2	-2		X	3
828-829	START BYTE	BYTES/ ELEMENT	858-859	ADDITIVE CONSTANT		888-889	START BYTE	BYTES/ ELEMENT
	144	2		0			154	2
830-831	UNUSED	UNITS CODE	860-861	CHAR. 1	CHAR. 2	890-891	UNUSED	UNITS CODE
	0	1		S	A		0	105
832-833	MULT. MANTISSA	EXPONENT	862-863	CHAR. 3	CHAR. 4	892-893	MULT. MANTISSA	EXPONENT
	2	-2		V	3		1	-5
834-835	ADDITIVE CONSTANT		864-865	START BYTE	BYTES/ ELEMENT	894-895	ADDITIVE CONSTANT	
	0			150	2		0	
836-837	CHAR. 1	CHAR. 2	866-867	UNUSED	UNITS CODE	896-897	CHAR. 1	CHAR. 2
	O	M		0	105		O	A
838-839	CHAR. 3	CHAR. 4	868-869	MULT. MANTISSA	EXPONENT	898-899	CHAR. 3	CHAR. 4
	N	2		1	-5		V	3

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES	START BYTE	BYTES/ ELEMENT	BYTES	START BYTE	BYTES/ ELEMENT	BYTES	START BYTE	BYTES/ ELEMENT
900-901	156	2	930-931	ADDITIVE CONSTANT	0	960-961	166	2
902-903	UNUSED	UNITS CODE	932-933	CHAR. 1 S	CHAR. 2 A	962-963	UNUSED	UNITS CODE
904-905	MULT. MANTISSA	EXPONENT	934-935	CHAR. 3 V	CHAR. 4 4	964-965	MULT. MANTISSA	EXPONENT
906-907	2	-2	936-937	START BYTE	BYTES/ ELEMENT	966-967	1	-5
908-909	ADDITIVE CONSTANT	0	938-939	UNUSED	UNITS CODE	968-969	ADDITIVE CONSTANT	0
910-911	CHAR. 1 O	CHAR. 2 M	940-941	MULT. MANTISSA	EXPONENT	970-971	CHAR. 1 O	CHAR. 2 A
912-913	CHAR. 3 N	CHAR. 4 3	942-943	1	-5	972-973	CHAR. 3 V	CHAR. 4 4
914-915	START BYTE	BYTES/ ELEMENT	944-945	ADDITIVE CONSTANT	0	974-975	START BYTE	BYTES/ ELEMENT
916-917	158	2	946-947	CHAR. 1 S	CHAR. 2 M	976-977	UNUSED	UNITS CODE
918-919	UNUSED	UNITS CODE	948-949	CHAR. 3 N	CHAR. 4 4	978-979	MULT. MANTISSA	EXPONENT
920-921	MULT. MANTISSA	EXPONENT	950-951	START BYTE	BYTES/ ELEMENT	980-981	2	-2
922-923	2	-2	952-953	164	2	982-983	ADDITIVE CONSTANT	0
924-925	ADDITIVE CONSTANT	0	954-955	CHAR. 1 S	CHAR. 2 M	984-985	CHAR. 1 O	CHAR. 2 M
926-927	CHAR. 1 O	CHAR. 2 M	956-957	CHAR. 3 X	CHAR. 4 4	986-987	CHAR. 3 N	CHAR. 4 4
928-929	CHAR. 3 N	CHAR. 4 3	958-959	START BYTE	BYTES/ ELEMENT	988-989	START BYTE	BYTES/ ELEMENT

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
990-991	ADDITIVE CONSTANT		1020-1021	START BYTE	BYTES/ ELEMENT	1050-1051	ADDITIVE CONSTANT	
	0			176	2		0	
992-993	CHAR. 1	CHAR. 2	1022-1023	UNUSED	UNITS CODE	1052-1053	CHAR. 1	CHAR. 2
	0	M		0	105		0	M
994-995	CHAR. 3	CHAR. 4	1024-1025	MULT. MANTISSA	EXPONENT	1054-1055	CHAR. 3	CHAR. 4
	X	4		1	-5		N	5
996-997	START BYTE	BYTES/ ELEMENT	1026-1027	ADDITIVE CONSTANT		1056-1057	START BYTE	BYTES/ ELEMENT
	172	2		0			182	2
998-999	UNUSED	UNITS CODE	1028-1029	CHAR. 1	CHAR. 2	1058-1059	UNUSED	UNITS CODE
	0	1		S	M		0	1
1000-1001	MULT. MANTISSA	EXPONENT	1030-1031	CHAR. 3	CHAR. 4	1060-1061	MULT. MANTISSA	EXPONENT
	2	-2		X	5		2	-2
1002-1003	ADDITIVE CONSTANT		1032-1033	START BYTE	BYTES/ ELEMENT	1062-1063	ADDITIVE CONSTANT	
	0			178	2		0	
1004-1005	CHAR. 1	CHAR. 2	1034-1035	UNUSED	UNITS CODE	1064-1065	CHAR. 1	CHAR. 2
	S	A		0	105		M	M
1006-1007	CHAR. 3	CHAR. 4	1036-1037	MULT. MANTISSA	EXPONENT	1066-1067	CHAR. 3	CHAR. 4
	V	5		1	-5		X	5
1008-1009	START BYTE	BYTES/ ELEMENT	1038-1039	ADDITIVE CONSTANT		1068-1069	START BYTE	BYTES/ ELEMENT
	174	2		0			184	2
1010-1011	UNUSED	UNITS CODE	1040-1041	CHAR. 1	CHAR. 2	1070-1071	UNUSED	UNITS CODE
	0	105		0	A		0	1
1012-1013	MULT. MANTISSA	EXPONENT	1042-1043	CHAR. 3	CHAR. 4	1072-1073	MULT. MANTISSA	EXPONENT
	1	-5		V	5		2	-2
1014-1015	ADDITIVE CONSTANT		1044-1045	START BYTE	BYTES/ ELEMENT	1074-1075	ADDITIVE CONSTANT	
	0			180	2		0	
1016-1017	CHAR. 1	CHAR. 2	1046-1047	UNUSED	UNITS CODE	1076-1077	CHAR. 1	CHAR. 2
	S	M		0	1		S	A
1018-1019	CHAR. 3	CHAR. 4	1048-1049	MULT. MANTISSA	EXPONENT	1078-1079	CHAR. 3	CHAR. 4
	N	5		2	-2		V	6

37 GHz V
Offset
Minimum

37 GHz H
Slope
Maximum

37 GHz H
Slope
Average

37 GHz H
Offset
Average

37 GHz H
Slope
Minimum

37 GHz H
Offset
Minimum

37 GHz H
Slope
Maximum

37 GHz H
Slope
Average

37 GHz H
Offset
Average

85 GHz V
Slope
Average

FIGURE 2.3.5-4 CALIBRATION DATA DESCRIPTION BLOCK (Continued)

BYTES		BYTES	
1260-1261	START BYTE 216	1290-1291	ADDITIVE CONSTANT 0
1262-1263	UNUSED 0	1292-1293	CHAR. 1 G
1264-1265	MULT. MANTISSA 1	1294-1295	CHAR. 2 C
1266-1267	EXPONENT 0	1296-1297	CHAR. 3 H
1268-1269	ADDITIVE CONSTANT 0	1298-1299	CHAR. 4 7
1270-1271	CHAR. 1 G	1300-1301	START BYTE 222
1272-1273	CHAR. 2 C	1302-1303	BYTES/ ELEMENT 2
1274-1275	CHAR. 3 H	1304-1305	UNUSED 0
1276-1277	CHAR. 4 5	1306-1307	UNITS CODE 23
1278-1279	START BYTE 218	1308-1309	MULT. MANTISSA 1
1280-1281	BYTES/ ELEMENT 2	1310-1311	EXPONENT 0
1282-1283	UNUSED 0	1312-1313	ADDITIVE CONSTANT 0
1284-1285	UNITS CODE 23	1314-1315	CHAR. 1 G
1286-1287	MULT. MANTISSA 1	1316-1317	CHAR. 2 C
1288-1289	EXPONENT 0		CHAR. 3 H
			CHAR. 4 U
			START BYTE 224
			BYTES/ ELEMENT 2
			UNUSED 0
			UNITS CODE 23
			MULT. MANTISSA 1
			EXPONENT 0
			ADDITIVE CONSTANT 0
			CHECKSUM (Calc. in SMIDEF)

FIGURE 2.3.5-5 TBS HEADER DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
8-1	BLOCK LENGTH		30-31	ADDITIVE CONSTANT		60-61	START BYTE	BYTES/ELEMENT
	47			0			16	4
2-3	MODE	SUBMODE	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	3	21		B	T		0	23
4-5	NUMBER ELEMENTS	BYTES/SECTION	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
	7	26		M	E		1	0
6-7	NUMBER OF SECTIONS		36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	
	1			8	4		0	
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
	S	C		0	14		B	I
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
	I	D		1	0		D	D
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT		72-73	START BYTE	BYTES/ELEMENT
	0	4		0			20	4
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	23		E	T		0	23
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
	1	0		M	E		1	0
18-19	ADDITIVE CONSTANT		48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	
	0			12	4		0	
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	R	E		0	14		T	F
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
	V	#		1	0		L	G
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT		84-85	START BYTE	BYTES/ELEMENT
	4	4		0			24	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	23		D	Q		0	23
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT
	1	0		E			1	0

Beg. Scan
Start
Time

End Scan
Start
Time

Block I D
Discontinuity

TBS
Flag

Data
Quality
Error

FIGURE 2.3.5-5 TBS HEADER DATA DESCRIPTION BLOCK (Continued)

<u>BYTES</u>	
90-91	ADDITIVE CONSTANT ----- 0
92-93	CHECKSUM ----- (Calc. in SMISHM)

FIGURE 2.3.5-6 TBS DATA DESCRIPTION BLOCK

BYTES			BYTES			BYTES		
0-1	BLOCK LENGTH		30-31	ADDITIVE CONSTANT		60-61	START BYTE	BYTES/ELEMENT
	239			0			8	2
2-3	MODE	SUBMODE	32-33	CHAR. 1	CHAR. 2	62-63	UNUSED	UNITS CODE
	3	21		L	L		0	1
4-5	NUMBER ELEMENTS	BYTES/SECTION	34-35	CHAR. 3	CHAR. 4	64-65	MULT. MANTISSA	EXPONENT
	39	78		O	N		1	-1
6-7	NUMBER OF SECTIONS		36-37	START BYTE	BYTES/ELEMENT	66-67	ADDITIVE CONSTANT	
	10			4	2		0	
8-9	CHAR. 1	CHAR. 2	38-39	UNUSED	UNITS CODE	68-69	CHAR. 1	CHAR. 2
	L	L		0	55		T	1
10-11	CHAR. 3	CHAR. 4	40-41	MULT. MANTISSA	EXPONENT	70-71	CHAR. 3	CHAR. 4
	A	T		1	-2		V	
12-13	START BYTE	BYTES/ELEMENT	42-43	ADDITIVE CONSTANT		72-73	START BYTE	BYTES/ELEMENT
	0	4		0			10	2
14-15	UNUSED	UNITS CODE	44-45	CHAR. 1	CHAR. 2	74-75	UNUSED	UNITS CODE
	0	55		U	L		0	1
16-17	MULT. MANTISSA	EXPONENT	46-47	CHAR. 3	CHAR. 4	76-77	MULT. MANTISSA	EXPONENT
	1	-2		O	N		1	-2
18-19	ADDITIVE CONSTANT		48-49	START BYTE	BYTES/ELEMENT	78-79	ADDITIVE CONSTANT	
	0			6	2		0	
20-21	CHAR. 1	CHAR. 2	50-51	UNUSED	UNITS CODE	80-81	CHAR. 1	CHAR. 2
	U	L		0	55		L	L
22-23	CHAR. 3	CHAR. 4	52-53	MULT. MANTISSA	EXPONENT	82-83	CHAR. 3	CHAR. 4
	A	T		1	-2		A	
24-25	START BYTE	BYTES/ELEMENT	54-55	ADDITIVE CONSTANT		84-85	START BYTE	BYTES/ELEMENT
	2	2		0			12	2
26-27	UNUSED	UNITS CODE	56-57	CHAR. 1	CHAR. 2	86-87	UNUSED	UNITS CODE
	0	55		T	1		0	1
28-29	MULT. MANTISSA	EXPONENT	58-59	CHAR. 3	CHAR. 4	88-89	MULT. MANTISSA	EXPONENT
	1	-2		A			1	-1

Lower Latitude

Lower Longitude

19 GHz V TBS Variance

Upper Longitude

Upper Latitude

Lower Limit of Average

19 GHz V TBS Average

FIGURE 2.3.5-6 TBS DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
90-91	ADDITIVE CONSTANT		120-121	START BYTE	BYTES/ ELEMENT	150-151	ADDITIVE CONSTANT	
	0			18	2		0	
92-93	CHAR. 1	CHAR. 2	122-123	UNUSED	UNITS CODE	152-153	CHAR. 1	CHAR. 2
	U	L		0	1		U	L
94-95			124-125	MULT. MANTISSA	EXPONENT	154-155	CHAR. 3	CHAR. 4
	CHAR. 3	CHAR. 4		1	-1		A	
96-97	START BYTE	BYTES/ ELEMENT	126-127	ADDITIVE CONSTANT		156-157	START BYTE	BYTES/ ELEMENT
	14	2		0			24	2
98-99	UNUSED	UNITS CODE	128-129	CHAR. 1	CHAR. 2	158-159	UNUSED	UNITS CODE
	0	1		T	2		0	1
100-101	MULT. MANTISSA	EXPONENT	130-131	CHAR. 3	CHAR. 4	160-161	MULT. MANTISSA	EXPONENT
	1	-1		V			1	-1
102-103	ADDITIVE CONSTANT		132-133	START BYTE	BYTES/ ELEMENT	162-163	ADDITIVE CONSTANT	
	0			20	2		0	
104-105	CHAR. 1	CHAR. 2	134-135	UNUSED	UNITS CODE	164-165	CHAR. 1	CHAR. 2
	U	L		0	1		U	L
106-107	CHAR. 3	CHAR. 4	136-137	MULT. MANTISSA	EXPONENT	166-167	CHAR. 3	CHAR. 4
	V			1	-2		V	
108-109	START BYTE	BYTES/ ELEMENT	138-139	ADDITIVE CONSTANT		168-169	START BYTE	BYTES/ ELEMENT
	16	2		0			26	2
110-111	UNUSED	UNITS CODE	140-141	CHAR. 1	CHAR. 2	170-171	UNUSED	UNITS CODE
	0	1		L	L		0	1
112-113	MULT. MANTISSA	EXPONENT	142-143	CHAR. 3	CHAR. 4	172-173	MULT. MANTISSA	EXPONENT
	1	-2		A			1	-2
114-115	ADDITIVE CONSTANT		144-145	START BYTE	BYTES/ ELEMENT	174-175	ADDITIVE CONSTANT	
	0			22	2		0	
116-117	CHAR. 1	CHAR. 2	146-157	UNUSED	UNITS CODE	176-177	CHAR. 1	CHAR. 2
	T	2		0	1		T	3
118-119	CHAR. 3	CHAR. 4	148-149	MULT. MANTISSA	EXPONENT	178-179	CHAR. 3	CHAR. 4
	A			1	-1		A	

FIGURE 2.3.5-6 TBS DATA DESCRIPTION BLOCK (Continued)

BYTES		BYTES		BYTES	
180-181	START BYTE	BYTES/ ELEMENT	210-211	ADDITIVE CONSTANT	
	28	2		0	
182-183	UNUSED	UNITS CODE	212-213	CHAR. 1	CHAR. 2
	0	1		U	L
184-185	MULT. MANTISSA	EXPONENT	214-215	CHAR. 3	CHAR. 4
	1	-1		A	
186-187	ADDITIVE CONSTANT		216-217	START BYTE	BYTES/ ELEMENT
	0			34	2
188-189	CHAR. 1	CHAR. 2	218-219	UNUSED	UNITS CODE
	T	3		0	1
190-191	CHAR. 3	CHAR. 4	220-221	MULT. MANTISSA	EXPONENT
	V			1	-1
192-193	START BYTE	BYTES/ ELEMENT	222-223	ADDITIVE CONSTANT	
	30	2		0	
194-195	UNUSED	UNITS CODE	224-225	CHAR. 1	CHAR. 2
	0	1		U	L
196-197	MULT. MANTISSA	EXPONENT	226-227	CHAR. 3	CHAR. 4
	1	-2		V	
198-199	ADDITIVE CONSTANT		228-229	START BYTE	BYTES/ ELEMENT
	0			36	2
200-201	CHAR. 1	CHAR. 2	230-231	UNUSED	UNITS CODE
	L	L		0	1
202-203	CHAR. 3	CHAR. 4	232-233	MULT. MANTISSA	EXPONENT
	A			1	-2
204-205	START BYTE	BYTES/ ELEMENT	234-235	ADDITIVE CONSTANT	
	32	2		0	
206-207	UNUSED	UNITS CODE	236-237	CHAR. 1	CHAR. 2
	0	1		T	4
208-209	MULT. MANTISSA	EXPONENT	238-239	CHAR. 3	CHAR. 4
	1	-1		A	

FIGURE 2.3.5-6 TBS DATA DESCRIPTION BLOCK (Continued)

BYTES	BYTES	BYTES
270-271	300-301	330-331
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	48	0
272-273	302-303	332-333
CHAR. 1 U	UNUSED	CHAR. 1 U
CHAR. 2 L	UNITS CODE	CHAR. 2 L
Upper Limit of Average	0	1
274-275	304-305	334-335
CHAR. 3 A	MULT. MANTISSA	CHAR. 3 A
CHAR. 4	EXPONENT	CHAR. 4
1	-1	
276-277	306-307	336-337
START BYTE	ADDITIVE CONSTANT	START BYTE
44	0	54
278-279	308-309	338-339
UNUSED	CHAR. 1 T	UNUSED
0	CHAR. 2 5	UNITS CODE
1	37 GHz H T B S Variance	0
280-281	310-311	340-341
MULT. MANTISSA	CHAR. 3 V	MULT. MANTISSA
1	CHAR. 4	EXPONENT
-1		-1
282-283	312-313	342-343
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	50	0
284-285	314-315	344-345
CHAR. 1 U	UNUSED	CHAR. 1 U
CHAR. 2 L	UNITS CODE	CHAR. 2 L
Upper Limit of Variance	0	1
286-287	316-317	346-347
CHAR. 3 V	MULT. MANTISSA	CHAR. 3 V
CHAR. 4	EXPONENT	CHAR. 4
1	-2	
288-289	318-319	348-349
START BYTE	ADDITIVE CONSTANT	START BYTE
46	0	56
290-291	320-321	350-351
UNUSED	CHAR. 1 L	UNUSED
0	CHAR. 2 L	UNITS CODE
1	Lower Limit of Average	0
292-293	322-323	352-353
MULT. MANTISSA	CHAR. 3 A	MULT. MANTISSA
1	CHAR. 4	EXPONENT
-2		-2
294-295	324-325	354-355
ADDITIVE CONSTANT	START BYTE	ADDITIVE CONSTANT
0	52	0
296-297	326-327	356-357
CHAR. 1 T	UNUSED	CHAR. 1 T
CHAR. 2 5	UNITS CODE	CHAR. 2 6
37 GHz H T B S Average	0	1
298-299	328-329	358-359
CHAR. 3 A	MULT. MANTISSA	CHAR. 3 A
CHAR. 4	EXPONENT	CHAR. 4
1	-1	

FIGURE 2.3.5-6 TBS DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
360-361	START BYTE	BYTES/ ELEMENT	390-391	ADDITIVE CONSTANT		420-421	START BYTE	BYTES/ ELEMENT
	58	2			0		68	2
362-363	UNUSED	UNITS CODE	392-393	CHAR. 1	CHAR. 2	422-423	UNUSED	UNITS CODE
	0	1		U	L		0	1
364-365	MULT. MANTISSA	EXPONENT	394-395	CHAR. 3	CHAR. 4	424-425	MULT. MANTISSA	EXPONENT
	1	-1		A			1	-1
366-367	ADDITIVE CONSTANT		396-397	START BYTE	BYTES/ ELEMENT	426-427	ADDITIVE CONSTANT	
		0		64	2			0
368-369	CHAR. 1	CHAR. 2	398-399	UNUSED	UNITS CODE	428-429	CHAR. 1	CHAR. 2
	T	6		0	1		T	7
370-371	CHAR. 3	CHAR. 4	400-401	MULT. MANTISSA	EXPONENT	430-431	CHAR. 3	CHAR. 4
	V			1	-1		V	
372-373	START BYTE	BYTES/ ELEMENT	402-403	ADDITIVE CONSTANT		432-433	START BYTE	BYTES/ ELEMENT
	60	2			0		70	2
374-375	UNUSED	UNITS CODE	404-405	CHAR. 1	CHAR. 2	434-435	UNUSED	UNITS CODE
	0	1		U	L		0	1
376-377	MULT. MANTISSA	EXPONENT	406-407	CHAR. 3	CHAR. 4	436-437	MULT. MANTISSA	EXPONENT
	1	-2		V			1	-2
378-379	ADDITIVE CONSTANT		408-409	START BYTE	BYTES/ ELEMENT	438-439	ADDITIVE CONSTANT	
		0		66	2			0
380-381	CHAR. 1	CHAR. 2	410-411	UNUSED	UNITS CODE	440-441	CHAR. 1	CHAR. 2
	L	L		0	1		L	L
382-383	CHAR. 3	CHAR. 4	412-413	MULT. MANTISSA	EXPONENT	442-443	CHAR. 3	CHAR. 4
	A			1	-2		A	
384-385	START BYTE	BYTES/ ELEMENT	414-415	ADDITIVE CONSTANT		444-445	START BYTE	BYTES/ ELEMENT
	62	2			0		72	2
386-387	UNUSED	UNITS CODE	416-417	CHAR. 1	CHAR. 2	446-447	UNUSED	UNITS CODE
	0	1		T	7		0	1
388-389	MULT. MANTISSA	EXPONENT	418-419	CHAR. 3	CHAR. 4	448-449	MULT. MANTISSA	EXPONENT
	1	-1		A			1	-1

85 GHz V
TBS
Variance

Lower
Limit of
Average

Upper
Limit of
Average

Upper
Limit of
Variance

85 GHz H
TBS
Average

85 GHz H
TBS
Variance

Lower
Limit of
Average

FIGURE 2.3.5-6 TBS DATA DESCRIPTION BLOCK (Continued)

BYTES	
450-451	ADDITIVE CONSTANT ----- 0
452-453	CHAR. 1 CHAR. 2 U L <i>Upper Limit of Average</i>
454-455	CHAR. 3 CHAR. 4 A
456-457	START BYTES/ BYTE ELEMENT ----- 74 2
458-459	UNUSED UNITS ----- CODE 0 1
460-461	MULT. MANTISSA EXPONENT ----- 1 -1
462-463	ADDITIVE CONSTANT ----- 0
464-465	CHAR. 1 CHAR. 2 U L <i>Upper Limit of Variance</i>
466-467	CHAR. 3 CHAR. 4 V
468-469	START BYTES/ BYTE ELEMENT ----- 76 2
470-471	UNUSED UNITS ----- CODE 0 1
472-473	MULT. MANTISSA EXPONENT ----- 1 -2
474-475	ADDITIVE CONSTANT ----- 0
476-477	CHECKSUM ----- (Calc. in SMISHM)

References

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FIGURE 2.3.5-7 ENVIRONMENTAL DATA DESCRIPTION BLOCK (Continued)

BYTES			BYTES			BYTES		
98-91	ADDITIVE CONSTANT 0		120-121	START BYTE 34	BYTES/ ELEMENT 4	150-151	ADDITIVE CONSTANT 0	
92-93	CHAR. 1 L	CHAR. 2 W	122-123	UNUSED 0	UNITS CODE 23	152-153	CHAR. 1 M	CHAR. 2 A
94-95	CHAR. 3 L	CHAR. 4 C		124-125	MULT. MANTISSA 1	EXPONENT 0	154-155	CHAR. 3 X
96-97	START BYTE 26	BYTES/ ELEMENT 4	126-127	ADDITIVE CONSTANT 0		156-157	START BYTE 46	BYTES/ ELEMENT 4
98-99	UNUSED 0	UNITS CODE 23	128-129	CHAR. 1 M	CHAR. 2 A	158-159	UNUSED 0	UNITS CODE 23
100-101	MULT. MANTISSA 1	EXPONENT 0	130-131	CHAR. 3 X	CHAR. 4 C	160-161	MULT. MANTISSA 1	EXPONENT 0
102-103	ADDITIVE CONSTANT 0		132-133	START BYTE 38	BYTES/ ELEMENT 4	162-163	ADDITIVE CONSTANT 0	
104-105	CHAR. 1 M	CHAR. 2 A	134-135	UNUSED 0	UNITS CODE 23	164-165	CHAR. 1 C	CHAR. 2 A
106-107	CHAR. 3 X	CHAR. 4 C	136-137	MULT. MANTISSA 1	EXPONENT 0	166-167	CHAR. 3 L	CHAR. 4 C
108-109	START BYTE 30	BYTES/ ELEMENT 4	138-139	ADDITIVE CONSTANT 0		168-169	START BYTE 50	BYTES/ ELEMENT 4
110-111	UNUSED 0	UNITS CODE 23	140-141	CHAR. 1 S	CHAR. 2 M	170-171	UNUSED 0	UNITS CODE 23
112-113	MULT. MANTISSA 1	EXPONENT 0	142-143	CHAR. 3 C	CHAR. 4	172-173	MULT. MANTISSA 1	EXPONENT 0
114-115	ADDITIVE CONSTANT 0		144-145	START BYTE 42	BYTES/ ELEMENT 4	174-175	ADDITIVE CONSTANT 0	
116-117	CHAR. 1 C	CHAR. 2 W	146-157	UNUSED 0	UNITS CODE 23	176-177	CHAR. 1 M	CHAR. 2 A
118-119	CHAR. 3 L	CHAR. 4 C	148-149	MULT. MANTISSA 1	EXPONENT 0	178-179	CHAR. 3 X	CHAR. 4 C

FIGURE 2.3.5-7 ENVIRONMENTAL DATA DESCRIPTION BLOCK (Continued)

BYTES	START BYTE	BYTES/ ELEMENT
180-181	54	4
182-183	UNUSED	UNITS CODE
	0	23
184-185	MULT. MANTISSA	EXPONENT
	1	0
186-187	ADDITIVE CONSTANT	
	0	
188-189	CHAR. 1	CHAR. 2
	S	T
190-191	CHAR. 3	CHAR. 4
	L	C
192-193	START BYTE	BYTES/ ELEMENT
	58	4
194-195	UNUSED	UNITS CODE
	0	23
196-197	MULT. MANTISSA	EXPONENT
	1	0
198-199	ADDITIVE CONSTANT	
	0	
200-201	CHAR. 1	CHAR. 2
	M	A
202-203	CHAR. 3	CHAR. 4
	X	C
204-205	START BYTE	BYTES/ ELEMENT
	62	4
206-207	UNUSED	UNITS CODE
	0	23
208-209	MULT. MANTISSA	EXPONENT
	1	0

ST L Count

BYTES	START BYTE	BYTES/ ELEMENT
210-211	ADDITIVE CONSTANT	
	0	
212-213	CHAR. 1	CHAR. 2
	S	T
214-215	CHAR. 3	CHAR. 4
	D	C
216-217	START BYTE	BYTES/ ELEMENT
	66	4
218-219	UNUSED	UNITS CODE
	0	23
220-221	MULT. MANTISSA	EXPONENT
	1	0
222-223	ADDITIVE CONSTANT	
	0	
224-225	CHAR. 1	CHAR. 2
	M	A
226-227	CHAR. 3	CHAR. 4
	X	C
228-229	START BYTE	BYTES/ ELEMENT
	70	4
230-231	UNUSED	UNITS CODE
	0	23
232-233	MULT. MANTISSA	EXPONENT
	1	0
234-235	ADDITIVE CONSTANT	
	0	
236-237	CHAR. 1	CHAR. 2
	S	T
238-239	CHAR. 3	CHAR. 4
	F	C

ST D Count

Max Count

ST F Count

BYTES	START BYTE	BYTES/ ELEMENT
240-241	74	4
242-243	UNUSED	UNITS CODE
	0	23
244-245	MULT. MANTISSA	EXPONENT
	1	0
246-247	ADDITIVE CONSTANT	
	0	
248-249	CHAR. 1	CHAR. 2
	M	A
250-251	CHAR. 3	CHAR. 4
	X	C
252-253	START BYTE	BYTES/ ELEMENT
	78	4
254-255	UNUSED	UNITS CODE
	0	23
256-257	MULT. MANTISSA	EXPONENT
	1	0
258-259	ADDITIVE CONSTANT	
	0	
260-261	CHAR. 1	CHAR. 2
	S	T
262-263	CHAR. 3	CHAR. 4
	G	C
264-265	START BYTE	BYTES/ ELEMENT
	82	4
266-267	UNUSED	UNITS CODE
	0	23
268-269	MULT. MANTISSA	EXPONENT
	1	0

Max Count

ST G Count

FIGURE 2.3.5-7 ENVIRONMENTAL DATA DESCRIPTION BLOCK (Continued)

BYTES					
360-361	<table><tr><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr><tr><td>114</td><td>4</td></tr></table>	START BYTE	BYTES/ ELEMENT	114	4
START BYTE	BYTES/ ELEMENT				
114	4				
362-363	<table><tr><td>UNUSED</td><td>UNITS CODE</td></tr><tr><td>0</td><td>23</td></tr></table>	UNUSED	UNITS CODE	0	23
UNUSED	UNITS CODE				
0	23				
364-365	<table><tr><td>MULT. MANTISSA</td><td>EXPONENT</td></tr><tr><td>1</td><td>0</td></tr></table>	MULT. MANTISSA	EXPONENT	1	0
MULT. MANTISSA	EXPONENT				
1	0				
366-367	<table><tr><td>ADDITIVE CONSTANT</td></tr><tr><td>0</td></tr></table>	ADDITIVE CONSTANT	0		
ADDITIVE CONSTANT					
0					
368-369	<table><tr><td>CHAR. 1</td><td>CHAR. 2</td></tr><tr><td>M</td><td>A</td></tr></table>	CHAR. 1	CHAR. 2	M	A
CHAR. 1	CHAR. 2				
M	A				
370-371	<table><tr><td>CHAR. 3</td><td>CHAR. 4</td></tr><tr><td>X</td><td>C</td></tr></table>	CHAR. 3	CHAR. 4	X	C
CHAR. 3	CHAR. 4				
X	C				
372-373	<table><tr><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr><tr><td>118</td><td>4</td></tr></table>	START BYTE	BYTES/ ELEMENT	118	4
START BYTE	BYTES/ ELEMENT				
118	4				
374-375	<table><tr><td>UNUSED</td><td>UNITS CODE</td></tr><tr><td>0</td><td>23</td></tr></table>	UNUSED	UNITS CODE	0	23
UNUSED	UNITS CODE				
0	23				
376-377	<table><tr><td>MULT. MANTISSA</td><td>EXPONENT</td></tr><tr><td>1</td><td>0</td></tr></table>	MULT. MANTISSA	EXPONENT	1	0
MULT. MANTISSA	EXPONENT				
1	0				
378-379	<table><tr><td>ADDITIVE CONSTANT</td></tr><tr><td>0</td></tr></table>	ADDITIVE CONSTANT	0		
ADDITIVE CONSTANT					
0					
380-381	<table><tr><td>CHAR. 1</td><td>CHAR. 2</td></tr><tr><td>S</td><td>N</td></tr></table>	CHAR. 1	CHAR. 2	S	N
CHAR. 1	CHAR. 2				
S	N				
382-383	<table><tr><td>CHAR. 3</td><td>CHAR. 4</td></tr><tr><td>W</td><td>C</td></tr></table>	CHAR. 3	CHAR. 4	W	C
CHAR. 3	CHAR. 4				
W	C				
384-385	<table><tr><td>START BYTE</td><td>BYTES/ ELEMENT</td></tr><tr><td>122</td><td>4</td></tr></table>	START BYTE	BYTES/ ELEMENT	122	4
START BYTE	BYTES/ ELEMENT				
122	4				
386-387	<table><tr><td>UNUSED</td><td>UNITS CODE</td></tr><tr><td>0</td><td>23</td></tr></table>	UNUSED	UNITS CODE	0	23
UNUSED	UNITS CODE				
0	23				
388-389	<table><tr><td>MULT. MANTISSA</td><td>EXPONENT</td></tr><tr><td>1</td><td>0</td></tr></table>	MULT. MANTISSA	EXPONENT	1	0
MULT. MANTISSA	EXPONENT				
1	0				

Max
Count

S NW
Count

BYTES							
390-391	<table border="1"> <tr> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td colspan="2">-----</td> </tr> <tr> <td colspan="2">0</td> </tr> </table>	ADDITIVE CONSTANT		-----		0	
ADDITIVE CONSTANT							

0							
392-393	<table border="1"> <tr> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td>M</td> <td>A</td> </tr> </table> <i>Max Count</i>	CHAR. 1	CHAR. 2	M	A		
CHAR. 1	CHAR. 2						
M	A						
394-395	<table border="1"> <tr> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td>X</td> <td>C</td> </tr> </table>	CHAR. 3	CHAR. 4	X	C		
CHAR. 3	CHAR. 4						
X	C						
396-397	<table border="1"> <tr> <td>START BYTE</td> <td>BYTES/ ELEMENT</td> </tr> <tr> <td>126</td> <td>4</td> </tr> </table>	START BYTE	BYTES/ ELEMENT	126	4		
START BYTE	BYTES/ ELEMENT						
126	4						
398-399	<table border="1"> <tr> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td>0</td> <td>23</td> </tr> </table>	UNUSED	UNITS CODE	0	23		
UNUSED	UNITS CODE						
0	23						
400-401	<table border="1"> <tr> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td>1</td> <td>0</td> </tr> </table>	MULT. MANTISSA	EXPONENT	1	0		
MULT. MANTISSA	EXPONENT						
1	0						
402-403	<table border="1"> <tr> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td colspan="2">-----</td> </tr> <tr> <td colspan="2">0</td> </tr> </table>	ADDITIVE CONSTANT		-----		0	
ADDITIVE CONSTANT							

0							
404-405	<table border="1"> <tr> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td>I</td> <td>C</td> </tr> </table> <i>I C Count</i>	CHAR. 1	CHAR. 2	I	C		
CHAR. 1	CHAR. 2						
I	C						
406-407	<table border="1"> <tr> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td>C</td> <td></td> </tr> </table>	CHAR. 3	CHAR. 4	C			
CHAR. 3	CHAR. 4						
C							
408-409	<table border="1"> <tr> <td>START BYTE</td> <td>BYTES/ ELEMENT</td> </tr> <tr> <td>130</td> <td>4</td> </tr> </table>	START BYTE	BYTES/ ELEMENT	130	4		
START BYTE	BYTES/ ELEMENT						
130	4						
410-411	<table border="1"> <tr> <td>UNUSED</td> <td>UNITS CODE</td> </tr> <tr> <td>0</td> <td>23</td> </tr> </table>	UNUSED	UNITS CODE	0	23		
UNUSED	UNITS CODE						
0	23						
412-413	<table border="1"> <tr> <td>MULT. MANTISSA</td> <td>EXPONENT</td> </tr> <tr> <td>1</td> <td>0</td> </tr> </table>	MULT. MANTISSA	EXPONENT	1	0		
MULT. MANTISSA	EXPONENT						
1	0						
414-415	<table border="1"> <tr> <td colspan="2">ADDITIVE CONSTANT</td> </tr> <tr> <td colspan="2">-----</td> </tr> <tr> <td colspan="2">0</td> </tr> </table>	ADDITIVE CONSTANT		-----		0	
ADDITIVE CONSTANT							

0							
416-417	<table border="1"> <tr> <td>CHAR. 1</td> <td>CHAR. 2</td> </tr> <tr> <td>M</td> <td>A</td> </tr> </table> <i>Max Count</i>	CHAR. 1	CHAR. 2	M	A		
CHAR. 1	CHAR. 2						
M	A						
418-419	<table border="1"> <tr> <td>CHAR. 3</td> <td>CHAR. 4</td> </tr> <tr> <td>X</td> <td>C</td> </tr> </table>	CHAR. 3	CHAR. 4	X	C		
CHAR. 3	CHAR. 4						
X	C						

BYTES	
420-421	START BYTE 134 4
422-423	UNUSED UNITS CODE 0 23
424-425	MULT. MANTISSA EXPONENT 1 0
426-427	ADDITIVE CONSTANT 0
428-429	CHAR. 1 I CHAR. 2 A <i>I A Count</i>
430-431	CHAR. 3 C CHAR. 4 C
432-433	START BYTE 138 4
434-435	UNUSED UNITS CODE 0 23
436-437	MULT. MANTISSA EXPONENT 1 0
438-439	ADDITIVE CONSTANT 0
440-441	CHAR. 1 M CHAR. 2 A <i>Mix Count</i>
442-443	CHAR. 3 X CHAR. 4 C
444-445	START BYTE 142 4
446-447	UNUSED UNITS CODE 0 23
448-449	MULT. MANTISSA EXPONENT 1 0

FIGURE 2.3.5-7 ENVIRONMENTAL DATA DESCRIPTION BLOCK (Continued)

BYTES 450-451 ADDITIVE CONSTANT 0 452-453 CHAR. 1 CHAR. 2 <i>CWI Count</i> C W 454-455 CHAR. 3 CHAR. 4 I C 456-457 START BYTE BYTES/ELEMENT 146 4 458-459 UNUSED UNITS CODE 0 23 460-461 MULT. MANTISSA EXPONENT 1 0 462-463 ADDITIVE CONSTANT 0 464-465 CHAR. 1 CHAR. 2 <i>Max Count</i> M A 466-467 CHAR. 3 CHAR. 4 X C 468-469 START BYTE BYTES/ELEMENT 150 4 470-471 UNUSED UNITS CODE 0 23 472-473 MULT. MANTISSA EXPONENT 1 0 474-475 ADDITIVE CONSTANT 0 476-477 CHAR. 1 CHAR. 2 <i>SW Count</i> S W 478-479 CHAR. 3 CHAR. 4 C	BYTES 480-481 START BYTE BYTES/ELEMENT 154 4 482-483 UNUSED UNITS CODE 0 23 484-485 MULT. MANTISSA EXPONENT 1 0 486-487 ADDITIVE CONSTANT 0 488-489 CHAR. 1 CHAR. 2 <i>Max Count</i> M A 490-491 CHAR. 3 CHAR. 4 X C 492-493 START BYTE BYTES/ELEMENT 158 4 494-495 UNUSED UNITS CODE 0 23 496-497 MULT. MANTISSA EXPONENT 1 0 498-499 ADDITIVE CONSTANT 0 500-501 CHAR. 1 CHAR. 2 <i>LWO Count</i> L W 502-503 CHAR. 3 CHAR. 4 O C 504-505 START BYTE BYTES/ELEMENT 162 4 506-507 UNUSED UNITS CODE 0 23 508-509 MULT. MANTISSA EXPONENT 1 0	BYTES 510-511 ADDITIVE CONSTANT 0 512-513 CHAR. 1 CHAR. 2 <i>Max Count</i> M A 514-515 CHAR. 3 CHAR. 4 X C 516-517 START BYTE BYTES/ELEMENT 166 4 518-519 UNUSED UNITS CODE 0 23 520-521 MULT. MANTISSA EXPONENT 1 0 522-523 ADDITIVE CONSTANT 0 524-525 CHAR. 1 CHAR. 2 <i>CWO Count</i> C W 526-527 CHAR. 3 CHAR. 4 O C 528-529 START BYTE BYTES/ELEMENT 170 4 530-531 UNUSED UNITS CODE 0 23 532-533 MULT. MANTISSA EXPONENT 1 0 534-535 ADDITIVE CONSTANT 0 536-537 CHAR. 1 CHAR. 2 <i>Max Count</i> M A 538-539 CHAR. 3 CHAR. 4 X C
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FIGURE 2.3.5-7 ENVIRONMENTAL DATA DESCRIPTION BLOCK (Continued)

BYTES	START BYTE	BYTES/ ELEMENT	BYTES	ADDITIVE CONSTANT	BYTES	START BYTE	BYTES/ ELEMENT
540-541	174	4	570-571	0	500-501	194	4
542-543	UNUSED	UNITS CODE	572-573	CHAR. 1 R	502-503	UNUSED	UNITS CODE
	0	23		CHAR. 2 O		0	23
544-545	MULT. MANTISSA	EXPONENT	574-575	CHAR. 3 C	504-505	MULT. MANTISSA	EXPONENT
	1	0		CHAR. 4		1	0
546-547	ADDITIVE CONSTANT		576-577	START BYTE	506-507	ADDITIVE CONSTANT	
	0			186		0	
548-549	CHAR. 1 W	CHAR. 2 V	578-579	UNUSED	508-509	CHAR. 1 M	CHAR. 2 A
				0			
550-551	CHAR. 3 O	CHAR. 4 C	580-581	MULT. MANTISSA	610-611	CHAR. 3 X	CHAR. 4 C
				1			
552-553	START BYTE	BYTES/ ELEMENT	582-583	ADDITIVE CONSTANT	612-613	START BYTE	BYTES/ ELEMENT
	178	4		0		198	4
554-555	UNUSED	UNITS CODE	584-585	CHAR. 1 M	614-615	UNUSED	UNITS CODE
	0	23		CHAR. 2 A		0	23
556-557	MULT. MANTISSA	EXPONENT	586-587	CHAR. 3 X	616-617	MULT. MANTISSA	EXPONENT
	1	0		CHAR. 4 C		1	0
558-559	ADDITIVE CONSTANT		588-589	START BYTE	618-619	ADDITIVE CONSTANT	
	0			190		0	
560-561	CHAR. 1 M	CHAR. 2 A	590-591	UNUSED	620-621	CHECKSUM (Calc. in SMISHM)	
				0			
562-563	CHAR. 3 X	CHAR. 4 C	592-593	MULT. MANTISSA			
				1			
564-565	START BYTE	BYTES/ ELEMENT	594-595	ADDITIVE CONSTANT			
	182	4		0			
566-567	UNUSED	UNITS CODE	596-597	CHAR. 1 R			
	0	23		CHAR. 2 T			
568-569	MULT. MANTISSA	EXPONENT	598-599	CHAR. 3 C			
	1	0		CHAR. 4			

FIGURE 2.3.5-8 CALIBRATION DATA BLOCK

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH	40-41	UPPER LIMIT OF VARIANCE	78-79	COLD LOAD 1 VARIANCE
2-3	BLOCK ID	42-43	HOT LOAD 1 AVERAGE	80-81	COLD LOAD 2 AVERAGE
4-7	SPACECRAFT ID	44-45	HOT LOAD 1 VARIANCE	82-83	COLD LOAD 2 VARIANCE
8-11	REV NUMBER	46-47	HOT LOAD 2 AVERAGE	84-85	COLD LOAD 3 AVERAGE
12-15	BEGINNING SCAN START TIME	48-49	HOT LOAD 2 VARIANCE	86-87	COLD LOAD 3 VARIANCE
16-19	ENDING SCAN START TIME	50-51	HOT LOAD 3 AVERAGE	88-89	COLD LOAD 4 AVERAGE
20-21	CALIBRATION FLAG	52-53	HOT LOAD 3 VARIANCE	90-91	COLD LOAD 4 VARIANCE
22-23	SPIN PERIOD AVERAGE	54-55	HOT LOAD 4 AVERAGE	92-93	COLD LOAD 5 AVERAGE
24-25	SPIN PERIOD VARIANCE	56-57	HOT LOAD 4 VARIANCE	94-95	COLD LOAD 5 VARIANCE
26-27	LOWER LIMIT OF AVERAGE	58-59	HOT LOAD 5 AVERAGE	96-97	COLD LOAD 6 AVERAGE
28-29	UPPER LIMIT OF AVERAGE	60-61	HOT LOAD 5 VARIANCE	98-99	COLD LOAD 6 VARIANCE
30-31	UPPER LIMIT OF VARIANCE	62-63	HOT LOAD 6 AVERAGE	100-101	COLD LOAD 7 AVERAGE
32-33	THERMISTOR AVERAGE	64-65	HOT LOAD 6 VARIANCE	102-103	COLD LOAD 7 VARIANCE
34-35	THERMISTOR VARIANCE	66-67	HOT LOAD 7 AVERAGE	104-105	LOWER LIMIT OF AVERAGE
36-37	LOWER LIMIT OF AVERAGE	68-69	HOT LOAD 7 VARIANCE	106-107	UPPER LIMIT OF AVERAGE
38-39	UPPER LIMIT OF AVERAGE	70-71	LOWER LIMIT OF AVERAGE	108-109	UPPER LIMIT OF VARIANCE
		72-73	UPPER LIMIT OF AVERAGE	110-111	RF MIXER COUNT AVERAGE
		74-75	UPPER LIMIT OF VARIANCE	112-113	RF MIXER COUNT VARIANCE
		76-77	COLD LOAD 1 AVERAGE	114-115	LOWER LIMIT OF AVERAGE

FIGURE 2.3.5-8 CALIBRATION DATA BLOCK (Continued)

BYTES		BYTES		BYTES	
116-117	UPPER LIMIT OF AVERAGE	154-155	SLOPE 3 AVERAGE	192-193	MINIMUM VALUE SLOPE 6
118-119	UPPER LIMIT OF VARIANCE	156-157	MINIMUM VALUE SLOPE 3	194-195	MAXIMUM VALUE SLOPE 6
120-121	FORWARD RADIATOR AVERAGE	158-159	MAXIMUM VALUE SLOPE 3	196-197	OFFSET 6 AVERAGE
122-123	FORWARD RADIATOR VARIANCE	160-161	OFFSET 3 AVERAGE	198-199	MINIMUM VALUE OFFSET 6
124-125	LOWER LIMIT OF AVERAGE	162-163	MINIMUM VALUE OFFSET 3	200-201	MAXIMUM VALUE OFFSET 6
126-127	UPPER LIMIT OF AVERAGE	164-165	MAXIMUM VALUE OFFSET 3	202-203	SLOPE 7 AVERAGE
128-129	UPPER LIMIT OF VARIANCE	166-167	SLOPE 4 AVERAGE	204-205	MINIMUM VALUE SLOPE 7
130-131	SLOPE 1 AVERAGE	168-169	MINIMUM VALUE SLOPE 4	206-207	MAXIMUM VALUE SLOPE 7
132-133	MINIMUM VALUE SLOPE 1	170-171	MAXIMUM VALUE SLOPE 4	208-209	OFFSET 7 AVERAGE
134-135	MAXIMUM VALUE SLOPE 1	172-173	OFFSET 4 AVERAGE	210-211	MINIMUM VALUE OFFSET 7
136-137	OFFSET 1 AVERAGE	174-175	MINIMUM VALUE OFFSET 4	212-213	MAXIMUM VALUE OFFSET 7
138-139	MINIMUM VALUE OFFSET 1	176-177	MAXIMUM VALUE OFFSET 4	214-215	AGC 1 COUNT
140-141	MAXIMUM VALUE OFFSET 1	178-179	SLOPE 5 AVERAGE	216-217	AGC 2 COUNT
142-143	SLOPE 2 AVERAGE	180-181	MINIMUM VALUE SLOPE 5	218-219	AGC 3 COUNT
144-145	MINIMUM VALUE SLOPE 2	182-183	MAXIMUM VALUE SLOPE 5	220-221	AGC 4 COUNT
146-147	MAXIMUM VALUE SLOPE 2	184-185	OFFSET 5 AVERAGE	222-223	AGC 5 COUNT
148-149	OFFSET 2 AVERAGE	186-187	MINIMUM VALUE OFFSET 5	224-225	AGC 6 COUNT
150-151	MINIMUM VALUE OFFSET 2	188-189	MAXIMUM VALUE OFFSET 5	226-227	AGC 7 COUNT
152-153	MAXIMUM VALUE OFFSET 2	190-191	SLOPE 6 AVERAGE	228-229	AGC MAXIMUM COUNT LIMIT
				230-231	CHECKSUM

FIGURE 2.3.5-9 TBS HEADER BLOCK

BYTES	
0-1	BLOCK LENGTH
2-3	BLOCK ID
4-7	SPACECRAFT ID
8-11	REV NUMBER
12-15	BEGINNING SCAN START TIME
16-19	ENDING SCAN START TIME
20-23	DATA QUALITY ERROR COUNT
24-27	BLOCK ID DISCONTINUITIES
28-29	TBS FLAG
30-31	CHECKSUM

FIGURE 2.3.5-10 TBS DATA BLOCK

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH	38-39	UPPER LIMIT OF AVERAGE	76-77	LOWER LIMIT OF AVERAGE
2-3	BLOCK ID	40-41	UPPER LIMIT OF VARIANCE	78-79	UPPER LIMIT OF AVERAGE
4-5	LOWER LATITUDE	42-43	37 GHz V AVERAGE	80-81	UPPER LIMIT OF VARIANCE
6-7	UPPER LATITUDE	44-45	37 GHz V VARIANCE	82-783	(REPEAT BYTES 4-81 9 TIMES)
8-9	LOWER LONGITUDE	46-47	LOWER LIMIT OF AVERAGE		
10-11	UPPER LONGITUDE	48-49	UPPER LIMIT OF AVERAGE		
12-13	19 GHz V AVERAGE	50-51	UPPER LIMIT OF VARIANCE		
14-15	19 GHz V VARIANCE	52-53	37 GHz H AVERAGE		
16-17	LOWER LIMIT OF AVERAGE	54-55	37 GHz H VARIANCE	784-785	CHECKSUM
18-19	UPPER LIMIT OF AVERAGE	56-57	LOWER LIMIT OF AVERAGE		
20-21	UPPER LIMIT OF VARIANCE	58-59	UPPER LIMIT OF AVERAGE		
22-23	19 GHz H AVERAGE	60-61	UPPER LIMIT OF VARIANCE		
24-25	19 GHz H VARIANCE	62-63	85 GHz V AVERAGE		
26-27	LOWER LIMIT OF AVERAGE	64-65	85 GHz V VARIANCE		
28-29	UPPER LIMIT OF AVERAGE	66-67	LOWER LIMIT OF AVERAGE		
30-31	UPPER LIMIT OF VARIANCE	68-69	UPPER LIMIT OF AVERAGE		
32-33	22 GHz V AVERAGE	70-71	UPPER LIMIT OF VARIANCE		
34-35	22 GHz V VARIANCE	72-73	85 GHz H AVERAGE		
36-37	LOWER LIMIT OF AVERAGE	74-75	85 GHz H VARIANCE		

FIGURE 2.3.5-11 ENVIRONMENTAL DATA BLOCK

BYTES		BYTES		BYTES	
0-1	BLOCK LENGTH	46-49	SOIL MOISTURE	94-97	SURFACE TEMPERATURE VEGETATION
2-3	BLOCK ID	50-53	MAX COUNT	98-101	MAX COUNT
4-7	SPACECRAFT ID	54-57	CLOUD AMOUNT OVER LAND	102-105	CLOUD WATER OVER SNOW
8-11	REV NUMBER	58-61	MAX COUNT	106-109	MAX COUNT
12-15	BEGINNING SCAN START TIME	62-65	SURFACE TEMPERATURE OVER LAND	110-113	SURFACE TEMPERATURE OVER SNOW
16-19	ENDING SCAN START TIME	66-69	MAX COUNT	114-117	MAX COUNT
20-21	ENVIRONMENTAL FLAG	70-73	SURFACE TEMPERATURE OVER DESERT	118-121	CLOUD AMOUNT OVER SNOW
22-25	RAIN OVER LAND	74-77	MAX COUNT	122-125	MAX COUNT
26-29	MAX COUNT	78-81	SURFACE TEMPERATURE OVER FROZEN GROUND	126-129	SNOW WATER CONTENT
30-33	LIQUID WATER OVER LAND	82-85	MAX COUNT	130-133	MAX COUNT
34-37	MAX COUNT	86-89	SURFACE TEMPERATURE GLACIAL	134-137	ICE CONCENTRATION
38-41	CLOUD WATER OVER LAND	90-93	MAX COUNT	138-141	MAX COUNT
42-45	MAX COUNT				

FIGURE 2.3.5-11 ENVIRONMENTAL DATA BLOCK (Continued)

BYTES		BYTES	
142-145	ICE AGE	198-193	RAIN OVER OCEAN
146-149	MAX COUNT	194-197	MAX COUNT
150-153	CLOUD WATER OVER ICE	198-201	RADIATIVE TRANSMISSIVITY
154-157	MAX COUNT	202-205	MAX COUNT
158-161	SURFACE WIND	206-207	CHECKSUM
162-165	MAX COUNT		
166-169	LIQUID WATER OVER OCEAN		
170-173	MAX COUNT		
174-177	CLOUD WATER OVER OCEAN		
178-181	MAX COUNT		
182-185	WATER VAPOR OVER OCEAN		
186-189	MAX COUNT		

FIGURE 2.3.5-12 END OF PRODUCT BLOCK

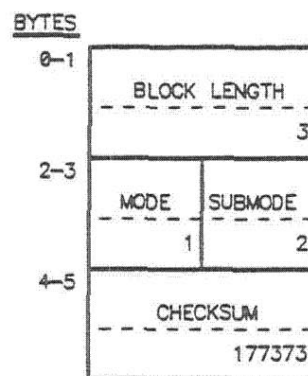


Figure 2.4.1-1 and 2.4.1-2 shows the format of the TDR File records; Tables 2.4.1-1 and 2.4.1-2 explicitly define the contents of the header and data records. The factor given in the table is the number by which the value in the file must be multiplied to restore the value to the specified units.

2.4.2 Sensor Data Record File (SYXXXXXX.SDR)

2.4.2.1 Functional Description

This file contains earth located, calibrated, and antenna pattern corrected brightness temperatures calculated by the SMISDP CPC.

2.4.2.2 Physical Interface Specification

The SDR file contains a header record that describes the orbit number and its ascending node time, the spacecraft ID, the size of the file, and the counts of data quality errors and block ID discontinuities found in the raw data file. Following this header, the file is ordered by A/B scan pairs; each of these is stored in a separate 3332 byte record.

Each A/B scan pair begins with a B scan start time. This is followed by the scene station data for the scan pair. All data in the file is in integer format.

Figures 2.4.2-1 and 2.4.2-2 show the overall format of the SDR File; Tables 2.4.2-1 and 2.4.2-2 explicitly define the contents of the header and data records. The factor given in the table is the number by which the value in the file must be multiplied to restore the value to the specified units.

FIGURE 2.4.1-1 SMITDR FILE HEADER RECORD FORMAT

<u>BYTES</u>	
1-4	REV NUMBER
5-8	SPACECRAFT ID
9-12	RECORD COUNT
13-16	ASCENDING NODE DAY
17-20	ASCENDING NODE HOUR
21-24	ASCENDING NODE MINUTE
25-28	ASCENDING NODE SECOND
29-3582	UNUSED

FIGURE 2.4.1-2 SMITDR DATA RECORD FORMAT

BYTES		BYTES		BYTES	
1-4	B-SCAN START TIME	43-44	OFFSET 19 GHz V	81-82	19 GHz H COLD LOAD READING
5-8	EPHEMERIS MINUTE VECTOR	45-46	SLOPE 19 GHz H	83-84	19 GHz H COLD LOAD READING
9-12	LATITUDE	47-48	OFFSET 19 GHz H	85-86	19 GHz H COLD LOAD READING
13-16	LONGITUDE	49-50	SLOPE 22 GHz V	87-88	19 GHz H COLD LOAD READING
17-20	ALTITUDE	51-52	OFFSET 22 GHz V	89-90	22 GHz V COLD LOAD READING
21-22	HOT LOAD THERMAL TEMPERATURE 3	53-54	SLOPE 37 GHz V	91-92	22 GHz V COLD LOAD READING
23-24	HOT LOAD THERMAL TEMPERATURE 2	55-56	OFFSET 37 GHz V	93-94	22 GHz V COLD LOAD READING
25-26	HOT LOAD THERMAL TEMPERATURE 1	57-58	SLOPE 37 GHz H	95-96	22 GHz V COLD LOAD READING
27-28	REFERENCE VOLTAGE 2	59-60	OFFSET 37 GHz H	97-98	22 GHz V COLD LOAD READING
29-30	REFERENCE VOLTAGE 1	61-62	SLOPE 85 GHz V	99-100	37 GHz V COLD LOAD READING
31-32	RF MIXER TEMPERATURE	63-64	OFFSET 85 GHz V	101-102	37 GHz V COLD LOAD READING
33-34	FORWARD RADIATOR TEMPERATURE	65-66	SLOPE 85 GHz H	103-104	37 GHz V COLD LOAD READING
35-36	SCAN AUTO GAIN CONTROL SETTING 3	67-68	OFFSET 85 GHz H	105-106	37 GHz V COLD LOAD READING
37-38	SCAN AUTO GAIN CONTROL SETTING 2	69-70	19 GHz V COLD LOAD READING	107-108	37 GHz V COLD LOAD READING
39-40	SCAN AUTO GAIN CONTROL SETTING 1	71-72	19 GHz V COLD LOAD READING	109-110	37 GHz H COLD LOAD READING
41-42	SLOPE 19 GHz V	73-74	19 GHz V COLD LOAD READING	111-112	37 GHz H COLD LOAD READING
		75-76	19 GHz V COLD LOAD READING	113-114	37 GHz H COLD LOAD READING
		77-78	19 GHz V COLD LOAD READING	115-116	37 GHz H COLD LOAD READING
		79-80	19 GHz H COLD LOAD READING	117-118	37 GHz H COLD LOAD READING

FIGURE 2.4.1-2 SMITDR DATA RECORD FORMAT (Continued)

BYTES		BYTES		BYTES	
119-120	85 GHz V COLD LOAD READING	159-160	22 GHz V HOT LOAD READING	199-200	85 GHz H HOT LOAD READING
121-122	85 GHz V COLD LOAD READING	161-162	22 GHz V HOT LOAD READING	201-202	85 GHz H HOT LOAD READING
123-124	85 GHz V COLD LOAD READING	163-164	22 GHz V HOT LOAD READING	203-204	85 GHz H HOT LOAD READING
125-126	85 GHz V COLD LOAD READING	165-166	22 GHz V HOT LOAD READING	205-206	85 GHz H HOT LOAD READING
127-128	85 GHz V COLD LOAD READING	167-168	22 GHz V HOT LOAD READING	207-208	85 GHz H HOT LOAD READING
129-130	85 GHz H COLD LOAD READING	169-170	37 GHz V HOT LOAD READING	209-210	AUTO GAIN CONTROL SETTING 3
131-132	85 GHz H COLD LOAD READING	171-172	37 GHz V HOT LOAD READING	211-212	AUTO GAIN CONTROL SETTING 2
133-134	85 GHz H COLD LOAD READING	173-174	37 GHz V HOT LOAD READING	213-214	AUTO GAIN CONTROL SETTING 1
135-136	85 GHz H COLD LOAD READING	175-176	37 GHz V HOT LOAD READING	215-216	85 GHz V COLD LOAD READING
137-138	85 GHz H COLD LOAD READING	177-178	37 GHz V HOT LOAD READING	217-218	85 GHz V COLD LOAD READING
139-140	19 GHz V HOT LOAD READING	179-180	37 GHz H HOT LOAD READING	219-220	85 GHz V COLD LOAD READING
141-142	19 GHz V HOT LOAD READING	181-182	37 GHz H HOT LOAD READING	221-222	85 GHz V COLD LOAD READING
143-144	19 GHz V HOT LOAD READING	183-184	37 GHz H HOT LOAD READING	223-224	85 GHz V COLD LOAD READING
145-146	19 GHz V HOT LOAD READING	185-186	37 GHz H HOT LOAD READING	225-226	85 GHz H COLD LOAD READING
147-148	19 GHz V HOT LOAD READING	187-188	37 GHz H HOT LOAD READING	227-228	85 GHz H COLD LOAD READING
149-150	19 GHz H HOT LOAD READING	189-190	85 GHz V HOT LOAD READING	229-230	85 GHz H COLD LOAD READING
151-152	19 GHz H HOT LOAD READING	191-192	85 GHz V HOT LOAD READING	231-232	85 GHz H COLD LOAD READING
153-154	19 GHz H HOT LOAD READING	193-194	85 GHz V HOT LOAD READING	233-234	85 GHz H COLD LOAD READING
155-156	19 GHz H HOT LOAD READING	195-196	85 GHz V HOT LOAD READING	235-236	85 GHz V HOT LOAD READING
157-158	19 GHz H HOT LOAD READING	197-198	85 GHz V HOT LOAD READING	237-238	85 GHz V HOT LOAD READING

FIGURE 2.4.1-2 SMITDR DATA RECORD FORMAT (Continued)

BYTES	
239-240	85 GHz V HOT LOAD READING
241-242	85 GHz V HOT LOAD READING
243-244	85 GHz V HOT LOAD READING
245-246	85 GHz H HOT LOAD READING
247-248	85 GHz H HOT LOAD READING
249-250	85 GHz H HOT LOAD READING
251-252	85 GHz H HOT LOAD READING
253-254	85 GHz H HOT LOAD READING
255-256	SCENE STATION COUNTER
257-258	LATITUDE
259-260	LONGITUDE
261-262	19 GHz V ANTENNA TEMP.
263-264	19 GHz H ANTENNA TEMP.
265-266	22 GHz V ANTENNA TEMP.
267-268	37 GHz V ANTENNA TEMP.
269-270	37 GHz H ANTENNA TEMP.
271-272	85 GHz V ANTENNA TEMP.
273-274	85 GHz H ANTENNA TEMP.
275-276	SURFACE TYPE POSITION NUMBER

BYTES	
277-278	LATITUDE
279-280	LONGITUDE
281-282	85 GHz V ANTENNA TEMP.
283-284	85 GHz H ANTENNA TEMP.
285-286	SURFACE TYPE POSITION NUMBER
287-306	(REPEAT BYTES 277-286 TWICE)
307-3583	(REPEAT BYTES 255-306 63 TIMES)

TABLE 2.4.1-1 CONTENTS OF THE TDR FILE HEADER RECORD

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
BSTM	1	4	Seconds	1x10 ⁻⁴	B scan start time
EMV	5	4	Seconds		Ephemeris time
LAT	9	4	Degrees	1X10 ⁻⁶	Ephemeris latitude
LON	13	4	Degrees	1X10 ⁻⁶	Ephemeris longitude
ALT	17	4	Meters		Ephemeris altitude
HLD3	21	2	Kelvins	1X10 ⁻²	Hot load #3 reading
HLD2	23	2	Kelvins	1X10 ⁻²	Hot load #2 reading
HLD1	25	2	Kelvins	1X10 ⁻²	Hot load #1 reading
CR2	27	2	Counts		Temperature Reference Voltage
CR1	29	2	Counts		Temperature Reference Return
TR	31	2	Kelvins	1X10 ⁻²	RF Mixer Temperature
TPC	33	2	Kelvins	1X10 ⁻²	Forward Radiator Temperature
AGC3	35	2	Counts		Automatic Gain Control value #3 for the A scan
AGC2	37	2	Counts		Automatic Gain Control value #2 for the A scan
AGC1	39	2	Counts		Automatic Gain Control value #1 for the A scan
S19V	41	2	Degrees/ Count	1X10 ⁻⁵	Antenna transfer function slope for 19V

TABLE 2.4.1-1 CONTENTS OF THE TDR FILE HEADER RECORD (Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
019V	43	2	Counts	2×10^{-2}	Antenna transfer function offset for 19V
S19H	45	2	Degrees/ Count	1×10^{-5}	Antenna transfer function slope for 19H
019H1	47	2	Counts	2×10^{-2}	Antenna transfer function offset for 19H

TABLE 2.4.1-2 CONTENTS OF THE TDR FILE DATA RECORDS

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
S22V	49	2	Degrees/ Count	1X10-5	Antenna transfer function slope for 22V
022V	51	2	Counts	2X10-2	Antenna transfer function offset for 22V
037V	53	2	Degrees/ Count	1X10-5	Antenna transfer function offset for 37V
037V	55	2	Counts	2X10-2	Antenna transfer function offset for 37V
S37H	57	2	Degrees/ Count	1X10-5	Antenna transfer function offset for 37H
037H	59	2	Counts	2X10-2	Antenna transfer function offset for 37H
S85V	61	2	Degrees/ Count	1X10-5	Antenna transfer function slope for 85V
085V	63	2	Counts	2X10-2	Antenna transfer function offset for 85V
S85H	65	2	Degrees/ Count	1X10-5	Antenna transfer function slope for 85H
085H	67	2	Counts	2X10-2	Antenna transfer function offset for 85H
C1(5)	69	10	Counts		Five 16-bit A scan cold load readings for 19V
C2(5)	79	10	Counts		Five 16-bit A scan cold load readings for 19H

TABLE 2.4.1-2 CONTENTS OF THE TDR FILE DATA RECORDS (Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
C3 (5)	89	10	Counts		Five 16-bit A scan cold load readings for 22V
C4 (5)	99	10	Counts		Five 16-bit A scan cold load readings for 37V
C5 (5)	109	10	Counts		Five 16-bit A scan cold load readings for 37H
C6 (5)	119	10	Counts		Five 16-bit A scan cold load readings for 85V
C7 (5)	129	10	Counts		Five 16-bit A scan cold load readings for 85H
H1 (5)	139	10	Counts		Five 16-bit A scan hot load readings for 19V
H2 (5)	149	10	Counts		Five 16-bit A scan hot load readings for 19H
H3 (5)	159	10	Counts		Five 16-bit A scan hot load readings for 22V
H4 (5)	169	10	Counts		Five 16-bit A scan hot load readings for 37V
H5 (5)	179	10	Counts		Five 16-bit A scan hot load readings for 37H
H6 (5)	189	10	Counts		Five 16-bit A scan hot load readings for 85V
H7 (5)	199	10	Counts		Five 16-bit A scan hot load readings for 85H
AGC3	209	2	Counts		Automatic Gain Control value #3 for the B scan

TABLE 2.4.1-2 CONTENTS OF THE TDR FILE DATA RECORDS (Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
AGC2	211	2	Counts		Automatic Gain Control value #2 for the B scan
AGC1	213	2	Counts		Automatic Gain Control value #1 for the B scan
C6(5)	215	10	Counts		Five 16-bit A scan cold load readings for 85V
C7(5)	225	10	Counts		Five 16-bit A scan cold load readings for 85H
H6(5)	235	10	Counts		Five 16-bit A scan hot load readings for 85V
H7(5)	245	10	Counts		Five 16-bit A scan hot load readings for 85H
CNTR	255	2	None		Counter indicating the number of the current scene station block within the scan pair
LAT	257	2	Degrees	1X10-2	Scene Station Latitude
LON	259	2	Degrees	1X10-2	Scene Station Longitude
T19V	261	2	Kelvins	1X10-2	Pre-APC antenna temperature for 19V
T19H	263	2	Kelvins	1X10-2	Pre-APC antenna temperature for 19H
T22H	265	2	Kelvins	1X10-2	Pre-APC antenna temperature for 22V
T37V	267	2	Kelvins	1X10-2	Pre-APC antenna temperature for 37V

TABLE 2.4.1-2 CONTENTS OF THE TDR FILE DATA RECORDS (Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
T37H	269	2	Kelvins	1X10-2	Pre-APC antenna temperature for 37H
T85V	271	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85V
T85H	273	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85H
ST	275	1	None		Surface Type
PONO	276	1	None		Position number
LAT	277	2	Degrees	1X10-2	Scene Station Latitude
LON	279	2	Degrees	1X10-2	Scene Station Longitude
T85V	281	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85V
T85H	283	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85H
ST	285	1	None		Surface Type
PONO	286	1	None		Position number
LAT	287	2	Degrees	1X10-2	Scene Station Latitude
LON	289	2	Degrees	1X10-2	Scene Station Longitude
T85V	291	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85V
T85H	293	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85H
ST	295	1	None		Surface Type
PONO	296	1	None		Position number

TABLE 2.4.1-2 CONTENTS OF THE TDR FILE DATA RECORDS (Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
LAT	297	2	Degrees	1X10-2	Scene Station Longitude
LON	299	2	Degrees	1X10-2	Scene Station Longitude
T85V	301	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85V
T85H	303	2	Kelvins	1X10-2	Pre-APC antenna temperature for 85H
ST	305	1	None		Surface Type
PONO	306	1	None		Position number

Bytes 255-306 are then repeated for each of the 63 remaining scene station blocks in the scan pair.

FIGURE 2.4.2-1 SMISDR FILE HEADER RECORD FORMAT

Bytes		
1-4	Rev Number	291-0550001.1
5-8	Spacecraft ID	
9-12	Record Count	
13-16	Ascending Node Day	
17-20	Ascending Node Hour	
21-24	Ascending Node Minute	
25-28	Ascending Node Second	
29-32	All Scenes Flag	
33-36	Data Quality Error Count	
37-40	Block ID Discontinuity Count	
41-3332	Unused	

FIGURE 2.4.2-2 SMISDR FILE DATA RECORD FORMAT

BYTES	
1-4	SCAN START TIME (=10000)
5-6	SCENE STATION COUNTER
7-8	LATITUDE
9-10	LONGITUDE
11-12	19 GHz V BRIGHTNESS TEMP.
13-14	19 GHz H BRIGHTNESS TEMP.
15-16	22 GHz V BRIGHTNESS TEMP.
17-18	37 GHz V BRIGHTNESS TEMP.
19-20	37 GHz H BRIGHTNESS TEMP.
21-22	85 GHz V BRIGHTNESS TEMP.
23-24	85 GHz H BRIGHTNESS TEMP.
25-26	SURFACE TYPE POSITION NUMBER
27-28	LATITUDE
29-30	LONGITUDE
31-32	85 GHz V BRIGHTNESS TEMP.
33-34	85 GHz H BRIGHTNESS TEMP.
35-36	SURFACE TYPE POSITION NUMBER
37-56	(REPEAT BYTES 27-36 TWICE)
57-3332	(REPEAT BYTES 5-56 63 TIMES)

TABLE 2.4.2-1 CONTENTS OF THE SDR FILE HEADER RECORD

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
REV#	1	4	None		Revolution number
SCID	5	4	None		Satellite identifier
SRECNM	9	4	None		The number of data records in the file excluding the header record
AJLD	13	4	Days		The day of the ascending node
AHR	17	4	Hours		The hour of the ascending node
AMN	21	4	Minutes		The minute of the ascending node
ASEC	25	4	Seconds		The second of the ascending node
ASF	29	4	None		0 = All channel scenes only 1 = All scenes
DQE	33	4	None		The number of data quality errors that were in the raw data
BIDD	37	4	None		The number of block ID discontinuities that were in the raw data

The remaining 3296 bytes in the file header are unused.

TABLE 2.4.2-2 CONTENTS OF THE SDR FILE DATA RECORDS

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
BSTM	1	4	Seconds	1x10 ⁻⁴	B scan start time
CNTR	5	2	None		Counter indicating the number of the current scene station block within the scan pair
LAT	7	2	Degrees	1X10 ⁻²	Scene Station Latitude
LON	9	2	Degrees	1X10 ⁻²	Scene Station Longitude
T19V	11	2	Kelvins	1X10 ⁻²	Brightness temperature for 19V
T19H	13	2	Kelvins	1X10 ⁻²	Brightness temperature for 19H
T22V	15	2	Kelvins	1X10 ⁻²	Brightness temperature for 22V
T37V	17	2	Kelvins	1X10 ⁻²	Brightness temperature for 37V
S37H	19	2	Kelvins	1X10 ⁻²	Brightness temperature for 37H
T85V	21	2	Kelvins	1X10 ⁻²	Brightness temperature for 37V
T85V	23	2	Kelvins	1X10 ⁻²	Brightness temperature to 85H
ST	25	1	None		Surface Type
PONO	26	1	None		Position number
LAT	27	2	Degrees	1X10 ⁻²	Scene Station Latitude
LON	29	2	Degrees	1X10 ⁻²	Scene Station Longitude
T85V	31	2	Kelvins	1X10 ⁻²	Brightness temperature for 85V

TABLE 2.4.2-2 CONTENTS OF THE SDR FILE DATA RECORDS
(Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
T85H	33	2	Kelvins	1X10-2	Brightness temperature for 85H
ST	35	1	None		Surface Type
PONO	36	1	None		Position number
LAT	37	2	Degrees	1X10-2	Scene Station Latitude
LON	39	2	Degrees	1X10-2	Scene Station Longitude
T85V	41	2	Kelvins	1X10-2	Brightness temperature for 85V
T85H	43	2	Kelvins	1X10-2	Brightness temperature for 85H
ST	45	1	None		Surface Type
PONO	46	1	None		Position number
LAT	47	2	Degrees	1X10-2	Scene Station Latitude
LON	49	2	Degrees	1X10-2	Scene Station Longitude
T85V	51	2	Kelvins	1X10-2	Brightness temperature for 85V
T85H	53	2	Kelvins	1X10-2	Brightness temperature for 85H
ST	55	1	None		Surface Type
PONO	56	1	None		Position number

2.4.3 Environmental Data Record File (SYXXXXXX.EDR)

2.4.3.1 Functional Description

This file contains the latest environmental parameters calculated by the SMIEPE CPC.

2.4.3.2 Physical Interface Specification

A Header record begins the EDR file; it contains the Satellite ID, the orbit number, the ascending node time of the orbit, a pointer to the end of the file, and the counts of each EDR parameter that were found to be out of limits. The remainder of the file consists of a series of two types of data records: All-Parameter records and 85 GHz scene station records containing RL and LWL values only. The second type of record is contained only in files that were generated with the appropriate option selected in SMIEPE. All EDR file records are 1288 bytes in length.

Both types of data records start with a logical flag that tells what type of record it is; All-Parameter records are flagged with a TRUE and 85 GHz scene station records are flagged with a FALSE. Following the flag is the B scan start time and all of the appropriate data for the type of record. All data in the file except the logical flags are in integer format.

Figures 2.4.3-1 through 2.4.3-3 show the overall format of the EDR file; Tables 2.4.3-1 through 2.4.3-3 explicitly define the contents of each record type. The factor given in the table is the number by which the value in the file must be multiplied to restore the value to the specified units.

Bytes	
1-4	Rev Number
5-8	Spacecraft ID
9-12	Record Count
13-16	Ascending Node Day
17-20	Ascending Node Hour
21-24	Ascending Node Minute
25-28	Ascending Node Second
29-32	Count of Out of Limits RL Values
33-36	Spare
37-40	Count of Out of Limits SM Values
41-44	Count of Out of Limits STL Values
45-48	Count of Out of Limits STD Values
49-52	Count of Out of Limits STV Values

Bytes	
53-60	Spare
61-64	Count of Out of Limits STVG Values
65-68	Count of Out of Limits IC Values
69-72	Count of Out of Limits IA Values
73-76	Count of Out of Limits CWI Values
77-80	Count of Out of Limits SW Values
81-84	Spare
85-88	Count of Out of Limits CWO Values
89-92	Count of Out of Limits WVO Values
93-96	Count of Out of Limits RO Values
97-100	Count of Out of Limits RT Values
101-104	Out of Range SDRS
105-1288	Unused

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FIGURE 2.4.3-1 SMI EDR File Header Record Format

FIGURE 2.4.3-2 SMIEDR FILE ALL-PARAMETER DATA RECORD FORMAT

BYTES	
1-4	.TRUE.
5-8	SCAN START TIME (*10000)
9-10	ALL SCENE STATION COUNTER
11-12	LATITUDE
13-14	LONGITUDE
15-16	SURFACE TAG CLOUD WATER
17-18	SPARE RAIN RATE
19-20	WIND SPEED SOIL MOISTURE
21-22	ICE CONC. ICE AGE
23-24	ICE EDGE WATER VAPOR
25-26	SURFACE TEMP. SPARE
27-28	RAIN FLAG CALC. S. TYPE
29-1288	(REPEAT BYTES 9-28 63 TIMES)

FIGURE 2.4.3-3 SMIEDR FILE 85 GHz SCENE DATA RECORD FORMAT

BYTES	
1-4	.FALSE.
5-8	SCAN START TIME (=10000)
9-10	LATITUDE
11-12	LONGITUDE
13-14	SPARE RAIN RATE
15-1288	(REPEAT BYTES 9-14 FOR EACH 85 GHz LAND SCENE IN THE SCAN PAIR)

TABLE 2.4.3-1 CONTENTS OF THE EDR FILE HEADER RECORD

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
REV#	1	4	None		Revolution number
SCID	5	4	None		Satellite identifier
ERECNM	9	4	None		The number of data records in the file excluding the header record
AJLD	13	4	Days		The day of the ascending node
AHR	17	4	Hours		The hour of the ascending node
AMN	21	4	Minutes		The minute of the ascending node
ASEC	25	4	Seconds		The second of the ascending node
RLC	29	4	None		The number of out of limits RL values in the ERD file
Spare	33	4	None		Spare
SMC	37	4	None		The number of out of limits SM values in the ERD file
STLC	41	4	None		The number of out of limits STL values in the ERD file
STDC	45	4	None		The number of out of limits STD values in the ERD file
STVC	49	4	None		The number of out of limits STG values in the ERD file

TABLE 2.4.3-1 CONTENTS OF THE EDR FILE HEADER RECORD
(Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
STVG	61	4	None		The number of out of limits STVG values in the ERD file
ICC	65	4	None		The number of out of limits IC values in the ERD file
IAC	69	4	None		The number of out of limits IA values in the ERD file
CWIC	73	4	None		The number of out of limits CWI values in the ERD file
SWC	77	4	None		The number of out of limits SW values in the ERD file
Spare	81	4	None		Spare
CWOC	85	4	None		The number of out of limits CWO values in the ERD file
WVOC	89	4	None		The number of out of limits WVO values in the ERD file
ROC	93	4	None		The number of out of limits RO values in the ERD file
RTC	97	4	None		The number of out of limits RY values in the ERD file

TABLE 2.4.3-1 CONTENTS OF THE EDR FILE HEADER RECORD
(Continued)

	<u>BYTES</u>	<u>BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
SDR	101	4	None		The number of out-of-range SDRs.

The remaining 1184 bytes in the file header record are unused.

2.4.4 Radiative Transmissivity (RT) File (SYVXXXXX.RTY)

2.4.4.1 Functional Description

This file contains Earth located Radiative Transmissivity values. This file is generated by the SMIEPE CPC if the appropriate processing option is selected.

2.4.4.2 Physical Interface Specification

The RT file contains a header record that describes the orbit number and its ascending node time, the spacecraft ID, and the size of the file. Following this header, the file is ordered by A/B scan pairs; each of these is stored in a separate 772 byte record. RTs are only calculated for the "all-channel" scene stations, resulting in a resolution of 25 km.

Figures 2.4.4-1 and 2.4.4-2 show the overall format of the RT file; Tables 2.4.4-1 and 2.4.4-2 explicitly define the contents of each record.

FIGURE 2.4.4-1 SMI RT FILE HEADER RECORD FORMAT

<u>BYTES</u>	
1-4	REV NUMBER
5-8	SPACECRAFT ID
9-12	RECORD COUNT
13-16	ASCENDING NODE DAY
17-20	ASCENDING NODE HOUR
21-24	ASCENDING NODE MINUTE
25-28	ASCENDING NODE SECOND
29-772	UNUSED

FIGURE 2.4.4-2 SMI RT FILE DATA RECORD FORMAT

BYTES	
1-4	SCAN START TIME (*10000)
5-8	SCENE STATION COUNTER
9-10	LATITUDE
11-12	LONGITUDE
13-14	19 GHz RT 22 GHz RT
15-16	37 GHz RT 85 GHz RT
17-18	SURFACE TAG
19-722	(REPEAT BYTES 5-18 FOR EACH RT CALCULATED IN THE SCAN)

TABLE 2.4.4-1 CONTENTS OF THE RT FILE HEADER RECORD

<u>MNEMONIC</u>	<u>START BYTE</u>	<u># OF BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
REV#	1	4	None		Revolution number
SCID	5	4	None		Satellite Identifier
RRECNM	9	4	None		The number of data records in the file excluding the header record
AJLD	13	4	Days		The day of the ascending node
AHR	17	4	Hours		The hour of the ascending node
AMN	21	4	Minutes		The minute of the ascending node
ASEC	25	4	Seconds		The second of the ascending node

The remaining 744 bytes in the file header record are unused.

TABLE 2.4.4-2 CONTENTS OF THE RT FILE DATA RECORDS

<u>MNEMONIC</u>	<u>START BYTE</u>	<u># OF BYTES</u>	<u>UNITS</u>	<u>FACTOR</u>	<u>DESCRIPTION</u>
BSTM	1	4	Seconds	1×10^{-4}	B scan start time
CNTR	5	4	None		Scene station counter
LAT	9	2	Degrees	1×10^{-2}	Scene Station Latitude
LON	11	2	Degrees	1×10^{-2}	Scene Station Longitude
RT19	13	1	Percent		1 9 G H z Radiative Transmissivity
RT22	14	1	Percent		2 2 G H z Radiative Transmissivity
RT37	15	1	Percent		3 7 G H z Radiative Transmissivity
RT85	16	1	Percent		8 5 G H z Radiative Transmissivity
ST	17	2	None		Surface Tag

Bytes 5-18 are then repeated for each RT calculated in the scan. Any unused bytes at the end of the record are zero filled.

RT values may be indeterminate or out of limits in some cases. These will be stored as 255 for indeterminate or as 254 for out of limits.

3.0 USER SUPPORT FOR DATA COLLECTION

3.1 Data Collection Requirements and Scope

The data elements required by SMI, to be collected by the user, consist of the Raw Sensor Data and Ephemeris Files discussed in Section 2.2.

3.1.1 Input Source(s) of the Data Elements

Each file element obtained is derived from one of three sources: the user (FNOC), Hughes Aircraft Company (HAC), or generated by an SMI execution. Each data source will be described for the specific element in Section 3.2 of this document.

Those data elements whose source is indicated as HAC are sensor dependent constants and have been supplied in the initial versions of the applicable files based on the SSM/I hardware design and preliminary instrument tests. The fixed values must be input by the user and will be supplied by HAC in the SSM/I sensor constants summary documents upon completion of the SSM/I instrument calibration and antenna range tests.

3.1.2 Input Device

Data is entered for the SMI execution via user-supplied decks containing the runstream sequence and optionally defined parameter overrides. All input file elements are accessed from cataloged peripheral (disc) storage devices.

3.1.3 Critical Values

The SMI design has been structured to maximize the throughput of data and, therefore, minimal interruptions to the data flow exist. Accuracy requirements and parameter range limits are verified to ensure correct processing of all Raw Sensor Data. Therefore, no "critical value" assignments have been made to any internal SMI data element.

3.1.4 Scales of Measurement

Scales of measurement (units) are described for each file element in Section 3.2 of this document. Parameters such as weighting factors, coefficients and those elements which are used as flags, headers, sync-patterns and ASCII literals are considered non-dimensional and are designated as "ND." Otherwise, each element will have an appropriate scale of measurement associated with it. Note, in the case of latitude, longitude, and temperature parameters, the units are indicated as DEGS*100 (LAT, LONG) or K*10 (TEMP). The actual units for these parameters are hundredths of degrees, not hundreds of degrees and tenths of degrees, not tens of degrees as might be misinterpreted from this type of notation.

3.1.5 Output From/Device

Output from a normal mode execution is limited to a printed four page run summary, and start-up and completion messages on the operator's console.

Optionally selected output varies with the output option(s) requested and is summarised below:

- OPTION 2 - Permanently save the SDR File. User may specify permanent saving of SDRs on disc and whether processing discards any SDR data.
- OPTION 5 - Generate diagnostic line printer output. User may specify the time period during which the diagnostics are desired and the processing function or functions for which diagnostics are desired.
- OPTION 7 - Generate radiative transmissivities. User may specify to compute and output RT to disc file or line printer.

A detailed description of all outputs and options can be obtained from the SSM/I Users Manual for FNOC.

3.1.6 Expansion Factors

The SMI CPCI is limited to processing data from only one satellite because of timing and storage constraints at FNOC. File estimates presented in Sections 2.1 and 2.2 would require individual adjustment if future processing philosophy and/or FNOC constraints are removed. No expansion factors are currently foreseen.

3.1.7 Frequency of Update

The primary input file (the Raw Sensor Data File) is updated on each revolution of the satellite. FNOC pre-processes the incoming satellite data to separate the special sensor data from the rest of the satellite data readout. The Ephemeris File is supplied by FNOC and is updated approximately twice per week.

3.2 Recommended Source of Input Data

Since the source of input data is fully defined, no recommendation is appropriate.

3.3 Data Collection and Transfer Procedures

The Raw Sensor Data File will be provided to the SMI CPCI in a local file named by the MAC. The Ephemeris File will be provided to the SMI CPCI in a local file named SSPEPHXX.DEF, where XX is the satellite ID.

3.3.1 Input Formats

The input formats are described in Section 2.3 of this document.

3.3.2 Output Formats

The output formats are described in Section 2.3 of this document.

3.4 Data Base Impacts

No FNOC data bases are affected by the SMI CPCI.

