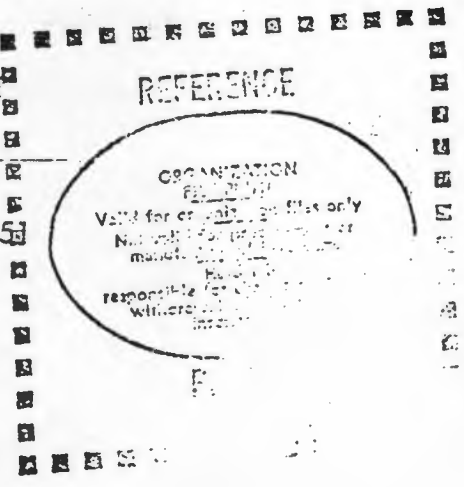
18

1241637 C
Basic Issue Date: 23 Dec. 1976
Rev A Date: 24 Mar. 1977
Rev C Date: 1 July 1977

TELEMETER INSTRUMENTATION SCHEDULE
LMSC NO. 1241637
SATELLITE VEHICLE SYSTEM
MODEL 22205 SERIAL NO. 635



Prepared by: R K Ideahara
R. K. IDEHARA 12/23/76
Design Integration

Checked by: [signature] Approved: _____
W. E. MEYER
Data Systems

Approved: [signature]
for J. W. OVERALL
BUS Engineering Manager

Approved: _____
R. P. MARCELLINI
SEASAT System Engineering Manager
& Chief System Engineer

RT SSE-20BBA-C2X

REVISIONS			
CHG	DESCRIPTION	APPROVAL	DATE
A	Page 17 Added TLM measurement numbers to the first 10 words of the data block Page 21 Deleted LA113 Page 22 Added LA503 Page 26 Reassigned LC120 & LC121 data pos. Page 29 Added LC553 & LC554 Page 32 Added LD214, LD216, LD218, and LD220 to LRS Reassigned LD221 & LD222 data pos. Page 49 Added TRI08 & TRI09 Page 50 Changed VR to VI Page 44 Added LH615 & LH616 Page 50A Added Data Block Preamble Work Format & LRS Work No. 11 Format Pages 60 through 127 Sensor Data Block section completely revised		4-8-77
B	Revised pages 1A, i, 4, 5, 10, 11, 12, 19, 20, 51, 54, 82, 84, 85, 86, 87, 88 Page ii is added.		5-9-77

REVISIONS			
CHG	DESCRIPTION	APPROVAL	DATE
C	Changed page ii to iii Added new page ii and iV Changed pages 3,5,8,16,17,18,19,21 thru 34, 36 thru 50, 51 thru 54, 57, 73, 82, 110, 111, 112 and 114	D Bonstiel for WE Meyer R Hamm	8JUL77 7/5/77

REVISION STATUS SHEET

AGE	1A	i	ii	iii	iv	1	2	3	4	5	6	7	8	9	10
EV.	C	B	C	C	C	A	A	C	B	C	A	A	C	A	B
AGE	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
EV.	B	B	A	A	A	C	C	C	C	B	C	C	C	C	C
AGE	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
EV.	C	C	C	C	C	C	C	C	C	A	C	C	C	C	C
AGE	41	42	43	44	45	46	47	48	49	50	50A	51	52	53	54	55
EV.	C	C	C	C	C	C	C	C	C	C	A	C	C	C	C	A
AGE	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
EV.	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A
AGE	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85
EV.	A	A	C	A	A	A	A	A	A	A	A	C	A	B	B
AGE	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
EV.	B	B	B	A	A	A	A	A	A	A	A	A	A	A	A
AGE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115
EV.	A	A	A	A	A	A	A	A	A	C	C	C	A	C	A
AGE	116	117	118	119	120	121	122	123	124	125	126	127			
EV.	A	A	A	A	A	A	A	A	A	A	A	A			

TABLE OF CONTENTS

*When used with the Vehicle Schematic, all page numbers are preceeded with 1.2.

INTRODUCTION

This Telemetry Instrumentation Schedule contains a listing and channel assignment of all data processed by the Satellite Vehicle System (SVS) data system. A brief description of the telemetry format is included. However, for detail description and performance requirements of the data system and of the data system/science sensor interfaces the users should refer to the Telemetry and Sensor Interface Unit (TSU) Specification 1429023 and to the applicable Government Furnished Equipment/SVS Interface Control Document.

GENERAL INFORMATION

BLOCK TELEMETER

The block diagram of the Block Telemeter is shown in figure one. There are seven independent, asynchronous inputs to the Block Telemeter. Each of the inputs is connected to an individual Sensor Data Assembler module which consists of a memory capable of storing four blocks of data, and associated read/write control logic. Each block of data stored in memory includes an eight bit ID word, a forty bit time word and up to 944 data bits. The blocks are selected asynchronously based on full data block availability and priority for outputting as a time multiplexed pulse-code modulated (PCM)signal . Sensor Block assignments along with their input and output data characteristics are listed in Table 1.

The formatting of the block sequence is accomplished by the Block Telemeter Control function. The output bit rate is 25000 bits per second, and there are 1024 bits per block. Therefore, a new output block occurs every 40.96 milliseconds. Every twenty-fifth block (every 1.024 secs) the Block Telemeter Control outputs an LRS (low rate sampled data) block. This block is formatted and output in real time. There is no intermediate data storage for the LRS data block.

By definition, a block frame consists of the LRS block and the succeeding 24 data blocks. When the LRS is not being output, an available data block is read out, and if more than one data block is available the blocks are sequentially selected based on their priority ranking (See Table 1). During periods when none of the sensor data blocks are available the command memory data of the Command Processor and Central Timing Unit (CTU) is used as fill. By real-time commands the engineering and status blocks (ascent, orbit, and orbit adjust blocks) and the CTU memory data can be selected to output.

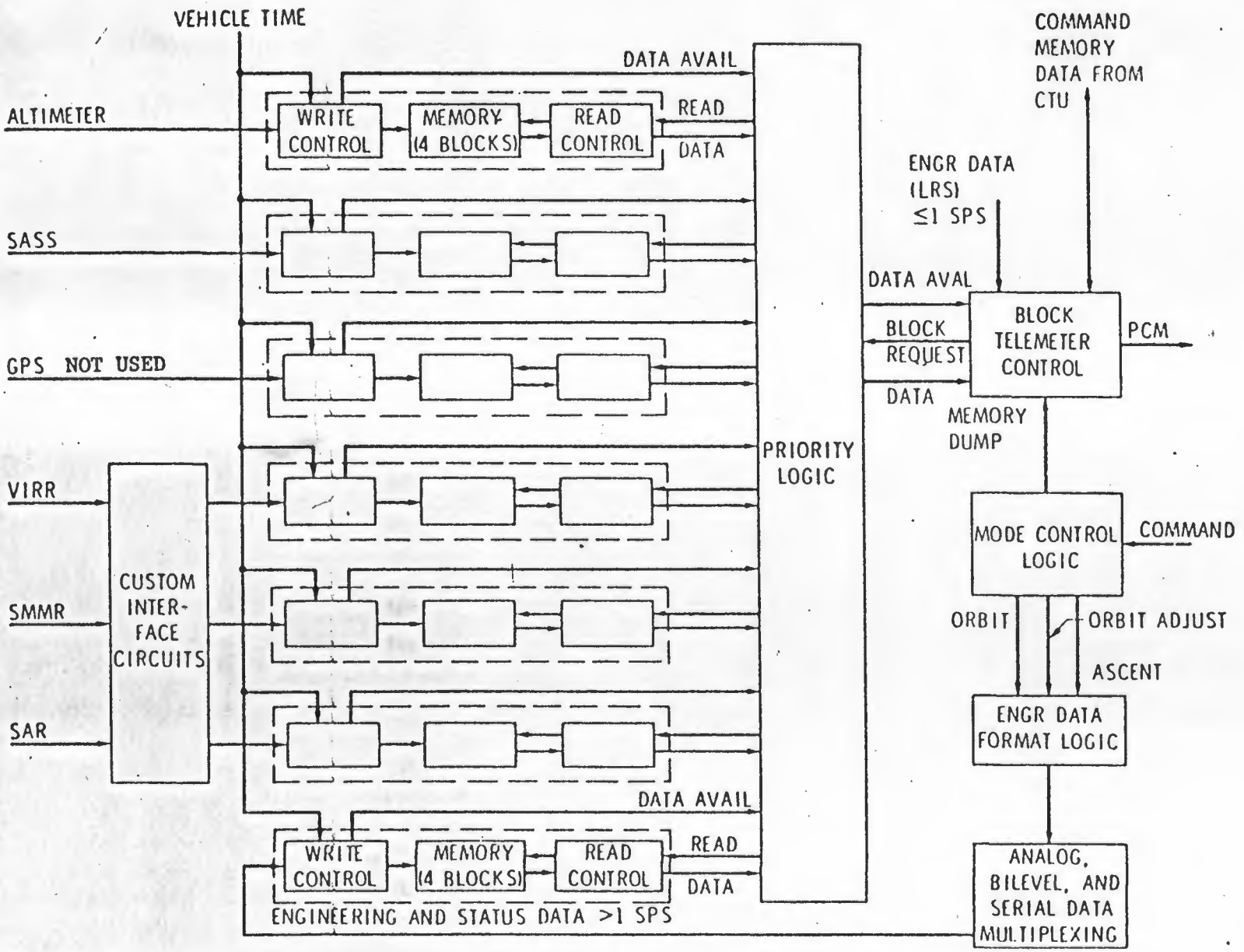
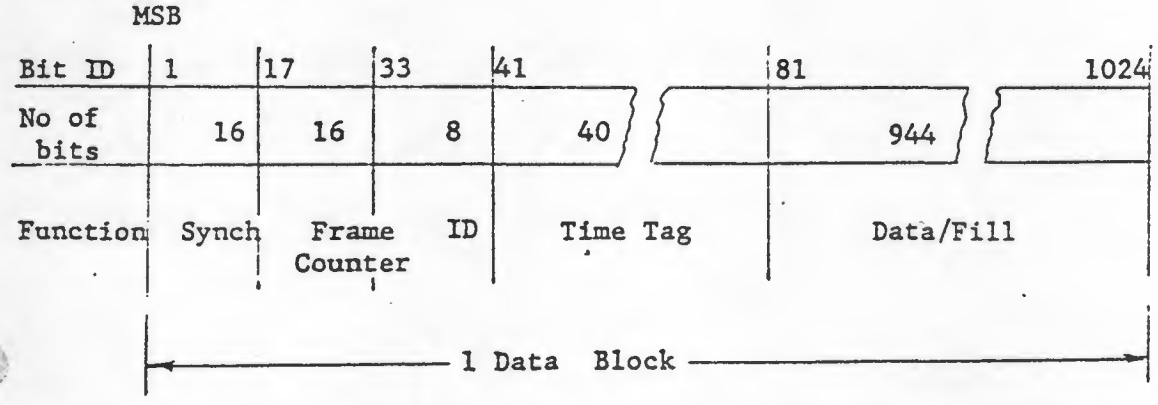


FIGURE 1 BLOCK TELEMETRY DIAGRAM

Table 1 shows the source data cycle (SDC) length for each of the input sources.

TLM Format

Each block as shown below is a 1024 bit frame length and each has the following characteristics:



a. Synchronizing Word (16 bits). The synchronizing word is 111 010 111 001 000 0

b. Frame Counter (16 bits). The 16-bit binary frame counter increments one count for each output block sequence. The counter will start at a random number with power turn on.

c. Identification (ID) Word (8 bits). The ID word identifies the data source and assigns the block identification number for the particular data block as shown below.

		ID WORD (bits 33 through 40)							
Data Source	bits	1	2	3	4	5	6	7	8
MEMORY DUMP		0	0	1					
ENGR		0	1	0					
SAR		0	1	1					
VIRR		1	0	0					
SASS		1	0	1					
SMMR		1	1	0					
ALT		1	1	1					
		Source ID			Block Number				Odd parity bit

TABLE I

INPUT SOURCE	PRIORITY	DATA CHARACTERISTICS	AVERAGE OUTPUT RATE (BLOCKS/SEC)	DATA BLOCKS/MAJOR FRAME	SOURCE NO. OF BITS/WORD
LRS	2*	BURST - 1 BLOCK, 1.024 SEC	0.9766	8	8
ALT	5	BURST - 850 BITS, 0.098 SEC	10.204	46	10
VIRR	6	BURST - 5 BLOCKS, 1.25 SEC	4.000	5	8**
SMMR	7	CONTINUOUS - 2000 BITS/SEC	2.1973	72	16
SAR	9	CONTINUOUS - 494 BITS/SEC	0.6432	4	8
SASS	10	BURST - 820 BITS, 1.89 SEC	0.5291	8	10
				-	-
MEMORY DUMP (FILL DATA)	11	CONTINUOUS - 512 BITS/BLOCK	-	48	32
ENGINEERING COMMANDABLE MODES					
ORBIT	8	CONTINUOUS - 2 BLOCKS, 0.983 SEC	2.0345	1	8
ORBIT ADJUST	4	CONTINUOUS - 4 BLOCKS, 0.983 SEC	4.0690	1	8
ASCENT	4	CONTINUOUS - 8 BLOCKS, 0.983 SEC	8.1380	1	8
MEMORY DUMP	3	736 COMMAND WORDS IN 48 SEQUENTIAL BLOCKS ***	-		

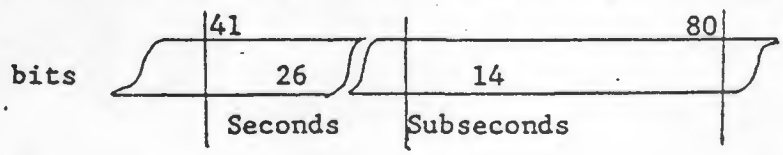
* LRS DATA BLOCK OCCURS EVERY 25TH BLOCK - SYNC WORD(LH001) & FRAME CTR(LH002) ARE PRIORITY 1

** VIRR ANALOG DATA DIGITIZED BY TSU INTO 8 BIT WORD

*** EXCEPT FOR LRS DATA BLOCK INTERRUPTION

1241637 C

d. Time Tag(40 bits). The 40-bit time-tag code is referenced to the start of the event, the time-tag is organized as follows:



The Time Tag code in the LRS block represents real time and is the one which must be used for determining GMT timing corrections.

e. Data/Fill (944 bits). The remaining 944 bits of the telemetry block accommodate the input data. Any unused portion of the 944 data bits are assigned filler bits.

f. Telemetry Block Assignments and Format. The following telemetry blocks are assigned:

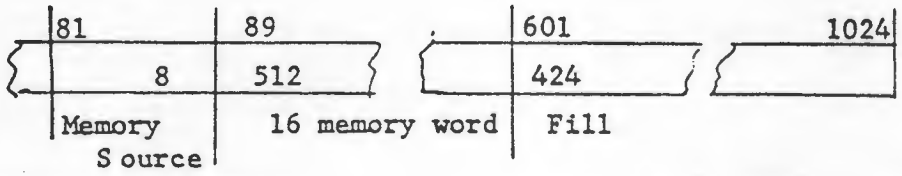
Engineering Blocks (Reference Figure 2)

- o Low Rate Sampled (LRS) Block - The LRSBlock contains all engineering and status data with sampling rate $\leq$ one sample per second.
- o Ascent (ASC) Block - The ascent block contains engineering and status data with sampling rates exceeding one sample per second. This block contains all engineering and status data including those contained in the Orbit and Orbit Adjust Blocks.
- o Orbit (ORB)Block - The Orbit Block contains engineering and status data with sampling rates exceeding one sample per second and contains all engineering status data during the orbit mode.
- o Orbit Adjust (O/A) Block - The orbit adjust Block contains engineering and status data exceeding one sample per second and contains all engineering data during the orbit adjust mode.

MEMORY DUMP BLOCK

Each memory dump data block contains 16, 32-bit memory words, and since the total memory capacity of each redundant CTU section is 768, 32-bit words,

a total of 48 blocks are required to read out the contents of each memory. NOTE: Each memory is sectioned into three 256 word banks (Bank A, Bank B, and Bank C). Upon command, the memory is read out sequentially starting at address 0 at approximately 25 kb/s rate. The 48 memory dump blocks will be contiguously dumped except for the LRS data block interruptions.



ID (bits 33 through 40)
00100000
00100011
00100101
00100110
00101001
00111110

00111110 — Odd parity; memory block counter; 16 blocks per memory bank

Memory Source	CTU Sect/Mem bank
100x0001	A / A (256 words)
100x0010	A / B
100x0100	A / C
010x0001	B / A
010x0010	B / B
010x0100	B / C (256 words)

0 = Standby
1 = Active

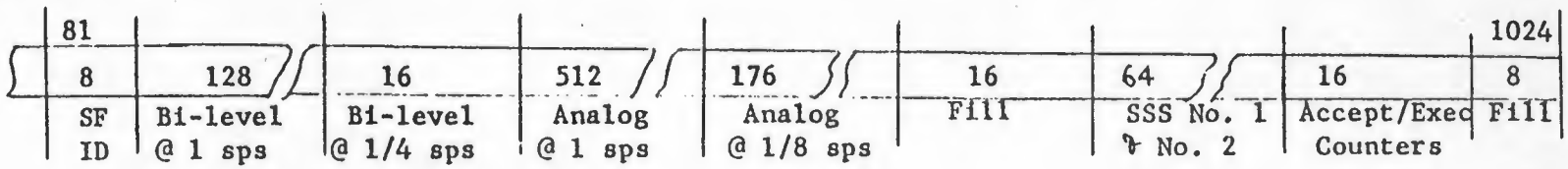
Sensor Blocks (Reference Figures 3 a, b, and c)

The sensor data blocks contain the sensor's science, engineering, and status data. The sensors, with the exception of the VIRR, provide to the data system serially digitized encoder signals. The data system gates the data into series of 8-bit words which are formatted into the data/fill portion of the applicable 1024-bit sensor data block. The VIRR sensor outputs one channel each of infrared and visible analog data signals which are digitized by the data system into 8 bit words and then formatted into the VIRR data block.

DATA BLOCK PRIORITY

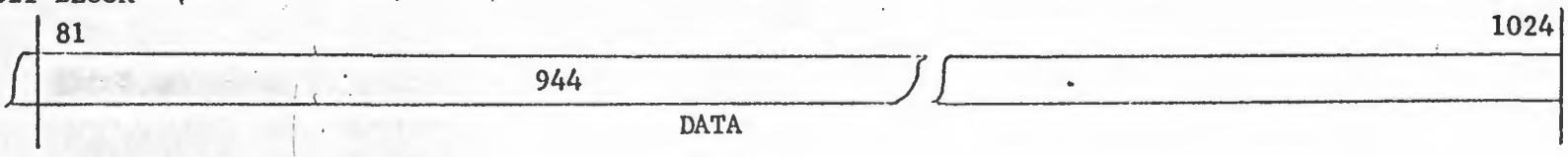
The priority assigned to the data blocks are listed in Table 1.

LRS BLOCK



ID = 01000011

ORBIT BLOCK

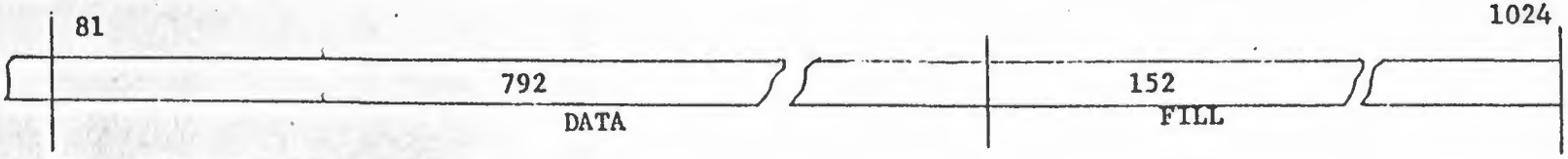


ID = 01001001

ASCENT BLOCK

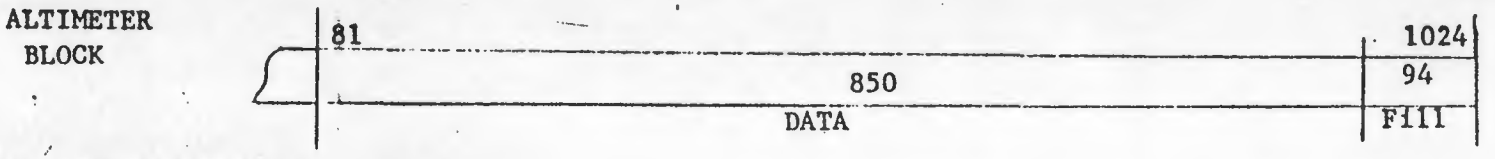
ID = 0101 1101

ORBIT ADJUST BLOCK



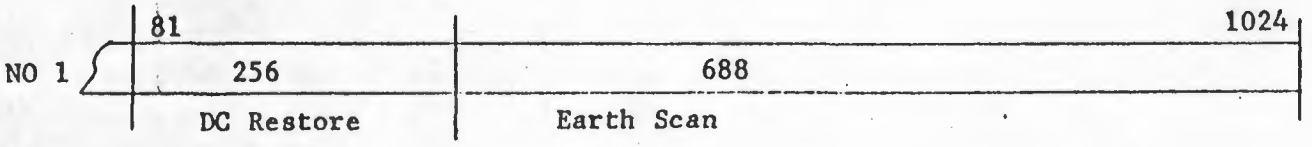
ID = 01010001

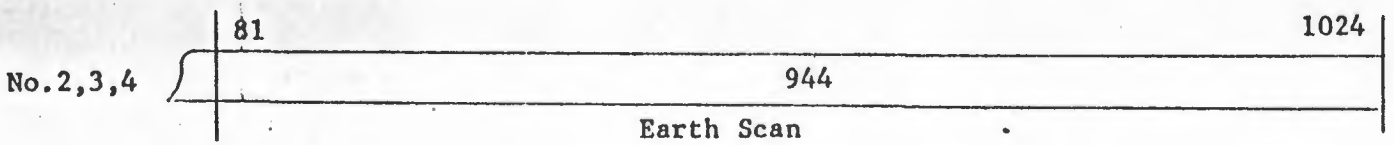
FIGURE 2 ENGINEERING DATA BLOCK FORMAT

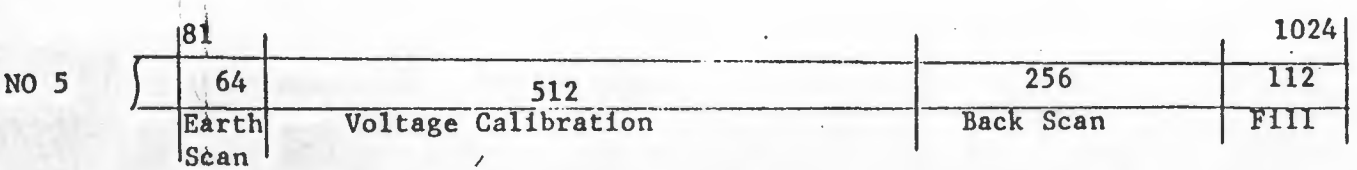


ID = 11100000

VIRR BLOCKS



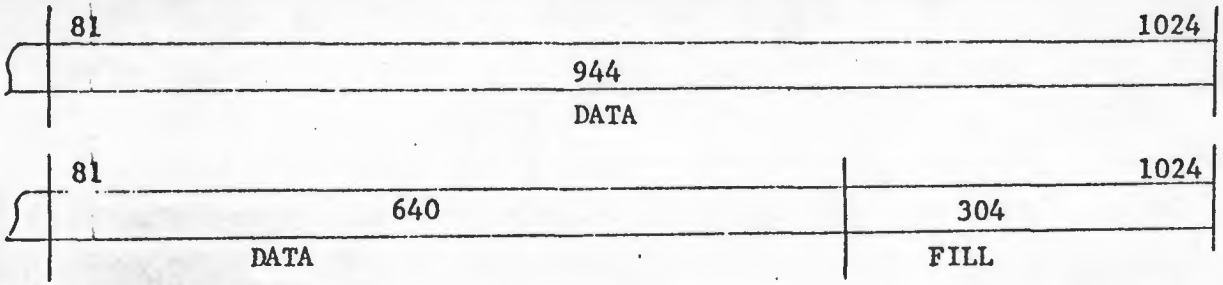




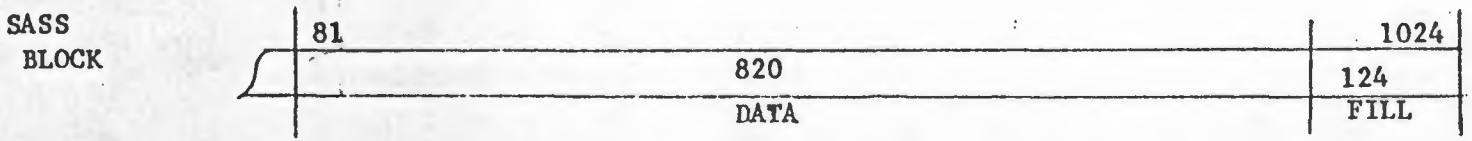
Block No	ID
1	10000000
2	10000011
3	10000101
4	10000110
5	10001001

FIGURE 3.a ALTIMETER and VIRR Block Format

SMMR BLOCKS



Block No.	ID	Block No.	ID
1	11000001	6	11001011
2	11000010	7	11001101
3	11000100	8	11001110
4	11000111	9	11010000
5	11001000		



ID = 10100001

ID = 01100001

FIGURE 3 b SMMR, SASS, and SAR Block Format

This page intentionally left blank

MEAS DESIG. - Measurement Designation

This is always composed of two letters followed by a three digit number. The letters identify the subsystem or sensor system from which the data originates. The code for identifying the subsystem and sensor system is summarized below:

AL - Radar Altimeter

LA - LMSC Structures & Mechanics Subsystem (SS/A)

LB - LMSC Orbit Insertion System and OAS/RCS (SS/B)

LC - LMSC Electrical Power System (SS/C)

LD - LMSC Ascent and Orbit Guidance and Control Subsystem (SS/D)

LH - LMSC Telecommunication and Data System (SS/H)

RA - Laser Retroreflector (LRA)

SA - LMSC Synthetic Aperature Radar (SAR) Antenna

SD - SAR Data Link

SM - Scanning Multichannel Microwave Radiometer (SMMR)

SR - SAR Electronics

SS - Scatterometer (SASS)

TR - Tranet Beacon

VI - Visible and Infrared Radiometer (VIRR)

The three digit numbers following the letters can be used to identify the type of measurements. The code for identifying the type of measurements is shown below:

LRS, Ascent, Orbit, and Orbit Adjust Data Block

01x		LRS Word 11, bits 3 through 8
1xx	2xx	Analog data
4xx		Serial bit data
5xx	6xx	Discrete data

Sensor Data Block

7xx, 8xx, 9xx

Data Block Preamble

The 00x numbers are used to identify the measurements in the first ten 8-bit words (bits 1 through 80) of every data block.

TLM Mode

The applicable engineering telemetry block modes are identified in this column. The following abbreviations are used:

LRS - Low Rate Sampled Block

ASC - Ascent Block

ORB - Orbit Block

O/A - Orbit Adjust Block

Data Pos. Desig.

The designations of data positions in the engineering block data frame structures consist of combinations of numbers and a vocabulary of three symbols. The numbers are in the decimal system and the symbols are "slash" (/), "colon"(:), "comma"(,), and "dash" (-).

1. The first number in the designator identifies the main frame word.
   Example: "27" indicates that the information is located in the twenty-seventh word of the main frame.

2. A comma indicates that the information is super-commutated. The number on the left of the comma identifies the first (or previous) occurrence and the number on the right of the comma indicates the next occurrence.
   Example: "11, 31, 67, 87" indicates that the information is in the eleventh, thirty-first, sixty-seventh, and eighty-seventh words as super commutation.

3. A slash indicates that the information is on a sub-frame. The number to the left of the slash identifies the word on the main frame which contains the sub-frame. The number to the right indicates the sub-frame which contains the information of interest.
   Example: "94/4" indicates that the information is located in the fourth sub-frame and is carried by the ninety fourth main frame word.

4. The colon indicates that the information is discrete (bi-level). The number to the left of the colon identifies the word in which the discrete is located and the number to the right indicates the bit position which contains the discrete (the most significant bit is position number one).

Example: "29/1:8" indicates that the information is a discrete is located in the first subframe, and is carried by the eight bit of the twenty ninth main frame word.

5. The dash indicates that the information is contained in adjacent frame words (or bits). The number on the left identifies the beginning frame word (or bits) which contains the measurement expression and the number on the right identifies the frame word (or bits) which contains the end of this expression.

Example: "1-2" indicates that the information is carried in words 1 and 2.

Example: "11:6-8" indicates that the information is carried in bits 6, 7, and 8 of word 11.

summarize the preceding paragraphs, the expression always starts with a mber that identifies a main frame word. If there is no "colon" (:) in the pression the datum position defined contains analog information. If the pression contains a "slash" (/) the datum position is sub-commutated. If the express- n contains a "dash" (-) the information is carried by adjacent words or bits.

mp Rate - Sampling rate (Samples per Second)

should be noted that the sampling rate specified is not the required sampling te, but is always equal to or greater than the required rate.

ıge Engr. Unit

ıs column contains both the range in engineering units of the analog monitors l t two states of the bilevel monitors. Where bilevel data are listed the n is divided into two columns by a vertical dash line. The information in left column represents the "true"state ("1") and the information in the right umn represents the "false" state ("0").

ın-Pin

noted pins of the Telemetry and Sensor Interface Unit (TSU) connect to the responding telemetry channels referenced in the TLM Mode/Data Pos Desig columns.

a Source

s column lists the source of the data and does not necessarily indicate the nt at which the data is signal conditioned.

Data Block ID

The data block ID identifies the sensor block in which the data appears. This column applies where multiple data blocks are used in a major frame.

Sensor Data Pos. Desig.

The designation's of data positions in the sensor data frame structure consist of combinations of numbers and a vocabulary of three symbols. The numbers are in decimal system and the symbols are "slash" (1),"comma"(,), "dash" (-), & parenthesis( ).

1. The first number in the designator identifies the sensor data word and does not represent the 128 8-bit data words in the 1024-bit data block.
2. A comma has the same meaning as used in the Data Pos. Desig. column. A comma indicates that the information is super-commutated. The number on the left of the comma identifies the first (or previous) occurrence and the number on the right of the comma indicates the next occurrence.
3. A slash has the same meaning as used in the Data Pos. Desig. column. A slash indicates that the information is on a sub-frame. The number to the left of the slash identifies the word in the sensor main frame which contains the sub-frame. The number to the right indicates the subframe which contains the information of interest.
4. The dash has the same meaning as used in the Data Position Design column.

5. The number contained in the parenthesis indicates the sensor main frame bit at which the data starts.
   Example: "5(31)" indicate that the information is in the fifth sensor main frame word, which starts at the thirty-first bit of the sensor main frame.
   It should be noted that bit No 1 of a sensor main frame corresponds to bit No 81 of the 1024-bit data block.

No of Bits/Meas.

The number listed in this column represent the number of bits used by the designated measurement.

Example:	Sensor Data Pos. Desig	No of Bits/ Meas.
	16/39(153)	6

The example indicates that the information is located in the thirty-ninth subframe and is carried by the sixteenth word of the sensor main frame. The data is six bits in length and starts at bit no. 153 of the sensor main frame.

C SCHEMATIC PAGE ZONE

The Telemetry measurement can be found on the Vehicle Schematic at the location specified in these columns.

C Revision Notation

Letter notation in the left hand margin of this document indicate changes added by the noted letter revision.

Meas. Desig.	Measurement Title		TLM Mode	Data Pos. Design.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LH001	Sync Word	Data Block Preamble	(a)	1-2	25	11101011-10010000	N/A	N/A	TSU 1 & 2	6.3	4A
LH002	Frame Counter		(a)	3-4	25	Increments One count per data block output	N/A	N/A	TSU 1 & 2	6.3	5B
LH003	ID		(a)	5	25	Identifies data source and block number - see data block formats				6.3	7D
LH004	Time Tag-Sec (MSB)		(a)	6:1-8 7:1-2	25	MSB's of time tag in seconds	N/A	N/A	TSU 1 & 2	6.4	9D
LH005	Time Tag - Sec (LSB)		(a)	7:3-8 8:1-8 9:1-2	25	LSB's of time tag in seconds	N/A	N/A	TSU 1 & 2	6.4	9D
LH006	Time Tag - Subsec		(a)	9:3-8 10:1-8	25	Time tag in subseconds	N/A	N/A	TSU 1 & 2	6.4	9D
LH010	LRS Word No 11 Bits 3, 4, & 5		LRS	11:3-5	1	"0" bits	N/A	N/A	TSU 1 & 2	6.4	9D
LH011	LRS Subframe Counter		LRS	11:6-8	1	000 = SF No. 1 001 = SF No. 2 . . . 111 = SF No. 8	N/A	N/A	TSU 1 & 2	6.4	9E

(a) applies to all data block modes

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
AL101	ALT Transmit Pwr	LRS	70	1		J3-21		Sig Proc	8.3	9C
AL102	ALT TWTA Beam Current	LRS	72	1		J3-22				9C
AL103	ALT TWTA Temp	LRS	94/6	1/8		J3-38				9E
AL104	ALT Noise Gate Ampl	LRS	74	1		J3-23				9C
AL105	ALT Plateau Gate Ampl	LRS	76	1		J3-24				9C
AL106	ALT 5 MHz Ref	LRS	78	1		J3-25				9B
AL107	ALT SACU PLO Lock	LRS	80	1		J3-26				9B
AL108	ALT LVPS Current Mon	LRS	96/6	1/8		J3-46				9A
AL109	ALT HSWS Temp	LRS	98/6	1/8		J3-54				9D
AL110	ALT DDL Temp	LRS	100/6	1/8		J3-62				9D
AL111	ALT DFB Temp No. 1	LRS	102/6	1/8		J3-70				9D
AL112	ALT SACU Temp	LRS	104/6	1/8		J3-78		Sig Proc		9D
AL113	ALT TWTA Base Temp (RF Assy)	LRS	106/6	1/8	0 to +150°F	J3-86		RF Assy.		12H
AL114	ALT TWTA P/S Temp (RF Assy)	LRS	108/6	1/8	0 to +150°F	J3-94				12G
AL115	ALT DDL Temp (RF Assy)	LRS	94/7	1/8	0 to +150°F	J3-39				12G
AL116	ALT UCFM Temp (RF Assy)	LRS	96/7	1/8	0 to +150°F	J3-47				12F
AL117	ALT MTU Temp (RF Assy)	LRS	98/7	1/8	0 to +150°F	J3-55				12F
AL118	ALT Rcvr Temp (RF Assy)	LRS	100/7	1/8	0 to +150°F	J3-63			8.3	12F

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
AL119	ALT +X Temp (RF Assy)	LRS	102/7	1/8	-35 to +180°F	J3-71		RF Assy	8.3	12E
AL120	ALT -X Temp (RF Assy)	LRS	104/7	1/8	-35 to +180°F	J3-79				12E
AL121	ALT +Y Temp (RF Assy)	LRS	106/7	1/8	-35 to +180°F	J3-87				12E
AL122	ALT -Y Temp (RF Assy)	LRS	108/7	1/8	-35 to +180°F	J3-95		RF Assy.	8.3	12D

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source
					This page intentionally left blank			

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LA101	Orbit Ant No 1 Deploy	ASC	17	8	0 to 106.75 Deg.	J4-3		1617833-003	6.6	20G
LA102	SAR D/L Ant Deploy	ASC	18	8	0 to 99 Deg		J4-3	1617833-003	8.0	10E
LA103	SAR Ant 90° Pitchout	ASC	19	8	0 to 90 Deg	J4-4		1617833-003	8.0	10F
LA104	SAR Ant 90° Rotate	ASC	20	8	0 to 90 Deg		J4-4	1617833-003	8.0	10E
LA105	TRANET/Orbit Ant No 2 Deploy IB	ASC	34	8	0 to 90 Deg	J4-7		1617833-003	8.2	8G
LA106	TRANET/Orbit Ant No 2 Deploy OB	ASC	35	8	0 to 180 Deg		J4-7	1617833-003	8.2	8G
LA107	VIRR Deploy	ASC	36	8	0 to 90 Deg	J4-8		1617833-003	8.4	2G
LA108	SASS Ant No 1 Deploy	ASC	37	8	0 to 91.5 Deg		J4-8	1617833-003	8.5	5C
LA109	SASS Ant No 2 Deploy	ASC	49	8	0 to 91.5 Deg	J4-11		1617833-003	8.5	5B
LA110	SASS Ant No 3 Deploy	ASC	50	8	0 to 91.5 Deg		J4-11	1617833-003	8.5	5B
LA111	SASS Ant No 4 Deploy	ASC	51	8	0 to 91.5 Deg	J4-12		1617833-003	8.5	5A
C LA112	NOT USED	ASC	52	8			J4-12			
LA113	NOT USED									
LA114	SAR Elect BasePlate Temp No 1	LRS	94/1	1/8	-35 to +180°F	J3 -33		1617848-003	8.2	5G
LA115	SAR Elect BasePlate Temp No 2	LRS	95/1	1/8	-35 to +180°F		J3 -33	1617848-003		5G
LA116	SAR D/L Elect BasePlate Temp No1	LRS	96/1	1/8	-35 to +180°F	J3 -41		1617848-003		5F
LA117	SAR D/L Elect BasePlate Temp No2	LRS	97/1	1/8	-35 to +180°F		J3-41	1617848-003	8.2	5F
LA118	VIRR Scanner Mount Struct Temp No 1	LRS	98/1	1/8	-35 to +180°F	J3-49		1617848-003	8.4	2G
LA119	VIRR Scanner Mount Struct Temp No 2	LRS	99/1	1/8	-35 to +180°F		J3-49	1617848-003	8.4	2G
LA120	VIRR Elect Mount Struct Temp	LRS	100/1	1/8	-35 to +180°F	J3 -57		1617848-003	8.4	2F
LA121	SASS Elect BasePlate Temp No 1	LRS	102/1	1/8	-35 to +180°F	J3-65		1617848-003	8.5	2C
LA122	SASS Elect BasePlate Temp No 2	LRS	103/1	1/8	-35 to +180°F		J3 -65	1617848-003	8.5	2C

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
	LA123	+Xs FWD Sect Skin Temp	LRS	101/1	1/8	-100 to +200°F		J3-57	1616310-033	6.6	20G
	LA124	-Ys Guid Mod Skin Temp	LRS	105/3	1/8	-100 to +200°F		J3-75	1616310-033	6.6	20F
	LA125	SM Mast Temp	LRS	106/3	1/8	-100 to +200°F	J3-83		1616310-033	6.6	20F
	LA126	SAR Louver +Xs Temp	LRS	108/3	1/8	0 to +150°F	J3-91		1617848-003	8.2	5F
	LA127	TRANET Beacon Mtg Struct Temp No 1	LRS	104/1	1/8	-35 to +180°F	J3-73		1617848-003	8.2	8F
	LA128	TRANET Beacon Mtg. Struct Temp No 2	LRS	105/1	1/8	-35 to +180°F		J3-73	1617848-003	8.2	8F
	LA129	ALT Sig Proc BasePlate Temp No1	LRS	106/1	1/8	-35 to +180°F	J3-81		1617848-003	8.3	21B
	LA130	ALT Sig Proc BasePlate Temp No2	LRS	107/3	1/8	-35 to +180°F		J3-83	1617848-003	8.3	21A
C	LA131	NOT USED									
C	LA132	NOT USED									
	LA501	Fairing Separation +Y	ASC	25:4,87:4	16	Mated | Sep		J4-37	Conn J/P827	6.6	14H
	LA502	Fairing Separation -Y	ASC	25:5,87:5	16	Mated | Sep		J4-38	Conn J/P826	6.6	14G
C	LA503	NOT USED									

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LB101	Fuel Pump Inlet Press	ASC	67	8	0 to +60 psia		J4-15	1464036-005	6.6	3G
LB102	Ox. Pump Inlet Press	ASC	68	8	0 to +60 psia	J4-16		1464036-005		3F
LB103	Fuel Pump Inlet Temp	ASC	69	8	0 to +100°F		J4-16	1462285-'		3D
LB104	Ox. Pump Inlet Temp	ASC	80	8	0 to +100°F	J4-19		11M3B4H		3C
LB105	Combustion Chamber Press	ASC	81	8	475 to 550 psig		J4-19	1464601-299		3E
LB106	Fuel Pump Housing Temp	LRS	108/1	1/8	0 to+300°F	J3 -89		1616310-033		7D
LB107	Ox. Pump Housing Temp	LRS	109/1	1/8	0 to+300°F		J3 -89	1616310-033		7C
LB201	Hydrazine Tank No 1 Press	LRS	30	1	0 to +350 psia	J9-N		1464036-015		7H
LB202	Hydrazine Tank No 2 Press	LRS	31	1	0 to +350 psia	--	J9-N	1464036-015		7G
LB203	Hydrazine Tank No 1 Temp	LRS	94/2	1/8	0 to +150°F	J3-34		1462285-		7F
LB204	Hydrazine Tank No 2 Temp	LRS	96/2	1/8	0 to +150°F	J3-42		3400C0J		7E
LB205	+Z_A HMRCC Chamber Temp	LRS	95/2	1/8	0 to +1600°F		J3-34	HMRCC		10G
LB206	-Z_A HMRCC Chamber Temp	LRS	97/2	1/8	0 to +1600°F		J3-42	HMRCC		10E
LB207	-Ys LMRCC Chamber Temp	LRS	99/2	1/8	0 to +1600°F		J3-50	LMRCC		10E
LB208	+Ys LMRCC Chamber Temp	LRS	101/2	1/8	0 to +1600°F		J3-58	LMRCC		10F
LB209	+Xs OAT Chamber Temp	LRS	103/2	1/8	0 to +1600°F		J3-66	OAT		10F
LB210	-Xs OAT Chamber Temp	LRS	105/2	1/8	0 to +1600°F		J3-74	OAT		10D
LB211	+Z_A HMRCC Valve Temp	LRS	107/2	1/8	0 to +300°F		J3-82	HMRCC		10C
LB212	-Z_A HMRCC Valve Temp	LRS	109/2	1/8	0 to +300°F		J3-90	HMRCC		10C
LB213	-Ys LMRCC Valve Temp	LRS	98/2	1/8	0 to +300°F	J3-50		LMRCC		10B
LB214	+Ys LMRCC Valve Temp	LRS	100/2	1/8	0 to +300°F	J3-58		LMRCC		10A
LB215	RCS/OAS Line Temp No 1	LRS	102/2	1/8	0 to +150°F	J3-66		1617848-003	6,6	7C

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit		Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LB216	RCS/OAS Line Temp No 2	LRS	104/2	1/8	0 to +150°F		J3-74		1617848-003	6.6	7B
LB217	+Xs OAT Valve Temp	LRS	106/2	1/8	0 to +300°F		J3-82		1617848-003	6.6	7B
LB218	-Xs OAT Valve Temp	LRS	108/2	1/8	0 to +300°F		J3-90		1617848-003	6.6	7A
LB401	Turbine Speed Counter	ASC	38, 100	16	24 bit counter		J7-F/a	J7-F/b	BAC Engine	6.3	20H
LB402		ASC	39, 101	16							
LB403		ASC	40, 102	16							
LB501	Engine Pwr	ASC	56:1	8	ON	OFF	J4-42		AC & IB	5.0	16F
LB502	Ox PIV Closed	ASC	56:2	8	Closed	$\overline{\text{Closed}}$	J4-43		AC & IB	5.0	8H
LB503	Fuel PIV Closed	ASC	56:3	8	Closed	$\overline{\text{Closed}}$	J4-44		AC & IB	5.0	8G
LB504	Ox PIV Opened	ASC	56:4	8	Opened	$\overline{\text{Opened}}$	J4-45		AC & IB	5.0	8G
LB505	Fuel PIV Opened	ASC	56:5	8	Opened	$\overline{\text{Opened}}$	J4-46		AC & IB	5.0	8F
LB506	OMPS No 1	ASC	25:1, 87:1	16	De-act	Act		J4-34	AC & IB	5.0	16E
LB507	OMPS No 2	ASC	25:2, 87:2	16	De-act	Act		J4-35	AC & IB	5.0	16E
LB601	HMRCC Heater	LRS	28/2:4,28/6:4	1/4	On	Off	J5-76		AC & IB	5.3	2H
LB602	LMRCC Cat. Bed Heater	LRS	28/2:5,28/6:5	1/4	On	Off	J5-77		AC & IB	5.1	1F
LB603	OAT Cat. Bed Heater	LRS	28/2:6,28/6:6	1/4	On	Off	J5-78		AC & IB	5.1	1E
LB604	LSV No 1 Opened	LRS	18:4	1	Opened	$\overline{\text{Opened}}$	J5-28		LSV No 1	5.0	1E
LB605	LSV No 2 Opened	LRS	18:5	1	Opened	$\overline{\text{Opened}}$	J5-29		LSV No 2	5.0	1B
LB606	LSV No 1 Closed	LRS	18:6	1	Closed	$\overline{\text{Closed}}$	J5-30		LSV No 1	5.0	1E
LB607	LSV No 2 Closed	LRS	18:7	1	Closed	$\overline{\text{Closed}}$	J5-31		LSV No 2	5.0	1B

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
C	LC101	Unreg Bus Voltage	ASC	30	8	0 to +40 Vdc	J4-5		MPCDU	3.2	17F
			ORB	14,36,70,92	8						
			O/A	18,57	8						
			LRS	91	1			J3-31			
	LC102	Bat No 1 Current	LRS	32	1	-20 to +50A	J9-P		Bat No 1	3.0	16B
	LC103	Bat No 2 Current	LRS	33	1	-20 to +50A		J9-P	Bat No 2	3.0	13C
C	LC104	Unreg Bus Current	ASC	23,55,86,116	32	0 to +100A		J4-28	MPCDU	3.2	18C
			ORB	13,18,23,28,	32						
				35,44,53,62,							
				69,74,79,84,							
				91,100,109,118							
			O/A	14,24,33,42,	32						
			LRS	53,67,80,93 92	1		J3-32				
C	LC105	Structure Current	ASC	14	8	0 to 50 A		J4-1	MPCDU	3.2	18B
			ORB	12,32,68,88	8						
			O/A	13, 50	8						
			LRS	93	1			J3-32			
	LC106	Pyro Bus Voltage	ASC	99	8	0 to +40 Vdc		J4-24	MPCDU	3.2	17F
	LC107	Bat No 1 Voltage	LRS	34	1	0 to+40 Vdc	J9-R		MPCDU	3.0	15E
	LC108	Bat No 2 Voltage	LRS	35	1	0 to +40 Vdc		J9-R	MPCDU	3.0	14E
	LC109	Bat No 1 Temp	LRS	36	1	-5 to +140°F	J9-i		Bat No 1	3.0	16E
	LC110	Bat No 2 Temp	LRS	37	1	-5 to +140°F		J9-i	Bat No 2	3.0	13D
	LC111	+28 Vdc Reg Asc Guid Voltage	LRS	94/4	1/8	0 to +30 Vdc	J3-36		MPCDU	3.3	15H
	LC112	-28 Vdc Reg Asc Guid Voltage	LRS	38	1	0 to -30 Vdc	J9-j		MPCDU	3.3	14E
	LC113	115 Vac Asc Guid Voltage	ASC	98	8	+90 to +130 Vac	J4-24		MPCDU	3.3	13F
	LC114	VIRR/SMRR Reg Bus No 1 Volt.	LRS	39	1	0 to -40 Vdc		J9-j	MPCDU	3.3	15H

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LC115	VIRR/SMRR Reg Bus No2 Volt.	LRS	40	1	0 to -36 Vdc	J9-x		MPCDU	3.3	14B
LC116	VIRR/Unreg Voltage	LRS	41	1	0 to -36 Vdc		J9-x	MPCDU	3.3	19C
LC117	SASS +28 Vdc Reg Voltage	LRS	42	1	0 to +40 Vdc	J9-y		MPCDU	3.3	6C
LC118	S/A $+Y_A$ Deploy	ASC	111	8	0 to 100 %	J4-27		SAM + Y_A	6.6	14F
LC119	S/A $-Y_A$ Deploy	ASC	113	8	0 to 100%	J4-28		SAM $-Y_A$	↑	14F
LC120	S/A $+Y_A$ Position Pot	LRS	110/6	1/8	0 to 356 Deg	J9-f	J9-f	S/A $+Y_A$	↕	14E
LC121	S/A $-Y_A$ Position Pot	LRS	111/6	1/8	0 to 356 Deg	J11-J	J11-J	S/A $-Y_A$	↕	14E
LC122	S/A $+Y_A$ Temp	LRS	114/1	1/8	-150 to +250°F	J11-n	J11-n	S/A $+Y_A$	↕	14C
LC123	S/A $-Y_A$ Temp	LRS	115/1	1/8	-150 to +250°F	J11-w	J11-w	S/A $-Y_A$	↓	14C
LC124	SADE Temp	LRS	110/2	1/8	-35 to +180°F	J9-K	J9-K	SADE	6.6	14B
LC125	Sun Sensor Error Current	LRS	111/2	1/8	0 to 200 μA	J11-P	J11-P	SADE		
LC126	CCC No 1 Temp	LRS	112/2	1/8	-35 to +180°F	J11-Y	J11-Y	CCC No 1	3.0	16G
LC127	CCC No 2 Temp	LRS	113/2	1/8	-35 to +180°F	J11-g	J11-g	CCC No 2	3.0	13G
LC128	DC/DC Converter No 1 Temp	LRS	114/2	1/8	-35 to +180°F	J11-p	J11-p	1617848-003	3.3	3G
LC129	DC/DC Converter No 2 Temp	LRS	115/2	1/8	-35 to 180°F	J11-x	J11-x	1617848-003	3.3	3G
LC130	DC/DC Converter No 3 Temp	LRS	110/3	1/8	-35 to +180°F	J9-L	J9-L	1617848-003	3.3	3F
LC131	DC/DC Converter No 4 Temp	LRS	111/3	1/8	-35 to +180°F	J11-R	J11-R	1617848-003	3.3	3F
LC132	ALT Current	LRS	43	1	0 to +10A		J9-y	MPCDU	8.3	18G
LC133	SAR D/L Current	LRS	44	1	0 to +10A	J9-FF		MPCDU	8.0	17E
LC134	SAR Current	LRS	45	1	0 to + 50A		J9-FF	MPCDU	8.0	17D
LC135	SASS Current	LRS	46	1	0 to + 20A	J3-9		MPCDU	3.3	6C
LC136	SMMR Current	LRS	47	1	0 to +5A		J3-9	MPCDU	3.3	13F
LC137	VIRR/TRANET Beacon Current	LRS	48	1	0 to +1A	J3-10		MPCDU	8.2	7E
C LC138	NOT USED									

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit		Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
C	LC501	Bat No 1 Discharge	LRS	12:1	1	Off	On	J9-S		MPCDU	3.0	15H
C	LC502	Bat No 2 Discharge	LRS	13:1	1	Off	On		J9-S	MPCDU	3.0	14H
	LC503	Bat No 1 Pri Htr	LRS	28/1:1,28/5:1	1/4	On	Off	J5-65		Bat No 1	5.2	1G
	LC504	Bat No 2 Pri Htr	LRS	28/1:2,28/5:2	1/4	On	Off	J5-66		Bat No 2	5.2	1E
	LC505	Bat No 1 BU Htr	LRS	28/1:3,28/5:3	1/4	On	Off	J5-67		Bat No 1	5.2	1G
	LC506	Bat No 2 BU Htr	LRS	28/1:4,28/5:4	1/4	On	Off	J5-68		Bat No 2	5.2	1E
	LC507	CCC No 1 K1	LRS	12:2	1	On	Off	J9-T		CCC No 1	3.1	16C
	LC508	CCC No 2 K1	LRS	13:2	1	On	Off		J9-T	CCC No 2	3.1	16G
	LC509	CCC No 1 K2	LRS	12:3	1	On	Off	J9-U		CCC No 1	3.0	16E
	LC510	CCC No 2 K2	LRS	13:3	1	On	Off		J9-U	CCC No 2	3.0	13E
	LC511	S/A +Y Panels 2&3 ;-Y Panel 11	LRS	12:4	1	Off	On	J9-V		MPCDU	3.1	18D
	LC512	S/A -Y Panels 2 & 3;+Y Panel 11	LRS	13:4	1	Off	On		J9-V	MPCDU	3.1	18G
	LC513	S/A +Y Panels 4 & 5	LRS	12:5	1	Off	On	J9-m		MPCDU	3.0	10C
	LC514	S/A -Y Panels 4 & 5	LRS	13:5	1	Off	On		J9-m	MPCDU	3.0	18C
	LC515	S/A +Y Panels 6,7,&8	LRS	12:6	1	Off	On	J9-n		MPCDU	3.0	19E
	LC516	S/A -Y Panels 6,7, &8	LRS	13:6	1	Off	On		J9-n	MPCDU	3.0	10E
	LC517	S/A +Y Panels 9 & 10	LRS	12:7	1	Off	On	J9-P		MPCDU	3.0	18E
	LC518	S/A -Y Panels 9 & 10	LRS	13:7	1	Off	On		J9-p	MPCDU	3.0	10E
	LC519	Not Used										

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Range Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATICS PAGE	SCHEMATICS ZONE
C	LC520	Not Used										
C	LC521	S/A +Y Panels 2&3;-Y Panels 1&11 Bypass	LRS	14:1	1	Normal	Bypassed	J5 -9		MPCDU	3.1	18D
C	LC522	S/A -Y Panels 2&3;+Y Panels 1&11 Bypass	LRS	15:1	1	Normal	Bypassed		J5-9	MPCDU	3.1	18G
C	LC523	S/A +Y Panels 6,7,8;-Y Panels 4&5 Bypass	LRS	14:2	1	Normal	Bypassed	J5 -10		MPCDU	3.0	18C
C	LC524	S/A -Y Panels 6,7,8; +Y Panels 4&5 Bypass	LRS	15:2	1	Normal	Bypassed		J5-10	MPCDU	3.0	10C
	LC525	Pri On; Sec Off/Auto Track	LRS	14:3	1	Pri On	Pri Off	J5 -11		SADE		
	LC526	Sec On;Pri Off/Auto Track	LRS	15:3	1	Sec On	Sec Off		J5-11	SADE		
	LC527	Disable Auto Track & Enable $+Y_A$ Manual	LRS	14:4	1	Manual	$\overline{\text{Manual}}$	J5 -12		SADE		
	LC528	Disable Auto Track & Enable $-Y_A$ Manual	LRS	15:4	1	Manual	$\overline{\text{Manual}}$		J5-12	SADE		
	LC529	Sun Presence Indicator	LRS	14:5	1	Present	$\overline{\text{Present}}$	J5 -13		SADE		
	LC530	S/A Fast Dark Rotation	LRS	14:6	1	On	Off	J5-14		SADE		
	LC531	S/A Clockwise Rotation	LRS	14:7	1	CW	CCW	J5-15		SADE		
	LC532	S/A 180° Shift/Auto Track	LRS	14:8	1	Shift	$\overline{\text{Shift}}$	J5-16		SADE		
	LC533	DC/DC Converter No 1 to Orbit Config.	LRS	15:5	1	In	Out		J5-13	MPCDU	3.3	14E
	LC534	VIRR No Voltage Sw Enable	LRS	15:6	1	Enabled	$\overline{\text{Enabled}}$		J5-14	MPCDU	3.3	20E
	LC535	VIRR Shutdown Enable	LRS	15:7	1	Enabled	$\overline{\text{Enabled}}$		J5-15	MPCDU	3.3	20C
	LC536	DC/DC Converter No 1	LRS	15:8	1	On	Off		J5-16	MPCDU	3.3	19H
	LC537	DC/DC Converter No 2	LRS	16:1	1	On	Off	J5-17		MPCDU	3.3	19H
	LC538	DC/DC Converter No 3	LRS	16:2	1	On	Off	J5-18		MPCDU	3.3	13H
	LC539	DC/DC Converter No 4	LRS	16:3	1	On	Off	J5-19		MPCDU	3.3	10D
	LC540	SAR Standby	LRS	28/1:5,28/5:5	1/4	On	Off	J5-69		MPCDU	8.0	17E

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit		Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
	LC541	NOT USED										
	LC542	NOT USED										
	LC543	NOT USED										
	LC544	SAR Ant Extend Motor	ASC	57:4	8	On	Off		J4-45	MPCDU	8.0	17A
	LC545	S/A $+Y_A$ Release No 1	ASC	57:5	8	Mated	Released		J4-46	SAM $+Y_A$	6.6	20E
	LC546	S/A $+Y_A$ Release No 2	ASC	57:6	8	Mated	Released		J4-47	SAM $+Y_A$	6.6	20E
	LC547	S/A $-Y_A$ Release No 1	ASC	57:7	8	Mated	Released		J4-48	SAM $-Y_A$	6.6	20D
	LC548	S/A $-Y_A$ Release No 2	ASC	57:8	8	Mated	Released		J4-49	SAM $-Y_A$	6.6	20D
	LC549	Heater Bus	LRS	28/2:2,28/6:2	1/4	On	Off	J5 -74		MPCDU	8.3	18G
C	LC550	ALT Low Mode Htr. Status	LRS	28/2:3,28/6:3	1/4	On	Off	J5 -75		MPCDU	8.3	18H
	LC551	SAR D/L Enable/Disable K1	LRS	28/1:6,28/5:6	1/4	Enabled	Disabled	J5 -70		PCLA	8.0	17F
	LC552	SAR D/L Enable/Disable K2	LRS	28/1:7,28/5:7	1/4	Enabled	Disabled	J5 -71		PCLA	8.0	17F
	LC553	CCC No. 1 K2 Bypass	LRS	16:4	1	Normal	Bypassed	J5-20		MPCDU	3.0	18B
	LC554	CCC No. 2 K2 Bypass	LRS	16:5	1	Normal	Bypassed	J5-21		MPCDU	3.0	10B
	LD101	Hydr Oil Press	ASC	112	8	0 to 4500 psia			J4-27	1464036-041	6.6	3B
	LD102	Pitch Hydr Act. Pos.	ASC	21, 84	16	$\pm$ 2.0 Deg		J4-31		AEA		
	LD103	Yaw Hydr Act. Post.	ASC	22, 85	16	$\pm$ 2.0 Deg			J4-31	AEA		
C	LD104	Pitch Hydr Act. Servo Sig	ASC	53, 114	16	$\pm$ 1.55 Vdc		J4-32		AEA		
C	LD105	Yaw Hydr Act. Servo Sig	ASC	54, 115	16	$\pm$ 1.55 Vdc			J4-32	AEA		
	LD106	HSA AlphaAngle Bias	LRS	99/4	1/8	0 to + 5 Deg			J3-52	AEA		
	LD 107	HSA Pitch Fine	ASC	82	8	$\pm$ 1.0 Deg		J4-20		AEA		

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD108	HSA Pitch Coarse	ASC	96	8	± 10.0 Deg	J4-23		HSA		
LD109	HSA Roll Fine & Inhibit	ASC	83	8	± 1.0 Deg		J4-20	HSA		
LD110	HSA Roll Coarse	ASC	97	8	± 10.0 Deg		J4-23	HSA		
LD111	GRA Pitch Gyro O/P Fine/Coarse	ASC	16	8	±1.0 or±10.0 Deg		J4-2	GRA		
		ORB	34,90	4						
		O/A	52	4						
LD112	GRA Roll Gyro O/P Fine/Coarse	ASC	33	8	±1.0 or ±10.0 Deg		J4-6	GRA		
		ORB	39,95	4						
		O/A	60	4						
LD113	GRA YawGyro O/P Fine/Coarse	ASC	48	8	±1.0 or ±10.0 Deg		J4-10	GRA		
		ORB	43,99	4						
		O/A	66	4						
LD114	GRA Pitch Torq Rate	ASC	65	8	±5 or ±120Deg/sec		J4-14	AEA		
	Fine/Coarse	ORB	48,104	4						
		O/A	73	4						
LD115	GRA Roll Torq Rate	ASC	79	8	±5 or ±120 Deg/Sec		J4-18	AEA		
	Fine/Coarse	ORB	52, 108	4						
		O/A	79	4						
LD116	GRA Yaw Torq Rate	ASC	95	8	±5 or ±120 Deg/sec		J4-22	AEA		
	Fine/Coarse	ORB	57, 113	4						
		O/A	86	4						
LD117	GRA Gyro Temp	LRS	98/4	1/8	+140 to +180°F	J3-52		GRA		
LD118	GRA Baseplate Temp	LRS	100/4	1/8	-30 to +180°F	J3-60		1617848-002		

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD201	SWA Roll Coarse O/P	LRS	50	1	± 10 Deg	J3-11		CLA	7.0	16B
LD202	SWA Pitch Coarse O/B	LRS	51	1	± 10 Deg		J3-11	CLA	7.0	16F
LD203	SWA Roll Fine O/P	LRS	52	1	± 1 Deg	J3-12		CLA	7.0	16C
LD204	SWA Pitch Fine O/P	LRS	53	1	± 1 Deg		J3-12	CLA	7.0	16F
LD205	Pitch Cont. Law Network O/P - Coarse	LRS	54	1	± 9.96ft-lb-sec	J3-13		CLA	7.0	13F
LD206	Pitch Cont. Law Network O/P - Fine	ASC	31	8	± 1.44ft-lb-sec		J4-5	CLA	7.0	13G
		ORB	15,37,71,93	8						
		O/A	19,58	8						
LD207	Roll Cont Law Network O/P - Coarse	LRS	55	1	±2.51 ft-lb-sec		J3-13	CLA	7.0	11C
LD208	Roll Cont Law Network O/P - Fine	ASC	46	8	±0.50 ft-lb-sec		J4-9	CLA	7.0	11C
		ORB	17,41,73,97	8						
		O/A	23,64	8						
LD209	Yaw Cont Law Network O/P - Coarse	LRS	56	1	±1.70 ft-lb-sec	J3-14		CLA	7.0	11B
LD210	Yaw Cont Law Network O/P -Fine	ASC	62	8	±0.50 ft-lb-sec	J4-13		CLA	7.0	11B
		ORB	19,45,75,101	8						
		O/A	27,70	8						
LD211	BU Roll/Yaw Cont Law O/P - Coarse	LRS	57	1	±2.51 ft-lb-sec		J3-14	CLA	7.0	11E
LD212	BU Roll/Yaw Cont Law O/P - Fine	ASC	77	8	±0.50 ft-lb-sec		J4-17	CLA	7.0	11E
		ORB	22,50,78,106	8						
		O/A	32,77	8						

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD213	LSWA Drive Voltage	LRS	58	1	0 to +28V	J3-15		CLA	7.0	7B
LD214	LSWA Tachometer O/P	ASC	45	8	0 to 2400 rpm	J4-9		CLA	7.0	7A
		ORB	16,40,72,96	8						
		O/A	22, 63	8						
		LRS	110/1	1/8		J9-J	J9-J			
LD215	RSWA Drive Voltage	LRS	59	1	0 to +28 V		J3-15	CLA	7.0	7C
LD216	RSWA Tachometer O/P	ASC	63	8	0 to 2400 rpm		J4-13	CLA	7.0	7C
		ORB	20,46,76,102	8						
		O/A	28,71	8						
		LRS	111/1	1/8		J11-N	J11-N		7.0	7G
LD217	PMW Drive Voltage	LRS	60	1	0 to +28V	J3-16		CLA	7.0	7G
LD218	PMW Tachometer O/P	ASC	76	8	1500 to 3000 rpm	J4-17		CLA	7.0	7F
		ORB	21,49,77,105	8						
		O/A	31,76	8						
		LRS	112/1	1/8		J11-X	J11-X			
LD219	RRW Drive Voltage	LRS	62	1	0 to +28 V	J3-17		CLA	7.0	7F
LD220	RRW Tachometer O/P	ASC	92	8	± 2000 rpm	J4-21		CLA	7.0	7E
		ORB	24,54,80,110	8						
		O/A	36, 83	8						
		LRS	113/1	1/8		J11-f	J11-f		7.0	7E
LD221	RRW Bearing Temp	LRS	114/3	1/8	+32 to +122°F	J11-q	J11-q	RRW	7.0	7E
LD222	PMW Bearing Temp	LRS	114/4	1/8	+32 to +122°F	J11-r	J11-r	PMW	7.0	7G
LD223	LSWA Bearing Temp	LRS	112/6	1/8	+32 to +122°F	J11-c	J11-c	LSWA	7.0	7B
LD224	RSWA Bearing Temp	LRS	113/6	1/8	+32 to +122°F	J11-k	J11-k	RSWA	7.0	7C
LD225	D3 Gain State	LRS	114/6	1/8	0 to +5 Vdc	J11-t	J11-t	MCA	7.2	5C
LD226	RSWA Motor Drive Temp	LRS	115/6	1/8	+32 to +122°F	J11-BB	J11-BB	CLA	7.0	7H
LD227	PMWA Motor Drive Temp	LRS	110/7	1/8	+32 to +122°F	J9-g	J9-g	CLA	7.0	7H
LD228	D1 Gain State	LRS	111/7	1/8	0 to + 5 Vdc	J11-V	J11-V	MCA	7.2	5G

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD229	Magnet Drive Temp	LRS	112/7	1/8	+32 to +122°F	J11-d	J11-d	MCA	7.2	7H
LD230	Pitch Axis Magnet Temp	LRS	113/7	1/8	+15 to +85°F	J11-HH	J11-HH	Pitch Magnet	7.2	1D
LD231	Yaw Axis Magnet Temp	LRS	114/7	1/8	+15 to +85°F	J11-u	J11-u	Yaw Magnet	7.2	1B
LD232	Roll Axis Magnet Temp	LRS	115/7	1/8	+15 to +85°F	J11-CC	J11-CC	Roll Magnet	7.2	1F
LD233	Magnetometer Pitch O/P	LRS	61	1	± 550 mG		J3-16	MCA		
LD234	Magnetometer Pitch Bias O/P	LRS	110/8	1/8	9.00 ±0.50 Vdc	J9-h	J9-h	MCA	7.2	14E
LD235	Magnetometer Yaw O/P	LRS	63	1	± 550 mG		J3-17	MCA		
LD236	Magnetometer Yaw Bias O/P	LRS	111/8	1/8	9.00 ± 0.50Vdc	J11-W	J11-W	MCA	7.2	14D
LD237	Magnetometer Roll O/P	LRS	64	1	± 550 mG	J3-18		MCA		
LD238	Magnetometer Roll Bias O/P	LRS	112/8	1/8	9.00 ± 0.50 Vdc	J11-e	J11-e	MCA	7.2	14G
LD239	Pitch Axis Magnet Moment	ASC	93	8	±50,000 p-cm		J4-21	MCA	7.2	1E
		ORB	25,55,81,111	8						
		O/A	37,84	8						
LD240	Yaw Axis Magnet Moment	ASC	108	8	± 50,000 p-cm		J4-25	MCA	7.2	1C
		ORB	27,59,83,115	8						
		O/A	41, 90	8						
LD241	Yaw Axis Magnet Computed Magnetic Torq - D3	LRS	65	1	± 0.002 ft-lb		J3-18	CLA	7.2	8C
LD242	Roll Axis Magnet Moment	ASC	124	8	±13,000 p-cm		J4-29	MCA	7.2	1G
		ORB	30,64,86,120	8						
		O/A	46,97	8						
LD243	Pitch Axis Magnet Computed Magnetic Torq - D1	LRS	66	1	± 0.002 ft-lb	J3-19		CLA	7.2	8F

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD244	CLA P/S No 1 +10 O/P	LRS	113/8	1/8	+10 ±1.0 Vdc	J11-m	J11-m	CLA	7.1	19F
LD245	MCA P/S No. 1 +10 O/P	LRS	114/8	1/8	+10 ±1.0 Vdc	J11-v	J11-v	MCA	7.2	13C
LD246	CLA P/S No 1 Hi O/P	LRS	115/8	1/8	+45 ±4.5 Vdc	J11-DD	J11-DD	CLA	7.1	19F
LD247	SSS No 1 B+	LRS	67	1	0 to +5 Vdc		J3-19	SSS No1 Ele		
LD248	SSS No 2 B+	LRS	68	1	0 to +5 Vdc	J3 -20		SSS No2 Ele		
LD249	SSS No 1 ATA	LRS	69	1	0 to +3 Vdc		J3 -20	SSS No2 Ele		
LD250	SSS No 2 ATA	LRS	71	1	0 to +3 Vdc		J3-21	SSS No2 Ele		
LD401	V/M Accel Pulses	ASC	70	8	16 bit counter	J7-J	J7-J	VM	6.3	20F
LD402		ASC	71							
LD403	V/M Counter R/O	ASC	117	8	16 bit counter	J7-f	J7-f	VM CTR	6.3	20G
LD404		ASC	118							
LD405		LRS	118							
LD406	SSS No 1 O/P Data	LRS	119	1	32 bit Serial Data	J7-G	J7-G	SSSNo1 Elec	6.4	10F
LD407		LRS	120		See next page for data format					
LD408		LRS	121							
LD409		LRS	122							
LD410	SSS No 2 O/P Data	LRS	123	1	32 bit Serial Data	J7-H	J7-H	SSS No2 Elec	6.4	10F
LD411		LRS	124		See next page for data format					
LD412		LRS	125							

Measurement Desig.	Measurement Title	32-Bit Serial Data Format
LD405 LD406 LD407 LD408	SSS No 1 O/P Data	Bits 1 (MSB) through 6-----Sun Alpha Angle (Coarse)(Gray Code) Bits 7 through 15 ---------Sun Alpha Angle (Fine)(Binary) Bit 16 ---------Identity "1"=Sensor No. 3 "0"=Sensor No. 1 Bits 17 through 22 --------Sun Beta Angle(Coarse)(Gray Code) Bits 23 through 31 --------Sun Beta Angle(Fine)(Binary) Bits 32 (LSB) ---------Sun Presence "1"=Present "0"=$\overline{\text{Present}}$
LD409 LD410 LD411 LD412	SSS No 2 O/P Data	Bits 1 (MSB) through 6-----Sun Alpha Angle(Coarse)(Gray Code) Bits 7 through 15 ---------Sun Alpha Angle(Fine)(Binary) Bit 16 --------Identity "1"=Sensor No 4 "0"=Sensor No 2 Bits 17 through 22 --------Sun Beta Angle(Coarse)(Gray Code) Bits 23 through 31 --------Sun Beta Angle(Fine)(Binary) Bit 32 (LSB) --------Sun Presence "1"=Present "0"=$\overline{\text{Present}}$

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD501	Hi RCV No 1	ASC	Bit 1 of: 12,27,29,42, 44,59,61,73, 75,89,91,104, 106,120,122,128	128	Off	On		J4-58	AEA		
LD502	Hi RCV No 2	ASC	Bit 2 of: Same words as above	128	Off	On		J4-59	AEA		
LD503	Hi RCV No 3	ASC	Bit 3 of: Same words as above	128	Off	On		J4-60	AEA		
LD504	Hi RCV No 4	ASC	Bit 4 of: same words as above	128	Off	On		J4-61	AEA		
LD505	Hi RCV No 5	ASC	Bit 5 of: Same words as above	128	Off	On		J4-62	AEA		
LD506	Hi RCV No 6	ASC	Bit 6 of: same words as above	128	Off	On		J4-63	AEA		
LD507	V/M Enable Engine S/D	ASC	56:6	8	Enabled	$\overline{\text{Enabled}}$	J4-47		AEA		
LD508	V/M Engine S/D	ASC	25:3,87:3	16	S/D Sig	$\overline{\text{S/D Sig}}$		J4-36,	VM CTR		
LD509	HSA Scanmotor	ASC	56:7	8	On	Off	J4-48		HSA		
LD510	AEA Ascent Rate Status	ASC	56:8	8	Prog Rates reset	$\overline{\text{Prog Rates reset}}$	J4-49		AEA		

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Range Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD511	Low RCV No 1	ASC	Bit 1 of: 11,26,28,41, 43,58,60,72, 74,88,90,103, 105,119,121,127	128	Off	On	J4-58		AEA		
		O/A	Bit 1 of: 11,16,17,20, 21,25,26,29, 30,34,35,38, 39,43,44,47, 48,55,56,61, 62,68,69,74, 75,81,82,87, 88,94,95,100	128							
LD512	Low RCV No 2	ASC	Bit 2 of: Same ASC Words as above	128	Off	On	J4-59		AEA		
		O/A	Bit 2 of: Same O/A words as above	128							

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Deisg.	Samp Rate SPS	Range Engr.	Range Init	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD513	Low RCV No 3	ASC	Bit 3 of: Same ASC words as above	128	Off	On	J4-60		AEA		
		O/A	Bit 3 of: Same O/A Words as above								
LD514	Low RCV No 4	ASC	Bit 4 of: Same ASC words as above	128	Off	On	J4-61		AEA		
		O/A	Bit 4 of: Same O/A Words as above								
LD515	Low RCV No 5	ACS	Bit 5 of: Same ASC Words as above	128	Off	On	J4-62		AEA		
		O/A	Bit 5 of: Same O/A words as above								
LD516	Low RCS No. 6	ACS	Bit 6 of: Same ACS words as above	128	Off	On	J4-63		AEA		
		O/A	Bit 6 of: Same O/A words as above	128							

Meas Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Range Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD517	AEA Pwr	LRS	28/3:1,28/7:1	1/4	On	Off	J5-81		AEA		
LD518	AEA Reg +15 Vdc O/P	LRS	28/3:2,28/7:2	1/4	On	Off	J5-82		AEA		
LD519	GRA SMRD	LRS	28/3:3,28/7:3	1/4	Running	Running	J5-83		GRA		
LD520	GRA Gyro Cage/Uncage	LRS	28/3:4,28/7:4	1/4	Caged	Uncaged	J5-84		AEA		
LD521	HSA/SWA	LRS	28/3:5,28/7:5	1/4	HSA	SWA	J5-85		AEA		
LD522	Desaturation Cont.	LRS	28/3:6,28/7:6	1/4	Disabled	Enabled	J5-86		AEA		
LD523	AEA Pitch Coupling Connect	LRS	28/3:7,28/7:7	1/4	Conn	Discon	J5-87		AEA		
LD524	Orbit Pitch De-Coupling Connect	LRS	28/3:8,28/7:8	1/4	Conn	Discon	J5-88		AEA		
LD525	AEA Roll Coupling Connect	LRS	29/1:1,29/5:1	1/4	Conn	Discon		J5 -65	AEA		
LD526	Orbit Roll & Yaw Decoupling	LRS	29/1:2,29/5:2	1/4	Conn	Discon		J5 -66	AEA		
LD527	AEA HGOM/LGOM	LRS	29/1:3,29/5:3	1/4	HGOM	LGOM		J5 -67	AEA		
LD528	Pitch SWA Coupling	LRS	29/1:4,29/5:4	1/4	Conn	Discon		J5 -68	AEA		
LD529	Roll SWA Coupling	LRS	29/1:5,29/5:5	1/4	Conn	Discon		J5 -69	AEA		
LD530	Orbit Maneuver Rate	LRS	29/1:6,29/5:6	1/4	42°/min	3.6°/min		J5 -70	AEA		
LD531	Orbit Geocentric Rate	LRS	29/1:7,29/5:7	1/4	3.6°/min	42°/min		J5 -71	AEA		
LD532	AEA Rate Polarity	LRS	29/1:8,29/5:8	1/4	minus	plus		J5 -72	AEA		
LD533	AEA Orbit Fwd/Reverse	LRS	29/2:1,29/6:1	1/4	Fwd	Reverse		J5 -73	AEA		
LD534	RCS Deactivate/Activate	ASC	24:1	8	Off	On	J4-34		AEA		
		O/A	15:1,54:1	8							
LD535	OAT +Xs	ASC	24:2	8	Off	on	J4-35		AEA	5.0	9B
		O/A	15:2,54:2	8							
LD536	OAT-Xs	ASC	24:3	8	Off	On	J4-36		AEA	5.0	9C
		O/A	15:3, 54:3	8							

Meas Desig	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Range Unit	Conn-Pin TSU1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LD537	GRA Ext Htr	LRS	29/2:2,29/6:2	1/4	Enabled	Disabled		J5-74	AEA		
LD538	Orbit Gyrocompassing	LRS	29/2:3,29/6:3	1/4	In	Out		J5-75	AEA		
LD656	LSWA	LRS	29/2:4,29/6:4	1/4	On	Off		J5-76	CLA	7.1	19G
LD657	RSWA	LRS	29/2:5,29/6:5	1/4	On	Off		J5-77	CLA	7.1	19G
LD658	PMW	LRS	29/2:6,29/6:6	1/4	On	Off		J5-78	CLA	7.1	19C
LD659	LSWA All Space/Normal	LRS	29/2:7,29/6:7	1/4	All Space	Norm.		J5-79	CLA	7.0	19G
LD660	RSWA All Space/Normal	LRS	29/2:8,29/6:8	1/4	All Space	Norm.		J5-80	CLA	7.0	19B
LD661	NOT USED										
LD662	Pitch Loop	LRS	29/3:1,29/7:1	1/4	Pri	BU		J5-81	CLA	7.0	13G
LD663	CLA P/S No 1	LRS	29/3:2,29/7:2	1/4	On	Off		J5-82	CLA	7.1	19E
LD664	MCA	LRS	29/3:3,29/7:3	1/4	On	Off		J5-83	MCA	7.1	19D
LD665	MCA Mode All Funct/Compensate Only	LRS	29/3:4,29/7:4	1/4	All funct	Comp		J5-84	MCA		
LD666	RRW	LRS	29/3:5,29/7:5	1/4	On	Off		J5-85	CLA	7.1	19C
LD667	BU Desaturation Mode	LRS	29/3:6,29/7:6	1/4	On	Off		J5-86	CLA	7.1	17B
LD668	CLA P/S No 2	LRS	29/3:7,29/7:7	1/4	On	Off		J5-87	CLA	7.1	19A
LD669	Pitch Axis RCVs	LRS	18:1	1	On	Off	J5-25		CLA	7.0	2E
LD670	Roll Axis RCVs	LRS	18:2	1	On	Off	J5-26		CLA	7.0	2D

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
C	LH101	Xmtr No 1 P/S Voltage	LRS	110/4	1/8	0 to +10 Vdc	J9-M	J9-M	NST No 1	6.0	20F
C	LH102	Xmtr No 2 P/S Voltage	LRS	111/4	1/8	0 to +10 VDc	J11-S	J11-S	NST No 2	6.0	20B
C	LH103	Rcvr No 1 P/S Voltage	LRS	110/5	1/8	0 to +10 Vdc	J9-e	J9-e	NST No 1	6.0	20F
C	LH104	Rcvr No 2 P/S Voltage	LRS	111/5	1/8	0 to +10 Vdc	J11-T	J11-T	NST No 2	6.0	20C
	LH105	Rcvr No 1 AGC	LRS	112/5	1/8	-130 to -50 dBm	J11-b	J11-b	NST No 1	6.0	13F
	LH106	Rcvr No 2 AGC	LRS	113/5	1/8	-130 to -50 dBm	J11-j	J11-j	NST No 2	6.0	13C
	LH107	Xmtr No 1 Temp	LRS	114/5	1/8	-30 to +180°F	J11-s	J11-s	NST NO 1	6.0	12D
	LH108	Xmtr No 2 Temp	LRS	115/5	1/8	-30 to +180°F	J11-AA	J11-AA	NST No 2	6.0	12A
C	LH109	NOT USED									
C	LH110	T/R No 1 Temp	LRS	96/3	1/8	-5 to +175°F	J3 -43		T/R No 1	6.5	5F
C	LH111	T/R No 1 Press	LRS	98/3	1/8	0 to +28 psia	J3 -51		T/R No 1	6.5	5F
C	LH112	NOT USED									
C	LH113	T/R No 2 Temp	LRS	102/3	1/8	-5 to +175°F	J3 -67		T/R No 2	6.5	5A
C	LH114	T/R No 2 Press	LRS	104/3	1/8	0 to +28 psia	J3 -75		T/R No 2	6.5	5A
C	LH115	NOT USED									
C	LH116	NOT USED									
C	LH117	NOT USED									

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LH201	CTU Sect A Voltage	LRS	112/3	1/8		J11- Z	J11-Z	CTU	6.1	18B
LH202	CTU Sect B Voltage	LRS	112/4	1/8		J11-a	J11-a	CTU	6.1	18B
LH203	CTU Sect A P/S Temp	LRS	113/3	1/8	-35 to +180°F	J11-h	J11-h	CTU	6.6	20C
LH204	CTU Sect B P/S Temp	LRS	113/4	1/8	-35 to +180°F	J11-i	J11-i	CTU	6.6	20C
LH205	Not Used									
LH206	Not Used									
LH207	TSU No 1 Temp	LRS	115/3	1/8	-35 to +180°F	J11-y	J11-y	TSU No 1	6.6	20B
LH208	TSU No 2 Temp	LRS	115/4	1/8	-35 to +180°F	J11-z	J11-z	TSU No 2	6.6	20A
LH401	CTU Cmd Accept Counter	LRS	126	1	8 bit counter	J2-34,67	J2-34,67	CTU	6.4	10G
LH402	CTU Cmd Execute Counter	LRS	127	1	8 bit counter	J2-35,68	J2-35,68	CTU	6.4	10H
LH501	NST No 1 ASC/Orbit Ant	LRS	28/2:7,28/6:7	1/4	Ascent | Orbit	J5 -79		RFSW	6.0	9F
LH502	NST No 1 TLM Input Deviation Sensitivity	LRS	28/2:8,28/6:8	1/4	High | Norm.	J5 -80		NST No 1	6.0	13G
LH503	NST No 1 Ranging	LRS	19:1	1	Enable | Disable		J5-25	NST No 1	6.0	13G
LH504	NST No 1 TLM Input Normal/X-strapped	LRS	19:2	1	Norm | X-strapped		J5 -26	NST No 1	6.0	13G
LH505	NST No 2 Ranging	LRS	20:1	1	Enable | Disable	J5 -33		NST No 2	6.0	13D
LH506	NST No 2 TLM Input Normal/X-strapped	LRS	20:2	1	Norm | X-strapped	J5 -34		NST No 2	6.0	13D
LH507	Rcvr No 1 Carrier Lockup	LRS	21:1	1	$\overline{\text{Locked}}$ | Locked		J5 -33	NST No 1	6.0	13G
LH508	Rcvr No 2 Carrier Lockup	LRS	21:2	1	$\overline{\text{Locked}}$ | Locked		J5 -34	NST No 2	6.0	13D

	Meas Design	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit		Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
	LH509	T/R No 1 Stop/Standby	LRS	19:3	1	Stop/Standby	$\overline{\text{Stop/Standby}}$		J5 -27	T/R No 1	6.5	7D
	LH510	T/R No 1 Readin	LRS	19:4	1	RI	$\overline{\text{RI}}$		J5 -28	T/R No 1	6.5	5G
	LH511	T/R No 1 Readout	LRS	19:5	1	RO	$\overline{\text{RO}}$		J5 -29	T/R No 1	6.5	5G
	LH512	T/R No 1 Fast Fwd	LRS	19:6	1	Fast Fwd	$\overline{\text{Fast Fwd}}$		J5 -30	T/R No 1	6.5	5G
	LH513	T/R No 1 BOT	LRS	19:7	1	BOT	$\overline{\text{BOT}}$		J5 -31	T/R No 1	6.5	5G
	LH514	T/R No 1 EOT	LRS	19;8	1	EOT	$\overline{\text{EOT}}$		J5 -32	T/R No 1	6.5	5G
	LH515	T/R No 2 Stop/Standby	LRS	20:3	1	Stop/Standby	$\overline{\text{Stop/Standby}}$	J5 -35		T/R No 2	6.5	5B
	LH516	T/R No 2 Readin	LRS	20:4	1	RI	$\overline{\text{RI}}$	J5 -36		T/R No 2	6.5	5B
	LH517	T/R No 2 Readout	LRS	20:5	1	RO	$\overline{\text{RO}}$	J5 -37		T/R No 2	6.5	5B
	LH518	T/R No 2 Fast Fwd	LRS	20:6	1	Fast Fwd	$\overline{\text{Fast Fwd}}$	J5 -38		T/R No 2	6.5	5B
	LH519	T/R No 2 BOT	LRS	20:7	1	BOT	$\overline{\text{BOT}}$	J5 -39		T/R No 2	6.5	5B
	LH520	T/R No 2 EOT	LRS	20:8	1	EOT	$\overline{\text{EOT}}$	J5 -40		T/R No 2	6.5	5B
C	LH521	T/R No 1 Tape Motion	LRS	21:8	1	Moving	Stopped		J5 -40	T/R No 1	6.5	5G
C	LH522	T/R No 2 Tape Motion	LRS	22:8	1	Moving	Stopped	J5-48		T/R No 2	6.5	5B
C	LH523	NOT USED										
C	LH524	NOT USED										
C	LH525	NOT USED										
C	LH526	NOT USED										
	LH527	NST No 2 TLM Input Deviation Sensitivity	LRS	29/3:8, 29/7:8	1/4	High	Norm		J5 -88	NST No 2	6.0	13D
	LH528	Type 14 RF SW-B/A Ant	ASC	25:6,87:6	16	B/A Ant	$\overline{\text{B/A Ant}}$		J4-39	RF SW Type 14	6.0	9F
	LH529	Type 14 RF SW - BUS Ant	ASC	25:7,87:7	16	BUS Ant	$\overline{\text{BUS Ant}}$		J4-40	RF SW Type 14	6.0	9F
	LH601	CTU SECT A	LRS	22:1	1	Enabled	Disabled	J5 -41		TSU No. 1	6.3	14F

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Range Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
LH602	CTU Sect B	LRS	23:1	1	Enabled	Disabled		J5 -41	TSU NO. 2	6.3	14E
LH603	CTU Sect A Xponder Select	LRS	22:2	1	CTU A/ NST NO2	CTU A/ NST NO1	J5 -42		CTU	6.1	17H
LH604	CTU Sect B Xponder Select	LRS	23:2	1	CTU B/ NST No1	CTU B/ NST No2		J5 -42	CTU	6.1	17H
LH605	CTU Sect A Beacon Select	LRS	22:3	1	CTU A/ Bcn No2	CTU A/ Bcn No 1	J5 -43		CTU	6.1	14D
LH606	CTU Sect B Beacon Select	LRS	23:3	1	CTU B/ Bcn No2	CTU B/ Bcn No1		J5 -43	CTU	6.1	14C
LH607	CTU Sect A Int/Ext Clock Select	LRS	22:4	1	Int	Ext	J5 -44		CTU	6.2	16D
LH608	CTU Sect B Int/Ext Clock Select	LRS	23:4	1	Int	Ext		J5 -44	CTU	6.2	16D
LH609	CTU Sect A Clock Running	LRS	22:5	1	Running	Hold	J5 -45		CTU	6.2	14G
LH610	CTU Sect B Clock Running	LRS	23:5	1	Running	Hold		J5 -45	CTU	6.2	14F
LH611	SED Timer Sect A	LRS	22:6	1	On	Off	J5 -46		SED Timer	8.0	10D
LH612	SED Timer Sect B	LRS	23:6	1	On	Off		J5 -46	SED Timer	8.0	10D
LH613	TSU No 1 No Op	LRS	22:7	1	Toggle	Mon	J5 -47		TSU No 1	6.4	12A
LH614	TSU No 2 No Op	LRS	23:7	1	Toggle	Mon		J5 -47	TSU No 2	6.4	12A
LH615	TSU No 1 Sel	LRS	11:1	1	Selected	Selected	N/A		TSU No 1		
LH616	TSU No. 2 Sel	LRS	11:2	1	Selected	Selected		N/A	TSU No. 2		
RA101	LRA sect 1 Array Temp No. 1	LRS	106/5	1/8	-60 to +120°F		J3-85		LRA	8.4	7G
RA102	LRA Sect 2 Array Temp No 2	LRS	108/5	1/8	-60 to +120°F		J3-93		LRA	8.4	7G

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
	SA101	SAR Ant Extension Mech Pos.	LRS	90	1	0 to 100%	J3 -31		SAR Ant	8.0	10H
	SA102	SAR Ant Panel Earth Side Temp	LRS	94/5	1/8	-150 to +165°F	J3 -37		SAR Ant	8.0	10F
	SA103	SAR Ant Panel Back Side Temp	LRS	96/5	1/8	-150 to +165°F	J3 -45		SAR Ant	8.0	10F
C	SA501	SAR Ant Extend Supp Struct Outer +X Knee Extend Limit Sw	ASC	57:1	8	$\overline{\text{Extended}}$ | Extended		J4- 42	SAR Ant	8.0	10G
C	SA502	SAR Ant Extend Supp Struct Inner -X Knee Extend Limit Sw	ASC	57:2	8	$\overline{\text{Extended}}$ | Extended		J4-43	SAR Ant	8.0	10G
C	SA503	SAR Ant Extend Supp Struct Outer -X Knee Extend Limit Sw	ASC	57:3	8	$\overline{\text{Extended}}$ | Extended		J4-44	SAR Ant	8.0	10G
	SD101	SDL Freq Synthesizer Temp	LRS	101/5	1/8			J3-61	SAR D/L	8.1	8D
	SD102	SDL Coder Temp	LRS	103/5	1/8			J3 -69		8.1	8D
	SD103	SDL Mod/Translator Temp	LRS	105/5	1/8			J3 -77		8.1	8D
	SD104	SDL Transmitter Temp	LRS	107/5	1/8			J3 -85		8.1	8D
	SD105	SDL DC/DC Conver. Temp A	LRS	109/5	1/8			J3 -93		8.1	8C

Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
SD106	SDL DC/DC Conver. Temp B	LRS	95/6	1/8			J3-38	SAR D/L	8.1	8C
SD107	SDL DC/DC Conver. +22V	LRS	97/6	1/8			J3-46		8.1	8C
SD108	SDL DC/DC Conver. +15V	LRS	99/6	1/8			J3-54		8.1	8C
SD109	SDL DC/DC Conver. -15V	LRS	95/8	1/8			J3-40		8.1	8C
C SD110	SDL DC/DC Conver. +5V	LRS	101/6	1/8			J3-62		8.1	8C
SD111	SDL DC/DC Conver. +22V Current	LRS	103/6	1/8			J3-70		8.1	8B
SD112	SDL DC/DC Conver. +15V Current	LRS	105/6	1/8			J3-78		8.1	8B
SD113	SDL DC/DC Conver. -15V Current	LRS	107/6	1/8			J3-86		8.1	8B
C SD114	SDL DC/DC Conver. +5V Current	LRS	109/6	1/8			J3-94		8.1	8B
SD115	SDL Xmttr Input Sig Level	LRS	95/7	1/8			J3-39		8.1	8B
SD116	SDL Xmttr Output Sig Level	LRS	97/7	1/8			J3-47		8.1	8A
SD117	SDL Mod/Translator Hi/Lo Status	LRS	99/7	1/8			J3-55		8.1	8B
SD118	SDL Mod/Translator Temp B	LRS	101/7	1/8			J3-63		8.1	8C
SD119	SDL Mod/Translator Temp C	LRS	103/7	1/8			J3-71		8.1	8C
SD120	SDL (TBD)	LRS	105/7	1/8			J3-79		8.1	8B
SD121	SDL COHO Input Mon	LRS	107/7	1/8			J3-87		8.1	8B
SD122	SDL PRF Input Mon	LRS	109/7	1/8			J3-95	SAR D/L	8.1	8B

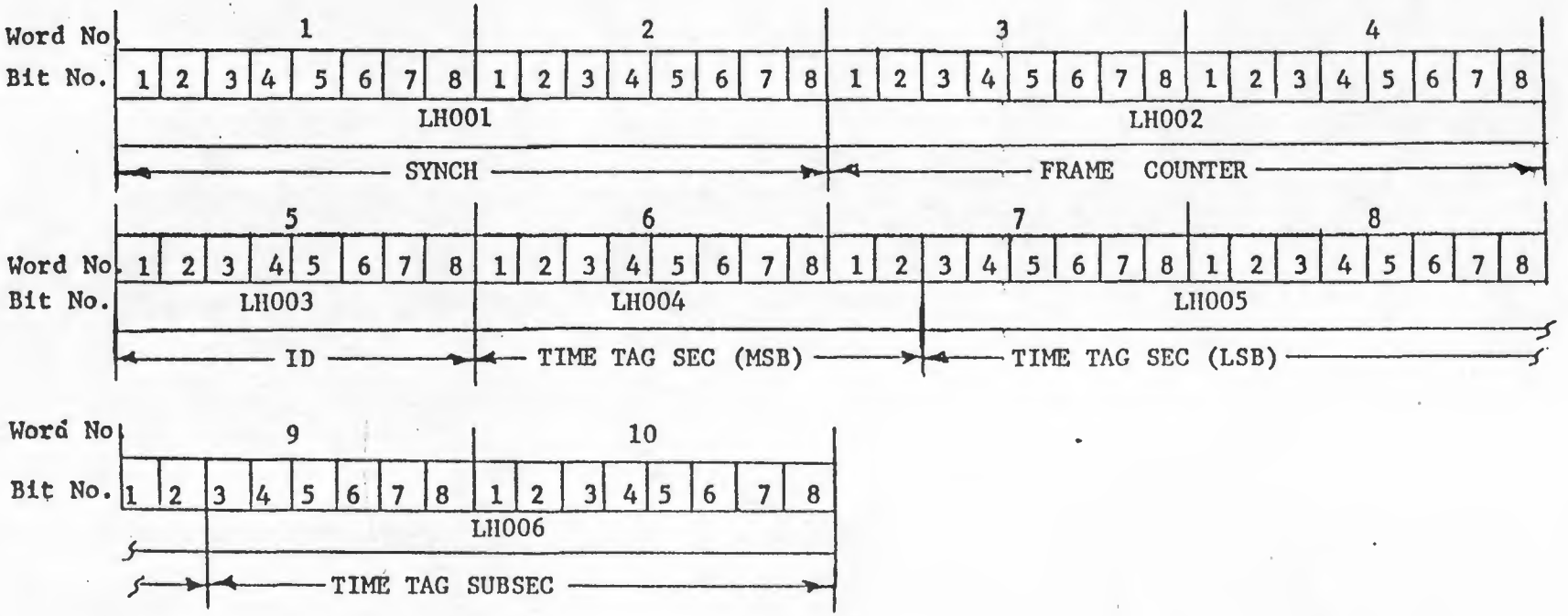
Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
SM101	SMMR 37.0 GHz Vert Analog O/P	ASC ORB O/A	15 33, 89 51	8 4 4		J4-2		Elect Bay	8.2	12E
SM102	SMMR 37.0 GHz Horiz Analog O/P	ASC ORB O/A	32 38, 94 59	8 4 4		J4-6		Elect Bay		12F
SM103	SMMR 21.0 GHz Analog O/P	ASC ORB O/A	47 42, 98 65	8 4 4		J4-10		Elect Bay		12F
SM104	SMMR 18.0 GHz Analog O/P	ASC ORB O/A	64 47, 103 72	8 4 4		J4-14		Elect Bay		12F
SM105	SMMR 10.69 GHz Analog O/P	ASC ORB O/A	78 51, 107 78	8 4 4		J4-18		Elect Bay		12G
SM106	SMMR 6.6 GHz Analog O/P	ASC ORB O/A	94 56, 112 85	8 4 4		J4-22		Elect Bay		12G
SM107	SMMR Scan Position	ASC ORB O/A	13 11,31,67, 87 12, 49	8 8 8		J4-1		Elect Bay		12H
SM108	SMMR Scan Motor Current	LRS	102/4	1/8		J3-68		Elect Bay		12E
SM109	SMMR Thermistor Voltage	LRS	104/4	1/8		J3-76		Elect Bay		12D
SM110	SMMR Multifeed Horn Temp(T1)	LRS	106/4	1/8		J3-84		Elect Bay	8.2	12D

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit		Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
	SM111	SMMR 6.6 GHz Elect Temp (T2)	LRS	108/4	1/8			J3 -92		Elect Bay	8.2	12C
	SM112	SMMR 10.69 GHz Elect Temp (T3)	LRS	94/8	1/8			J3 -40		Elect Bay		12C
	SM113	SMMR 18.0 GHz Elect Temp (T4)	LRS	96/8	1/8			J3 -48		Elect Bay		12C
	SM114	SMMR 21.0 GHz Elect Temp (T5)	LRS	98/8	1/8			J3 -56		Elect Bay		12B
	SM115	SMMR 37.0 GHz, Elect Temp (T6)	LRS	100/8	1/8			J3 -64		Elect Bay		12B
	SM116	SMMR Data/Scan Temp (T7)	LRS	102/8	1/8			J3 -72		Elect Bay		12B
	SM117	SMMR Scan Motor Temp (T8)	LRS	104/8	1/8			J3 -80		Elect Bay		12B
	SM118	SMMR P/S Temp (T9)	LRS	106/8	1/8			J3 -88		Elect Bay		12B
	SM119	SMMR CAL Cold Hold Temp (T10)	LRS	108/8	1/8			J3 -96		Elect Bay		12A
C	SM501	SMMR Data Sys Status	LRS	28/4:1, 28/8:1	1/4	Off	On	J5 -89		Elect Bay		16E
C	SM502	SMMR 37 GHz Ch Status	LRS	28/4:2, 28/8:2	1/4	Off	On	J5 -90		Elect Bay		16H
C	SM503	SMMR 21 GHz Ch Status	LRS	28/4:3, 28/8:3	1/4	Off	On	J5 -91		Elect Bay		16G
C	SM504	SMMR 18 GHz Ch Status	LRS	28/4:4, 28/8:4	1/4	Off	On	J5 -92		Elect Bay		16G
C	SM505	SMMR 10.69 GHz Ch Status	LRS	28/4:5, 28/8:5	1/4	Off	On	J5 -93		Elect Bay	8.2	16G

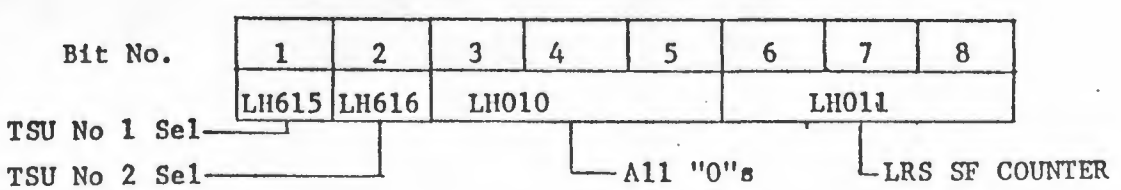
	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr.	Range Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
C	SM506	SMMR 6.6 GHz Ch Status	LRS	28/4:6, 28/8:6	1/4	Off	On	J5-94		Elect Bay	8.2	16F
C	SM507	SMMR Scan Pwr Status	LRS	28/4:7, 28/8:7	1/4	Off	On	J5-95		Elect Bay		16D
	SM508	SMMR Scan Set to Zero/Enable	LRS	29/4:1, 29/8:1	1/4	Zero	Enable		J5-89	Elect Bay		16D
C	SM509	SMMR Encoder O/P A On/O/P B Off	LRS	29/4:2, 29/8:2	1/4	B On/ A Off	A On/ B Off		J5-90	Elect Bay		16D
	TR101	Beacon Osc Flask Temp No 1	LRS	98/5	1/8			J3-53		Beacon		3G
	TR102	Beacon Osc Flask Temp No 2	LRS	100/5	1/8			J3-61		Beacon		3G
	TR103	Beacon Osc Book Temp	LRS	102/5	1/8			J3-69		Beacon		3G
	TR104	Beacon Osc Reg Volt 1 or 2	LRS	82	1			J3-27		Beacon		3F
	TR105	BeaconOsc Htr Volt 1 or 2	LRS	84	1			J3-28		Beacon		3F
	TR106	Beacon Pwr Cond Current 1 or 2	LRS	86	1			J3-29		Beacon		3F
	TR107	Beacon Pwr Cond Current 3	LRS	88	1			J3-30		Beacon		3F
	TR108	Beacon Pwr Cond Volt. 1 or 2	LRS	97/5	1/8				J3-45	Beacon		3E
	TR109	Beacon Pwr Cond Volt. 3	LRS	99/5	1/8				J3-53	Beacon		3E
	TR501	Beacon Osc/Buffer No 1 On-Off	LRS	26:1	1	On	Off	J5-57		Beacon		3E
	TR502	Beacon Osc/Buffer No 2 On-Off	LRS	26:2	1	On	Off	J5-58		Beacon		3E
	TR503	Beacon Pwr/Ampl On-Off	LRS	26:3	1	On	Off	J5-59		Beacon	8.2	3E

	Meas. Desig.	Measurement Title	TLM Mode	Data Pos. Desig.	Samp Rate SPS	Range Engr. Unit	Conn-Pin TSU 1	Conn-Pin TSU 2	Data Source	SCHEMATIC PAGE	SCHEMATIC ZONE
	VI101	VIRR Detector Temp	LRS	101/4	1/8	+5 to +140°F		J3 -60	Radiometer	8.4	6C
C	VI102	VIRR Housing Temp (Cavity) Ref A	LRS	103/4	1/8	+5 to +140°F		J3 -68 & -6			6F
	VI103	VIRR Housing Temp (Cavity) Ref B	LRS	105/4	1/8	+60 to +95°F		J3 -76			6E
	VI104	VIRR Housing Temp (Cavity) Ref C	LRS	107/4	1/8	+60 to +95°F		J3 -84			6D
	VI105	VIRR Housing Temp (Cavity) Ref D	LRS	109/4	1/8	+5 to +140°F		J3 -92			6D
	VI106	VIRR Scanner Elect Temp	LRS	99/8	1/8	+5 to +140°F		J3 -56			6C
	VI107	VIRR Elect Module Temp	LRS	101/8	1/8	+5 to +140°F		J3 -64			6B
	VI108	VIRR IR Detector Bias Volt	LRS	103/8	1/8	-4.07 to -4.75 Vdc.		J3 -72			6A
C	VI109	VIRR Motor Mon Rotation With Elect On or Off	LRS	105/8	1/8	0 to -4.37 Vdc		J3 -80 & -7			6B
	VI110	VIRR Elect Ckt Input Pwr (-24.5 Vdc) Status	LRS	107/8	1/8	On = -4.0 to -4.5 Vdc Off = 0 to +0.5 Vdc		J3 -88			6C
	VI111	VIRR DC/DC Conver Status	LRS	109/8	1/8	0 to -4.5 Vdc		J3 -96	Radiometer	8.4	6F

DATA BLOCK PREAMBLE WORD FORMAT
(WORDS 1 THROUGH 10)



LRS WORD NO 11 FORMAT



LRS BLOCK FORMAT

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
← PREAMBLE (e) →										(d)	B7	B8	BS	B10	B11
17 B12	18 B13	19 B14	20 B15	21 B16	22 B17	23 B18	24 B19	25 B20	26 B21	27 B22	28 SB1	29 SB2	30 LB201	31 LB202	32 LC102
33 LC103	34 LC107	35 LC108	36 LC109	37 LC110	38 LC112	39 LC114	40 LC115	41 LC116	42 LC117	43 LC132	44 LC133	45 LC134	46 LC135	47 LC136	48 LC137
C 49 S	50 LD201	51 LD202	52 LD203	53 LD204	54 LD205	55 LD207	56 LD209	57 LD211	58 LD213	59 LD215	60 LD217	61 LD233	62 LD219	63 LD235	64 LD237
65 LD241	66 LD243	67 LD247	68 LD248	69 LD249	70 AL101	71 LD250	72 AL102	73 S	74 AL104	75 S	76 AL105	77 S	78 AL106	79 S	80 AL107
C 81 S	82 TR104	83 S	84 TR105	85 S	86 TR106	87 S	88 TR107	89 S	90 SA101	91 LC101	92 LC104	93 LC105	94 SA1	95 SA2	96 SA3
97 SA4	98 SA5	99 SA6	100 SA7	101 SA8	102 SA9	103 SA10	104 SA11	105 SA12	106 SA13	107 SA14	108 SA15	109 SA16	110 SA17	111 SA18	112 SA19
113 SA20	114 SA21	115 SA22	116 Fill	117 Fill	118 LD405	119 LD406	120 LD407	121 LD408	122 LD409	123 LD410	124 LD411	125 LD412	126 LH401	127 LH402	128 Fill

a) SA1 through SA22 are reference designations of analog words which are subcommutated. See LRS (words 94 through 104 and words 105 Through 115) Subcommutated Analog Word Formats.

b) SB1 and SB2 are reference designations of subcommutated words which contain eight bilevel points. See LRS Block (words 28 & 29) Subcommutated Discrete Word Format.

c) B7 through B22 are reference designations of words which contain eight bilevel data points. See LRS Block (words 12 through 27) Discrete Word Format.

d) Word 11 includes TSU selected status and subframe counter monitors. See LRS Word 11 Format on previous page.

e) The preamble is the first 10 words of each data block. See Data Block Preamble Format

LRS Block (Words 94 Through 104)
Subcommutated Analog Word Format
(Approx. 1/8 Sample/sec)

MF REF WORD		SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8	SA9	SA10	SA11
MF WORD		94	95	96	97	98	99	100	101	102	103	104
SF ID	1	LA114	LA115	LA116	LA117	LA118	LA119	LA120	LA123	LA121	LA122	LA127
	2	LB203	LB205	LB204	LB206	LB213	LB207	LB214	LB208	LB215	LB209	LB216
	3	S	S	LH110	S	LH111	S	S	S	LH113	S	LH114
	4	LC111	S	S	S	LD117	LD106	LD118	* VI101	* SM108	* VI102	* SM109
	5	SA102	S	SA103	TR108	TR101	TR109	TR102	SD101	TR103	SD102	S
	6	AL103	SD106	AL108	SD107	AL109	SD108	AL110	SD110	AL111	SD111	AL112
	7	AL115	SD115	AL116	SD116	AL117	SD117	AL118	SD118	AL119	SD119	AL120
	8	* SM112	* SD109	* SM113	* S	* SM114	* VI106	* SM115	* VI107	* SM116	* VI108	* SM117

a) S denotes spare channel
b) * denotes 0 to -7.5 volt input channel

LRS Block (Words 105 Through 115)
Subcommutated Analog Word Format
(Approx. 1/8 Sample/sec)

MF REF WORD		SA12	SA13	SA14	SA15	SA16	SA17	SA18	SA19	SA20	SA21	SA22
MF WORD		105	106	107	108	109	110	111	112	113	114	115
SF ID	1	LA128	LA129	S	LB106	LB107	LD214	LD216	LD218	LD220	LC122	LC123
	2	LB210	LB217	LB211	LB218	LB212	LC124	LC125	LC126	LC127	LC128	LC129
	3	LA124	LA125	LA130	LA126	S	LC130	LC131	LH201	LH203	LD221	LH207
	4	* VI103	* SM110	* VI104	* SM111	* VI105	LH101	LH102	LH202	LH204	LD222	LH208
	5	SD103	RA101	SD104	RA102	SD105	LH103	LH104	LH105	LH106	LH107	LH108
	6	SD112	AL113	SD113	AL114	SD114	LC120	LC121	LD223	LD224	LD225	LD226
	7	SD120	AL121	SD121	AL122	SD122	LD227	LD228	LD229	LD230	LD231	LD232
	8	* VI109	* SM118	* VI110	* SM119	* VI111	LD234	LD236	LD238	LD244	LD245	LD246

a) S denotes spare channel
b) * denotes 0 to -7.5 volt input channel

C

LRS Block (Words 12 Through 27)
Discrete Word Format
(Approx. 1 Sample/sec)

MF REF WORD	MF WORD	MSB Bit ID							
		1	2	3	4	5	6	7	8
B7	12	LC501	LC507	LC509	LC511	LC513	LC515	LC517	S
B8	13	LC502	LC508	LC510	LC512	LC514	LC516	LC518	S
B9	14	LC521	LC523	LC525	LC527	LC529	LC530	LC531	LC532
B10	15	LC522	LC524	LC526	LC528	LC533	LC534	LC535	LC536
B11	16	LC537	LC538	LC539	LC553	LC554	S	S	S
B12	17	S	S	S	S	S	S	S	S
B13	18	LD669	LD670	S	LB604	LB605	LB606	LB607	S
B14	19	LH503	LH504	LH509	LH510	LH511	LH512	LH513	LH514
B15	20	LH505	LH506	LH515	LH516	LH517	LH518	LH519	LH520
B16	21	LH507	LH508	S	S	S	S	S	LH521
B17	22	LH601	LH603	LH605	LH607	LH609	LH611	LH613	LH522
B18	23	LH602	LH604	LH606	LH608	LH610	LH612	LH614	S
B19	24	S	S	S	S	S	S	S	S
B20	25	S	S	S	S	S	S	S	S
B21	26	TR501	TR502	TR503	S	S	S	S	S
B22	27	S	S	S	S	S	S	S	S

a) S denotes spare channel

LRS Block (Words 28 & 29)
Subcommutated Discrete Word Format
(Approx. 1/4 sample/sec)

MF REF WORD	MF WORD	SF ID	MSB Bit ID 1	2	3	4	5	6	7	8
SB1	28	1, 5	LC503	LC504	LC505	LC506	LC540	LC551	LC552	S
		2, 6	S	LC549	LC550	LB601	LB602	LB603	LH501	LH502
		3, 7	LD517	LD518	LD519	LD520	LD521	LD522	LD523	LD524
		4, 8	* SM501	* SM502	* SM503	* SM504	* SM505	* SM506	* SM507	S *
SB2	29	1, 5	LD525	LD526	LD527	LD528	LD529	LD530	LD531	LD532
		2, 6	LD533	LD537	LD538	LD656	LD657	LD658	LD659	LD660
		3, 7	LD662	LD663	LD664	LD665	LD666	LD667	LD668	LH527
		4, 8	* SM508	* SM509	* S	* S	* S	* S	* S	* S

a) S denotes spare channel

b) * denotes 0 to-7.5 volt input channel

ASCENT BLOCK FORMAT

1	2	3	4	5	6	7	8	9	10	11	12	13 *	14	15 *	16
← PREAMBLE (d) →										B1	B2	SM107	LC105	SM101	LD111
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
LA101	LA102	LA103	LA104	LD102	LD103	LC104	B3	B4	B1	B2	B1	B2	LC101	LD206	SM102
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47 *	48
LD112	LA105	LA106	LA107	LA108	LB401	LB402	LB403	B1	B2	B1	B2	LD214	LD208	SM103	LD113
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64 *
LA109	LA110	LA111	LA112	LD104	LD105	LC104	B5	B6	B1	B2	B1	B2	LD210	LD216	SM104
65	66	67	68	69	70	71	72	73	74	75	76	77	78 *	79	80
LD114	S	LB101	LB102	LB103	LD401	LD402	B1	B2	B1	B2	LD218	LD212	SM105	LD115	LB104
81	82	83	84	85	86	87	88	89	90	91	92	93	94 *	95	96
LB105	LD107	LD109	LD102	LD103	LC104	B4	B1	B2	B1	B2	LD220	LD239	SM106	LD116	LD108
97	98	99	100	101	102	103	104	105	106	107	108	109*	110	111	112
LD110	LC113	LC106	LB401	LB402	LB403	B1	B2	B1	B2	S	LD240	S	S	LC118	LD112
113	114	115	116	117	118	119	120	121	122	123	124	125*	126	127	128
LC119	LD114	LD105	LC104	LD403	LD404	B1	B2	B1	B2	S	LD242	S	S	B1	B2

a) S denotes spare channel
b) * denotes 0 to -7.5 volt input channel
c) B1 through B6 are reference designations of words which contain eight bilevel data points. See Ascent & Orbit Adjust Block Discrete Word Format.
d) The preamble is the first 10 words of each data block. See Data Block Preamble Format.

ASCENT & ORBIT ADJUST BLOCK DISCRETE

WORD FORMAT

	MF REF WORD	MSB Bit ID 1	2	3	4	5	6	7	8
Approx 128 sps	B1	LD511	LD512	LD513	LD514	LD515	LD516	S	S
Approx 128 sps	B2	LD501	LD502	LD503	LD504	LD505	LD506	S	S
Approx 8 sps	B3	LD534	LD535	LD536	S	S	S	S	S
Approx 16 sps	B4	LB506	LB507	LD508	LA501	LA502	LH528	LH529	S
Approx 8 sps	B5	LB501	LB502	LB503	LB504	LB505	LD507	LD509	LD510
Approx 8 sps	B6	SA501	SA502	SA503	LC544	LC545	LC546	LC547	LC548

a) S denotes spare data channel

MF REF WORD	MF Word	
	ASC Block	O/A Block
B1	11,26,28,41,43, 58,60,72,74,88, 90,103,105,119, 121,127	11,16,17,20,21, 25,26,29,30,34, 35,38,39,43,44, 47,48,55,56,61, 62,68,69,74,75, 81,82,87,88,94, 95,100
B2'	12,27,29,42,44, 59,61,73,75,89, 91,104,106,120, 122,128	-
B3	24	15,54
B4'	25,87	-
B5	56	-
B6	57	-

C

ORBIT BLOCK FORMAT

1	2	3	4	5	6	7	8	9	10	11*	12	13	14	15	16
← PREAMBLE (c) →										SM107	LC105	LC104	LC101	LD206	LD214
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31*	32
LD208	LC104	LD210	LD216	LD218	LD212	LC104	LD220	LD239	S	LD240	LC104	S	LD242	SM107	LC105
33*	34	35	36	37	38*	39	40	41	42*	43	44	45	46	47*	48
SM101	LD111	LC104	LC101	LD206	SM102	LD112	LD214	LD208	SM103	LD113	LC104	LD210	LD216	SM104	LD114
49	50	51*	52	53	54	55	56*	57	58	59	60*	61	62	63	64
LD218	LD212	SM105	LD115	LC104	LD220	LD239	SM106	LD116	S	LD240	S	S	LC104	S	LD242
65*	66	67*	68	69	70	71	72	73	74	75	76	77	78	79	80
S	S	SM107	LC105	LC104	LC101	LD206	LD214	LD208	LC104	LD210	LD216	LD218	LD212	LC104	LD220
81	82	83	84	85	86	87*	88	89*	90	91	92	93	94 *	95	96
LD239	S	LD240	LC104	S	LD242	SM107	LC105	SM101	LD111	LC104	LC101	LD206	SM102	LD112	LD214
97	98*	99	100	101	102	103*	104	105	106	107*	108	109	110	111	112*
LD208	SM103	LD113	LC104	LD210	LD216	SM104	LD114	LD218	LD212	SM105	LD115	LC104	LD220	LD239	SM106
113	114	115	116*	117	118	119	120	121*	122	123	124	125	126	127	128
LD116	S	LD240	S	S	LC104	S	LD242	S	S	Fill	Fill	Fill	Fill	Fill	Fill

a) S denotes spare channel
b) * denotes 0 to -7.5 volt input channel
c) The preamble is the first 10 words of each data block. See Data Block Preamble Format.

ORBIT ADJUST BLOCK FORMAT

1	2	3	4	5	6	7	8	9	10	11	12 *	13	14	15	16
← PREAMBLE (d) →										B1	SM107	LC105	LC104	B3	B1
17 B1	18 LC101	19 LD206	20 B1	21 B1	22 LD214	23 LD208	24 LC104	25 B1	26 B1	27 LD210	28 LD216	29 B1	30 B1	31 LD218	32 LD212
33 LC104	34 B1	35 B1	36 LD220	37 LD239	38 B1	39 B1	40 S	41 LD240	42 LC104	43 B1	44 B1	45 S	46 LD242	47 B1.	48 B1
49* SM107	50 LC105	51* SM101	52 LD111	53 LC104	54 B3	55 B1	56 B1	57 LC101	58 LD206	59* SM102	60 LD112	61 B1	62 B1	63 LD214	64 LD208
65* SM103	66 LD113	67 LC104	68 B1	69 B1	70 LD210	71 LD216	72* SM104	73 LD114	74 B1	75 B1	76 LD218	77 LD212	78* SM105	79 LD115	80 LC104
81 B1	82 B1	83 LD220	84 LD239	85* SM106	86 LD116	87 B1	88 B1	89 S	90 LD240	91* S	92 S	93 LC104	94 B1	95 B1	96 S
97 LD242	98* S	99 S	100 B1	101 Fill	← 102	103	104	105	106	107	108	109	110	111 →	112 Fill
113 Fill	← 114	115	116	117	118	119	120	121	122	123	124	125	126	127 →	128 Fill

a) S denotes spare channel
b) * denotes 0 to -7.5 volt input channel
c) B1 and B3 are reference designations of words which contain eight bilevel data points. See Ascent & Orbit Adjust Block Discrete Word Format.
d) The preamble is the first 10 words of each data block. See Data Block Preamble Format.

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL700	Coarse Height		1(1)	10	10.2		MSB=819.2 Micro-sec.
AL701	Med. Height		2(11)				MSB=0.8 Micro-sec.
AL702	Fine Height		3(21)				MSB=0.781
AL703	Altitude Rate		4(31)				LSB=1.52 P-sec/PRI
AL704	Height Error		5(41)				MSB=Sign LSB=1.5625
AL705	AGC Gate Amp		6(51)				DFB Output X100 ÷ 64
AL706	Early Gate Amp.		7(61)				DFB Output
AL707	Late Gate Amp.		8(71)				DFB Output
AL708	Middle Gate Amp.		9(81)				DFB Output
AL709	$\overline{L_6 - E_6}$		10(91)				DFB Output X100 ÷ 64
AL710	Noise Gate Amp		11(101)				A/D Conv. X100 ÷ 32
AL711	Plateau Gate Amp.		12(111)				A/D Conv.
AL712	Attitude Gate Amp.		13(121)				A/D Conv.
AL713	Transmit Power		14(131)				A/D Conv. X100 ÷ 32
AL714	Status/Mode #1 (Parity)		15(141)	1			MSB#10 = Parity
AL715	Status/Mode #1 (Spare)		15(142)	1			Bit #9

1241637 A

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL716	Status/Mode #1 (Cal. III)		15(143)	1	10.2		Bit #8
AL717	(Cal. I, II)		15(144)	1			Bit #7
AL718	(Multi-Level Mode CMD)		15(145)	4			Bits #6, 5, 4 & 3
AL719	(Init. Tracker)		15(149)	2		Exec. Bits 3 → 6 Now Init. Tracker, Then Exec. Bits 3 → 6	Bit #2
AL720	Not Used.						
AL721	Engr. Data MSB's for Sub-C Words #1 → #42		16(151)	2	10.2		Bit #10 = 1* Bit #9 = 0* *for AL718 Bit #10=#9=0 for AL719 → AL762
AL722	TWT Beam Current		16/1(153)	8	0.22		
AL723	TWT Cathode Voltage		16/2(153)				
AL724	TWT HVPS Temp.		16/3(153)				
AL725	TWT Collector Temp		16/4(153)				
AL726	No Data		16/5(153)				
AL727	Receiver Temp.		16/6(153)				
AL728	Noise Gate Ampl.		16/7(153)				
AL729	Plateau Gate Ampl.		16/8(153)				
AL730	Attitude Gate Ampl.		16/9(153)	8	0.22		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL731	Transmit Power Ampl.		16/10(153)	8	0.22		
AL732	UCFM Temp.		16/11(153)				
AL733	DDL Temp.		16/12(153)				
AL734	DDL Assembly Temp.		16/13(153)				
AL735	HSWS Temp.		16/14(153)				
AL736	DFB Temp. #1		16/15(153)				
AL737	A.T. #1 Temp.		16/16(153)				
AL738	A.T. #2 Temp.		16/17(153)				
AL739	ICU Temp.		16/18(153)				
AL740	SACU Temp.		16/19(153)				
AL741	LVPS Temp.		16/20(153)				
AL742	LVPS 38.V Current		16/21(153)				
AL743	+28V. S/C Bus Isolated		16/22(153)				
AL744	+28 Volts		16/23(153)				
AL745	+15 Volts		16/24(153)				
AL746	-15 Volts		16/25(153)				
AL747	+7 Volts		16/26(153)				
AL748	-9 Volts		16/27(153)				
AL749	+5 Volts		16/28(153)				
AL750	-5.2 Volts		16/29(153)				
AL751	1.00 V. Reference		16/30(153)				
AL752	0.657 V. Reference		16/31(153)				
AL753	SACU PLO Lock		16/32(153)				
AL754	MTU Temperature		16/33(153)				

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit		Comment
AL755	No Data		16/34(153)	8	0.22			
AL756	DFB Temperature #2		16/35(153)					
AL757	Spare		16/36(153)					
AL758	Spare		16/37(153)					
AL759	Spare		16/38(153)					
AL760	Spare		16/39(153)					
AL761	Spare		16/40(153)					
AL762	Spare		16/41(153)	5	0.22			
AL763	TWTA Fault		16/41(158)	1	0.22	Normal	Override	MSB's 8-4
AL764	LVPS Currents		16/41(159)	1		Normal	Override	
AL765	A.T.		16/41(160)	1		A.T.#2	A.T.#1	LSB
AL766	Spare		16/42(153)	8				
AL767	Index to Sel. ACQ. Run Time Const.		16/43(151)	2	0.22			Word #43-#46 are zeros when no Sel. is made.
AL768	Index to Sel. Trk Run Time Const.		16/43(153)	2				
AL769	Index to Sel. Trk AGC Threshold		16/43(155)	4				
AL770	Word #43 LSB's		16/43(159	2				Bit #2 = #1 = (1)
AL771	Index to Sel. ACQ/α/ β/ AGC Time Const.		16/44(151)	4				

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL772	Index to Sel. Trk/α/β/ AGC Time Const.		16/44(155)	4	0.22		
AL773	Word #44 LSB's		16/44(159)	2			Bit #2 = 1 = (1)
AL774	Index to Sel. Min. Gate Width for ΔH		16/45(151)	2			
AL775	Index to Sel $\overline{L_6 - E_6}$ Threshold for T_{TT}		16/45(153)	2			
AL776	Index to Sel. $T_{\Delta H}$		16/45(155)	2			
AL777	Index to Sel $\overline{L_6 - E_6}$ Threshold for T_{TA}		16/45(157)	2			
AL778	Word #45 LSB's		16/45(159)	2			B #2 = #1 = (1)
AL779	Offset for Adj. ΔK_{L-E}		16/46(151)	4			
AL780	Offset for ACQ. HT.		16/46(155)	4			LSB = 25 ns.
AL781	Word #46 LSB's		16/46(159)	2	0.22		
AL782	AGC Word		17(161)	10	10.2	Attn. Insert	MSB=32 dB
AL783	Not Used		18(171)	2			Bits 10 & 9, Not used = 0
AL784	Cal. Attn./SACU Status		18(173)	4		Attn. Insert.	0-60 db* (11 Setps)* *Bits 8,7,6 & 5

1241637 A

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit		Comment
AL785	Spare		18(177)	1	10.2			Bit #4
AL786	HV On		18(178)	1		On	Off	Bit #3
AL787	HV Ready		18(179)	1		Ready	NotReady	Bit #2
AL788	TWT Fault		18(180)	1		Fault	No Fault	Bit #1
AL789	Stat. Mode #3(ATU Br. Stat) (Gate Width)		19(181)	3				Bits 10,9 & 8 Gate Width (6 - 50 ns)
AL790	#3(ATU Br. Stat.) (ACQ/TRK)		19(184)	1				Acq./Trk. (Bit #7)
AL791	#3(ATU Br. Stat.) (Chirp ACQ Step)		19(185)	2				Chirp.Acq. Step (Bits 6 & 5)
AL792	#3(ATU Br. Stat.) (Re-Acq Flag)		19(187)	1				Re-Acq.Flag (Bit #4)
AL793	#3(ATU Br. Stat.) ($\overline{\Delta H} > T_{\Delta H}$)		19(188)	1				$\overline{\Delta H} > T_{\Delta H}$ (Bit #3)
AL794	Stat. Mode #3(Spare)		19(189)	2				Bits 2 & 1
AL795	Stat. Mode #4 SACU Mode CMD (Not used)		20(191)	2				Bits 10 & 9 not used
AL796	#4 (Chirp/CW)		20(193)	1	10.2	Chirp (Gates) Output Wave-forms	CW-Output AL870 - AL876	Bit #8

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL797	Stat. Mode #4(SACU Mod CMD) (Hi V. On/Off)		20(194)	1	10.2	HV On	Bit #7
AL798	#4 (TWTA Fault Reset)		20(195)	1		TWTA Fault Reset	Bit #6
AL799	#4 (Trigger Kill)		20(196)	1		Trigger Kill	Bit #5
AL800	#4 (Cal. Mode I)		20(197)	1			Cal. Mode I (Bit #4) 1st 11 Steps
AL801	#4 (Cal. Mode II)		20(198)	1			Cal. Mode II (Bit #3) Noise only
AL802	#4 (TWT Htr On/Off)		20(199)	1		TWT Htr On	Bit #2 (on when power applied)
AL803	Status Mode #4 (Spare)		20(200)	1			Bit #1
AL804	Waveheight (H-1/3)		21(201)	10			MSB=10 meters
AL805	Status Mode #2(Eng. Data Ch) (Channel Select)		22(211)	6			S-F Counter (Bits #10-#5) Ch. Sel. (1-46)
AL806	Status Mode #2(ATU Mode)		22(217)	4	10.2		Bits 4-1

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL807	Waveform (-30 Gate)		23(221)	10	10.2		Scale=DFB Output x100÷64
AL808	Waveform (-29 Gate)		24(231)				
AL809	Waveform (-28 Gate)		25(241)				
AL810	Waveform (-27 Gate)		26(251)				
AL811	Waveform (-26 Gate)		27(261)				
AL812	Waveform (-25 Gate)		28(271)				
AL813	Waveform (-24 Gate)		29(281)				
AL814	Waveform (-23 Gate)		30(291)				
AL815	Waveform (-22 Gate)		31(301)				
AL816	Waveform (-21 Gate)		32(311)				
AL817	Waveform (-20 Gate)		33(321)				
AL818	Waveform (-19 Gate)		34(331)				
AL819	Waveform (-18 Gate)		35(341)				
AL820	Waveform (-17 Gate)		36(351)				
AL821	Waveform (-16 Gate)		37(361)				
AL822	Waveform (-15 Gate)		38(371)				
AL823	Waveform (-14 Gate)		39(381)				
AL824	Waveform (-13 Gate)		40(391)				
AL825	Waveform (-12 Gate)		41(401)				
AL826	Waveform (-11 Gate)		42(411)	10	10.2		Scale=DFB Output x100÷64

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL827	Waveform (-10 Gate)		43(421)	10	10.2		Scale=DFB Output x100÷64
AL828	Waveform (-9 Gate)		44(431)				
AL829	Waveform (-8 Gate)		45(441)				
AL830	Waveform (-7 Gate)		46(451)				
AL831	Waveform (-6 Gate)		47(461)				
AL832	Waveform (-5 Gate)		48(471)				
AL833	Waveform (-4 Gate)		49(481)				
AL834	Waveform (-3 Gate)		50(491)				
AL835	Waveform (-2 Gate)		51(501)				
AL836	Waveform (-1 Gate)		52(511)				
AL837	Waveform (+1 Gate)		53(521)				
AL838	Waveform (+2 Gate)		54(531)				
AL839	Waveform (+3 Gate)		55(541)				
AL840	Waveform (+4 Gate)		56(551)				
AL841	Waveform (+5 Gate)		57(561)				
AL842	Waveform (+6 Gate)		58(571)				
AL843	Waveform (+7 Gate)		59(581)				
AL844	Waveform (+8 Gate)		60(591)				
AL845	Waveform (+9 Gate)		61(601	10	10.2		Scale=DFB Output x100÷64

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL846	Waveform (+10 Gate)	62(611)		10	10.2		Scale=DFB Output x100 ± 64
AL847	Waveform (+11 Gate)	63(621)					
AL848	Waveform (+12 Gate)	64(631)					
AL849	Waveform (+13 Gate)	65(641)					
AL850	Waveform (+14 Gate)	66(651)					
AL851	Waveform (+15 Gate)	67(661)					
AL852	Waveform (+16 Gate)	68(671)					
AL853	Waveform (+17 Gate)	69(681)					
AL854	Waveform (+18 Gate)	70(691)					
AL855	Waveform (+19 Gate)	71(701)					
AL856	Waveform (+20 Gate)	72(711)					
AL857	Waveform (+21 Gate)	73(721)					
AL858	Waveform (+22 Gate)	74(731)					
AL859	Waveform (+23 Gate)	75(741)					
AL860	Waveform (+24 Gate)	76(751)					
AL861	Waveform (+25 Gate)	77(761)					
AL862	Waveform (+26 Gate)	78(771)					
AL863	Waveform (+27 Gate)	79(781)					
AL864	Waveform (+28 Gate)	80(791)					
AL865	Waveform (+29 Gate)	81(801)		10	10.2		Scale=DFB Output x100 ± 64

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL866	Waveform (+30 Gate)		82(811)	10	10.2		Scale-DFB Output x100 ÷ 64
AL867	Waveform (-1-1/2 Gate)		83(821)				
AL868	Waveform (0 Gate)		84(831)				
AL869	Waveform (+1-1/2 Gate)		85(841)	10	10.2		Scale=DFB Output x100 ÷ 64
AL870	Xmit Word CTR		23(221),30(291), 37(361),44(431), 51(501),58(570), 65(641),72(711), 79(781)	10	91.8		Output when Bit #193=0 CW Count
AL871	Xmit CW HIT CTR		24(231),31(301), 38(371),45(441), 52(511),59(581), 66(651),73(721), 80(791)	10	91.8		Output when Bit #193=0 HIT Count
AL872	CW Height LSB's		25(241),32(311), 39(381),46(451), 53(521),60(591), 67(661),74(731), 81(801)	10	91.8		Output when Bit #193=0 If HIT CTR < 16 LSB's =50 ns ÷HIT Count
						If HIT CTR ≥ 16 LSB's = 0.195 ns	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
AL873	CW Height MSB's		26(251),33(321), 40(391),47(461), 54(531),61(601), 68(671),75(741), 82(811)	10	91.8		Output when Bit #193=0
AL874	CW Height MSB's		27(361),34(331), 41(401),48(471), 55(541),62(611), 69(681),76(751), 83(821)	10	91.9		Output when Bit #193=0
AL875	CW AGC LSB's		28(271),35(341), 42(411),49(481), 56(551),63(621), 70(691),77(761), 84(831)	10	91.8		Output when Bit #193=0
AL876	CW AGC MSB's		29(281),36(351), 43(421),50(491), 57(561),64(631), 71(701),78(771), 85(851)	10	91.8		Output when Bit #193=0 MSB - 32 dB

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM701	Spare	1	6(81)	11			
SM702	Sub-Frame Count	1	6(94)	3			
SM703	Status (Scan Pwr On)	1	6(93)	1			
SM704	Status (Scan Enable)	1	6(92)	1			
SM705	Cold Calibr. (37H)	1	17(261), 21(325), 25(389), 29(453).	12			
SM706	Cold Calibr. (37V)	1	18(277), 22(341), 26(405), 30(469).	12			
SM707	Cold Calibr. (21H)	1	19(293), 27(421).	12			
SM708	Cold Calibr. (10.69H)	1	20(309), 28(437)	12			
SM709	Cold Calibr. (18H)	1	23(357), 31(485).	12			
SM710	Cold Calibr. (6.6H)	1	32(501).	12			
SM711	Antenna Data (37H)	1	33(517), 37(581), 41(645), 45(709), 49(773), 53(837), 57(901).	12	29.28		
		2	61(965), 65(1029), 69(1093, 73(1157), 77(1221), 81(1285), 85(1349), 89(1413), 93(1477), 97(1541), 101(1605), 105(1669), 109(1733), 113(1797), 117(1861).	12	29.28		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM711	Antenna Data (37H) (cont)	3	121(1925), 125(1989), 129(2053), 133(2117), 137(2181), 141(2245), 145(2309), 149(2373), 153(2437), 157(2501), 161(2565), 165(2629), 169(2693), 173(2757), 177(2821).	12	29.28		
		4	181(2885), 185(2949), 189(3013), 193(3077), 197(3141), 201(3205), 205(3269), 209(3333), 213(3397), 217(3461), 221(3525), 225(3589), 229(3653), 233(3717).	12	29.28		
		5	237(3781), 241(3845), 245(3909), 249(3973), 253(4037), 289(4613), 293(4677).	12	29.28		
		6	297(4741), 301(4805), 305(4869), 309(4933), 313(4997), 317(5061), 321(5125), 325(5189),	12	29.28		
SM711	Antenna Data (37H)		329(5253), 333(5317),	12	29.28		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM711	Antenna Data (37H) (cont)	6	337(5381), 341(5445), 345(5509), 349(5573), 353(5637).	12	29.28		
		7	357(5701), 361(5765), 365(5829), 369(5893), 373(5957), 377(6021), 381(6085), 385(6149), 389(6213), 393(6277), 397(6341), 401(6405), 405(6469), 409(6533), 413(6597).	12	29.28		
		8	417(6661), 421(6725), 425(6789), 429(6853), 433(6917), 437(6981), 441(7045), 445(7109), 449(7173), 453(7237), 457(7301), 461(7365),	12	29.28		
		8	465(7429), 469(7493).	12	29.28		
		9	473(7557), 477(7621), 481(7685), 485(7749), 489(7813), 493(7877), 497(7941), 501(8005),	12	29.28		
SM711	Antenna Data (37H)		505(8069), 509(8133).	12	29.28		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM712	Antenna Data (37V)	1	34(533), 38(597), 42(661), 46(725), 50(789), 54(853), 58(917).	12	29.28		
		2	62(981), 66(1045), 70(1109), 74(1173), 78(1237), 82(1301), 86(1365), 90(1429), 94(1493), 98(1557), 102(1621), 106(1685), 110(1749), 114(1813), 118(1877).	12	29.28		
		3	122(1941), 126(2005), 130(2069), 134(2128), 138(2197), 142(2261), 146(2325), 150(2389), 154(2453), 158(2517), 162(2581), 166(2645), 170(2709), 174(2773).	12	29.28		
		4	178(2837), 182(2901), 186(2965), 190(3029), 194(3093), 198(3157), 202(3221), 206(3285),	12	29.28		
SM712	Antenna Data (37V)	4	210(3349), 214(3413),	12	29.28		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM712	Antenna Data (37V) (cont)	4	218(3477), 222(3541), 226(3605), 230(3669), 234(3733).	12	29.28		
		5	238(3797), 242(3861), 246(3925), 250(3989), 254(4053), 290(4629), 294(4693).	12	29.28		
		6	298(4757), 302(4821), 306(4885), 310(4949), 314(5013), 318(5077), 322(5141), 326(5205), 330(5269), 334(5333), 338(5397), 342(5461), 346(5525), 350(5589), 354(5653).	12	29.28		
		7	358(5717), 362(5781), 366(5845), 370(5909), 374(5973), 378(6037), 382(6101), 386(6165), 390(6229), 394(6293), 398(6357), 402(6421),				
SM712	Antenna Data (37V)	7	406(6485), 410(6549).	12	29.28		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM712	Antenna Data (37V) (cont)	8	414(6613), 418(6677), 422(6741), 426(6805), 430(6869), 434(6933), 438(6997), 442(7061), 446(7125), 450(7189), 454(7253), 458(7317), 462(7381), 466(7445), 470(7509).	12	29.28		
		9	474(7573), 478(7637), 482(7701), 486(7765), 490(7829), 494(7893), 498(7957), 502(8021), 506(8084), 510(8149).	12	29.28		
SM713	Antenna Data (21H)	1	35(549), 43(677), 51(805), 59(933).	12	7.32		
		2	67(1061), 75(1189), 83(1317), 91(1445), 99(1573), 107(1701), 115(1829).	12	7.32		
		3	123(1957), 131(2085), 139(2213), 147(2341), 155(2469), 163(2597), 171(2725).	12	7.32		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM713	Antenna Data (21H) (cont)	4	179(2853), 187(2981), 195(3109), 203(3237), 211(3365), 219(3493), 227(3621), 235(3749).	12	7.32		
		5	243(3877), 251(4005).	12	7.32		
		5	291(4645)	12	7.32		
SM714	Antenna Data (21V)	6	299(4773), 307(4901), 315(5029), 323(5157), 331(5285), 339(5413), 347(5541).	12	7.32		
		7	355(5669), 363(5797), 371(5925), 379(6053), 387(6181), 395(6309), 403(6437), 411(6565).	12	7.32		
		8	419(6693), 427(6821), 435(6949), 443(7077), 451(7205), 459(7333), 467(7461).				
		9	475(7589), 483(7717), 491(7845), 499(7973),	12	7.32		
SM714	Antenna Data (21V)	9	507(8101).	12	7.32		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM715	Antenna Data (10.69H)	1	36(565), 44(693), 52(821).	12	7.32		
		2	60(949), 68(1077), 76(1205), 84(1333), 92(1461), 100(1589), 108(1717), 116(1845).	12	7.32		
		3	124(1973), 132(2101), 140(2229), 148(2357), 156(2485), 164(2613), 172(2741).	12	7.32		
		4	180(2869), 188(2997), 196(3125), 204(3253), 212(3381), 220(3509), 228(3637), 236(3765).	12	7.32		
		5	244(3893), 252(4021),	12	7.32		
		5	292(4661).	12	7.32		
SM716	Antenna Data (10.69V)	6	300(4789), 308(4917), 316(5045), 324(5173), 332(5301), 340(5429), 348(5557).	12	7.32		
		7	356(5685), 364(5813), 372(5941), 380(6069), 388(6197), 396(6325),	12	7.32		
SM716	Antenna Data (10.69V)	7	404(6453), 412(6581).	12	7.32		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM716	Antenna Data (10.69V) (cont)	8	420(6709), 428(6837), 436(6965), 444(7093), 452(7221), 460(7349), 468(7477).	12	7.32		
		9	476(7605), 484(7733), 492(7877), 500(7989), 508(8117).	12	7.32		
SM717	Antenna Data (18H)	1	39(613), 47(741), 55(869).	12	7.32		
		2	63(997), 71(1125), 79(1253), 87(1381), 95(1509), 103(1637), 111(1765).	12	7.32		
		3	119(1893), 127(2021), 135(2149), 143(2277), 151(2405), 159(2533), 167(2661), 175(2789),	12	7.32		
		4	183(2917), 191(3045), 199(3173), 207(3301), 215(3429), 223(3557), 231(3685).	12	7.32		
		5	239(3813), 247(3941), 255(4069).	12	7.32		
	Antenna Data (18H)						

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM718	Antenna Data (18V)	6	303(4837), 311(4965), 319(5093), 327(5221), 335(5349), 343(5477), 351(5605).	12	7.32		
		7	359(5733), 367(5861), 375(5989), 383(6117), 391(6245), 399(6373), 407(6501).	12	7.32		
		8	415(6629), 423(6757), 431(6885), 439(7013), 447(7141), 455(7269), 463(7397), 471(7525).	12	7.32		
		9	479(7653), 487(7781), 495(7909), 503(8037), 511(8165).	12	7.32		
SM719	Antenna Data (6.6H)	1	48(757).	12	3.66		
		2	64(1013), 80(1269), 96(1525), 112(1781).	12	3.66		
		3	128(2037), 144(2293), 160(2549), 176(2805).	12	3.66		
				12	3.66		
		4	192(3061), 208(3317), 224(3573).	12	3.66		
		5	240(3829), 256(4085),	12	3.66		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM720	Antenna Data (6.6V)	6	304(4853), 320(5109), 336(5365), 352(5621).	12	3.66		
		7	368(5877), 384(6133), 400(6389).	12	3.66		
		8	416(6645), 432(6901), 448(7157), 464(7413).	12	3.66		
		9	480(7669), 496(7925), 512(8181).	12	3.66		
SM721	Normal Calibr. (37H)	5	273(4357), 277(4421), 281(4485), 285(4549).	12			
SM722	Normal Calibr. (37V)	5	274(4373), 278(4437), 282(4501), 286(4565).	12			
SM723	Normal Calibr. (21V)	5	275(4389), 283(4517).	12			
SM724	Normal Calibr. (10.69V)	5	276(4405), 284(4533).	12			
SM725	Normal Calibr. (18V)	5	279(4453), 287(4581).	12			
SM726	Normal Calibr. (6.6V)	5	288(4597).	12			
SM727	1st Word of S-Comm Word #1	5	257(4101).	12			
	#2	5	259 (4133).	12			
	#3	5	261(4165).	12			
	#4	5	263(4197)	12			
	#5	5	265(4229)	12			
	#6	5	267 (4261)	12			
	#7	5	269(4293)	12			
SM727	1st Word of S-Comm Word #8	5	271(4325)	12			

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM728	6.6 + XTL I.	5	258/1 (4117)	12	0.0305		
SM729	6.6 - XTL I.	5	260/1 (4149)	12			
SM730	37H + XTL	5	262/1 (4176)	12			
SM731	37H - XTL I.	5	263/1 (4197)	12			
SM732	18 SW Temp. Eng.	5	266/1 (4245)	12			
SM733	18 SW Temp. Eng.	5	268/1 (4277)	12			
SM734	37 HI-SW Temp. Eng.	5	270/1 (4309)	12			
SM735	37 LO-SW Temp. Eng.	5	272/1 (4341)	12			
SM736	10.69 + XTL I.	5	258/2 (4117)	12			
SM737	10.69 - XTL I.	5	260/2 (4149)	12			
SM738	6.6 SW. Temp. Eng.	5	262/2 (4181)	12			
SM739	6.6 Temp. Lo Eng.	5	263/2 (4197)	12			
SM740	Motor Temp. Eng.	5	266/2 (4245)	12			
SM741	Ant. Temp. Eng.	5	268/2 (4277)	12			
SM742	Calibr. Horn Temp. Eng.	5	270/2 (4309)	12			
SM743	P.S. Eng. Temp.	5	272/2 (4341)	12			
SM744	18 + XTL I.	5	253/3 (4117)	12			
SM745	18 - XTL I.	5	260/3 (4149)	12			
SM746	37 V + XTL I.	5	262/3 (4181)	12			
SM747	37 V - XTL I.	5	263/3 (4197)	12			
SM748	21 SW Temp. Eng.	5	266/3 (4245)	12			
SM749	21 LO Eng.	5	268/3 (4277)	12			
SM750	37 V-SW Eng.	5	270/3 (4309)	12			
SM751	Eng. Calibr. HI	5	272/3 (4341)	12	0.0305		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM752	21 + XYL I.	5	258/4 (4117)	12	0.0305		
SM753	21 - XTL I.	5	260/4 (4149)				
SM754	10.60 Sw. Temp. Eng.	5	262/4 (4181)				
SM755	10.60 Sw. Temp Eng.	5	263/4 (4197)				
SM756	Bulkhead Temp. #1 Eng.	5	266/4 (4245)				
SM757	Bulkhead Temp. #2 Eng.	5	268/4 (4277)				
SM758	Bulkhead Temp. #3 Eng.	5	270/4 (4309)				
SM759	Eng. Calibr. LO	5	272/4 (4141)				
SM760	6.6 Sw Temp. Plat.	5	258/5 (4117)	12	0.0305		
SM761	Ant. Temp. Plat. #1	5	260/5 (4149)				
SM762	Cal. Horn Temp #1 Plat.	5	262/5 (4181)				
SM763	Bulkhead Temp. #1 Plat.	5	263/5 (4197)				
SM764	Bulkhead Temp. #2 Plat.	5	266/5 (4245)				
SM765	Cal. WG Temp. #1 Plat.	5	268/5 (4277)				
SM766	Cal. WG Temp. #2 Plat.	5	270/5 (4309)				
SM767	Cal. Temp #3 Plat.	5	272/5 (4341)				
SM768	10.69 SW Temp. Plat	5	258/6 (4117)	12	0.0305		
SM769	Ant. Temp. Plat. #2	5	260/6 (4149)				
SM770	Ant. Temp. Plat. #1	5	262/6 (4181)				
SM771	Ant. WG Temp. #2 Plat.	5	263/6 (4197)				
SM772	Ant. WG Temp. #3 Plat.	5	266/6 (4245)				
SM773	Ant. WG Temp. #4 Plat.	5	268/6 (4277)				
SM774	Ant. WG Temp. #5 Plat.	5	270/6 (4309)				
SM775	Data Chassis Temp. Plat.	5	272/6 (4341)	12	0.0305		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM776	18 SW. Temp. Plat.	5	258/7 (4117)	12	0.0305		
SM777	37 H. SW. T. Plat.	5	260/7 (4149)				
SM778	Cal. Horn. Temp #2 Plat.	5	262/7 (4181)				
SM779	Cal. Horn. Temp #3 Plat.	5	263/7 (4197)				
SM780	Bulkhead Temp. #3 Plat.	5	266/7 (4245)				
SM781	Cal. WG Temp. #4 Plat.	5	268/7 (4277)				
SM782	Cal. WG Temp. #5 Plat.	5	270/7 (4309)				
SM783	Temp. Cal. HI	5	272/7 (4341)	12	0.0305		
SM784	21 SW. Temp. Plat.	5	258/8 (4117)	12	0.0305		
SM785	37 V. SW. T. Plat.	5	260/8 (4149)				
SM786	Ant. WG Temp. #6 Plat.	5	262/8 (4181)				
SM787	Bulkhead Temp. #4 Plat.	5	263/8 (4197)				
SM788	Ant. WG Temp. #& Plat.	5	266/8 (4245)				
SM789	Ant. WG Temp. #3 Plat.	5	268/8 (4277)				
SM790	Cal. WG Temp.#6 Plat.	5	270/8 (4309)				
SM791	Temp. Ca. LO	5	272/8 (4341)	12	0.0305		
SM792	Fill (Not Processed)	9	513 (8193), 514(8209), 515(8225), 516(8241), 517(8257), 518(8273), 519(8289), 520(8305), 521(8321), 522(8337), 523(8353), 524(8369), 525(8385), 526(8401),	16			
SM792	Fill (Not Processed)	9	527(8417), 528(8433),	16			

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM792	Fill (Not Processed) (cont)	9	529(8449), 530(8465), 531(8481).	16			
SM793	Sync	1	1 (1)	16			
SM794	GSFC	1	2 (17)	16			
SM795	Time (1)	1	3 (33)	16			
SM796	Time (2)	1	4 (49)	16			
SM797	Time (3)	1	5 (65)	16			
SM798	Spare	1	7 (97), 9 (129), 10 (145), 11 (161), 12 (177), 13 (193), 14 (209), 15 (225), 16 (241).	16			
SM799	G Sync	1	8 (117), 24 (373), 40(629), 56 (885),	12			
		2	72(1141), 88 (1397), 104(1653).	12			
		3	120(1909), 136 (2165), 152(2421), 168 (2677).	12			
		4	184(2933), 200(3189), 216(3445), 232 (3701).	12			
		5	248 (3957), 264 (4213), 280(4469).	12			
		6	296(4725), 312(4981), 328(5237), 344(5493).	12			
SM799	G Sync						

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM799	G Sync (cont)	7	360 (5749), 376 (6005), 392 (6261), 408 (6517).	12			
		8	424 (6773), 440 (7029), 456 (7285), 472 (7541).	12			
		9	488 (7797), 504 (8053)	12			
SM800	Bit-1 of Words 17 - 512	1	8(113)-17 (257)-59(929)	1			
		2	60 (945) - 118 (1873).	1			
		3	119 (1889) - 177 (2817).	1			
		4	178 (2833) - 236 (3761).	1			
		5	237 (3777) - 295 (4705).	1			
		6	296 (4721) - 354 (5649).	1			
		7	355 (5665) - 413 (6593).	1			
		8	414 (6609) - 472 (7537).	1			
		9	473 (7553) - 531 (8481).	1			
SM801	Ant Position	1	8(114)-17 (258)-59(930)	3			
		2	60 (946) - 118 (1874).	3			
		3	119 (1890) - 177 (2818).	3			
		4	178 (2834) - 236 (3762).	3			
		5	237 (3778) - 256 (4082).	3			
		5	275 (4386) - 295 (4706).	3			
		6	296 (4722) - 354 (5649).	3			
		7	355 (5666) - 413 (6594).	3			
		8	414 (6610) - 472 (7538).	3			
SM801	Ant Position	9	473 (7554) - 512 (8178).	3			

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SM802	Zero	5	257 (4098), 258 (4114), 259 (4130), 260 (4146), 261 (4162), 262 (4178), 263 (4194), 264 (4210), 265 (4226), 266 (4242), 267 (4258), 268 (4274), 269 (4290), 270 (4306), 271 (4322), 272 (4338).	3			

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR700	Sync Word		1(1)	8			
SR912	Sync Word		2(9)	8			
SR701	Sync Word		3(17)	5			
SR702	Sub-Frame Counter (ID)		3(22)	3			
SR703	Rcvr AGC DC Level	1(1)	4/1(25)	8	0.1608		
SR704	Rcvr High Pwr Load Temp	1(2)	4/2(409)	8	0.1608		
SR705	Rcvr Base Plate Temp	2(3)	4/3(793)	8	0.1608		
SR706	Spare	2(4)	4/4(1177)	8	0.1608		
SR707	Rcvr AGC DC Level	3(5)	4/5(1561)	8	0.1608		
SR708	Rcvr High Pwr Load Temp	3(6)	4/6(1945)	8	0.1608		
SR709	Rcvr Base Plate Temp	4(7)	4/7(2329)	8	0.1608		
SR710	Spare	4(8)	4/8(2713)	8	0.1608		
SR711	Spare	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	5:1(33), (417), (801), (1185), (1569), (1953), (2337), (2721)	1	1.2864		
SR712	STC. Trig. Pres.	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	5:2(34), (418), (802), (1186), (1570), (1954), (2338), (2722)	1	1.2864		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR713	Rcvr Gain	1(1), 1(2) 2(3), 2(4) 3(5), 3(6), 4(7), 4(8)	5:3 (35), (419), (803), (1187), (1571), (1955), (2339), (2723)	3	1.2864	dB	
SR714	Rcvr Prot Gate Pres	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	5:6 (38), (422), (806), (1190), (1574), (1958), (2342), (2726)	1	1.2864		
SR715	ESG Pres.	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	5:7 (39), (423), (807), (1191), (1575), (1959), (2343), (2727)	1	1.2864		
SR716	Gain Mode	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	5:8 (40), (424), (808), (1192), (1576), (1960), (2344), (2728)	1	1.2864		
SR717	Rcvr Echo Ampl. Monitor	1(1)	6(41), 12(89), 18(137), 24(185),	8	10.29		Slipper Comm.

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR717	Rcvr Echo Ampl. Monitor	1(1)	30(233), 36(281), 42(329), 48(377)	8	10.29		
		1(2)	6(425), 12(473), 18(521), 24(569), 30(617), 36(665), 42(713), 48(761)	8	10.29		
		2(3)	6(809), 12(857), 18(905), 24(953), 30(1001), 36(1049), 42(1097), 48(1145)	8	10.29		
		2(4)	6(1193), 12(1241), 18(1289), 24(1337), 30(1385), 36(1433), 42(1481), 48(1529)	8	10.29		
		3(5)	6(1577), 12(1625), 18(1673), 24(1721), 30(1769), 36(1817), 42(1865), 48(1913)	8	10.29		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR717	Rcvr Echo Ampl. Monitor	3(6)	6(1961), 12(2009), 18(2057), 24(2105), 30(2153), 36(2201), 42(2249), 48(2297)	8	10.29		
		4(7)	6(2345), 12(2393), 18(2441), 24(2489), 30(2537), 36(2585), 42(2633), 48(2681)	8	10.29		
		4(8)	6(2729), 12(2777), 18(2825), 24(2873), 30(2921), 36(2969), 42(3017), 48(3065)	8	10.29		
SR718	Spare	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	7:1(49), (433) (817), (1201) (1585), (1969) (2353), (2737)	1	1.2864		
SR719	Echo Sample Gate Scan En	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), (48)	7:2(50), (434) (818), (1202) (1586), (1978) (2354), (2738)	1	1.2864		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR720	Echo Sample Gate Park Pos.	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	7:3(51), (435) (819), (1203) (1587), (1971) (2355), (2339)	6	1.2864		
SR721	Spare	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	8:1(57), (441) (825), (1209) (1593), (1977) (2361), (2744)	2	1.2864		
SR722	Echo Sample Gate Ctr.	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	8:3(59), (443) (827), (1211) (1595), (1979) (2363), (2746)	6	1.2864		
SR723	Spare	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	9:1(65), (449) (833), (1217) (1601), (1985) (2369), (2753)	2	1.2864		
SR724	STC Trigger Pos.	1(1), 1(2) 2(3), 2(4) 3(5), 3(6) 4(7), 4(8)	9:3(67), (451) (835), (1219) (1603), (1987) (2371), (2755)	6	1.2864		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR725	Spare	1(1), 1(2)	10:1(73), (457)	4	1.2864		
		2(3), 2(4)	(841), (1225)				
		3(5), 3(6)	(1609), (1993)				
		4(7), 4(8)	(2377), (2761				
SR726	Rcvr Gain Mode	1(1), 1(2)	10:5(77), (461)	1			
		2(3), 2(4)	(845), (1229)				
		3(5), 3(6)	(1613), (1997)				
		4(7), 4(8)	(2381), (2765)				
SR727	Rcvr Gain Sel.	1(1), 1(2)	10:6(78), (462)	3	1.2864		
		2(3), 2(4)	(846), (1230)				
		3(5), 3(6)	(1614), (1998)				
		4(7), 4(8)	(2382), (2766)				
SR728	Cal Sig. Level	1(1), 1(2)	11:1(81), (465)	2	1.2864		
		2(3), 2(4)	(849), (1233)				
		3(5), 3(6)	(1617), (2001)				
		4(7), 4(8)	(2385), (2769				
SR729	XMTR State	1(1), 1(2)	11:3(83), (467)	1	1.2864	Xmit Operate	
		2(3), 2(4)	(851), (1235)				
		3(5), 3(6)	(1619), (2003)				
		4(7), 4(8)	(2387), (2771)				

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR730	Xmtr Chirp Retrigger EN	1(1), 1(2)	11:4(84), (468)	1	1.2864		
		2(3), 2(4)	(852), (1236)				
		3(5), 3(6)	(1620), (2004)				
		4(7), 4(8)	(2388), (2772)				
SR731	Stalo Htr Bit	1(1), 1(2)	11:5(85), (469),	1	1.2864		
		2(3), 2(4)	(853), (1237)				
		3(5), 3(6)	(1621), (2005)				
		4(7), 4(8)	(2389), (2773)				
SR732	PRF Sel. Bits	1(1), 1(2)	11:6(86), (470)	3	1.2864		
		2(3), 2(4)	(854), (1238)				
		3(3), 3(6)	(1622), (2006)				
		4(7), 4(8)	(2390), (2774)				
SR733	Spare	1(1), 1(2)	13:1(97), (481)	4	1.2864		
		2(3), 2(4)	(865), (1249)				
		3(5), 3(6)	(1633), (2017)				
		4(7), 4(8)	(2401), (2785)				
SR734	Ampl Sel EN	1(1), 1(2)	13:5(101), (485)	1	1.2864		
		2(3), 2(4)	(869), (1253)				
		3(5), 3(6)	(1637), (2021)				
		4(7), 4(8)	(2405), (2789)				

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR735	Ampl A Sel	1(1), 1(2)	13:6(102), (486)	1	1.2864		
		2(3), 2(4)	(870), (1254)				
		3(5), 3(6)	(1638), (2022)				
		4(7), 4(8)	(2406), (2790)				
SR736	Ampl B Sel	1(1), 1(2)	13:7(103), (487)	1	1.2864		
		2(3), 2(4)	(871), (1253)				
		3(5), 3(6)	(1639), (2023)				
		4(7), 4(8)	(2407), (2791)				
SR737	Ampl C Sel	1(1), 1(2)	13:8(104), (488)	1	1.2864		
		2(3), 2(4)	(872), (2356)				
		3(5), 3(6)	(1640), (2024)				
		4(7), 4(8)	(2408), (2792)				
SR738	Pwr Conv. Sync. Pres.	1(1), (2)	14:1(105), (489)	1	1.2864		
		2(3), 2(4)	(873), (1257)				
		3(5), 3(6)	(1641), (2025)				
		4(7), 4(8)	(2409), (2793)				
SR739	Pwr Conv. Free Run. Osc. Pres.	1(1), 1(2)	14:2(106), (490)	1	1.2864		
		2(3), 2(4)	(874), (1258)				
		3(5), 3(6)	(1642), (2026)				
		4(7), 4(8)	(2410), (2794)				

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR740	Pwr Inhibit Disable	1(1), 1(2)	14:3(107), (491)	1	1.2864		
		2(3), 2(4)	(875), (1259)				
		3(5), 3(6)	(1643), (2027)				
		4(7), 4(8)	(2411), (2795)				
SR741	Cmd. Entry Counter	1(1), 1(2)	14:4(108), (492)	5	1.2864		
		2(3), 2(4)	(875), (1260)				
		3(5), 3(6)	(1644), (2028)				
		4(7), 4(8)	(2412), (2796)				
SR742	Spare	1(1), 1(2)	15:1(113), (497)	8	1.2864		All Zeros
		2(3), 2(4)	(881), (1265)				
		3(5), 3(6)	(1648), (2033)				
		4(7), 4(8)	(2417), (2801)				
SR743	P.A. A Trans #1 Current	1(1)	16/1(121)	8	0.1608		
SR744	P.A. A Trans #2 Current	1(2)	16/2(505	8	0.1608		
SR745	P.A. A Trans #3 Current	2(3)	16/3(889)	8	0.1608		
SR746	P.A. A Trans #4 Current	2(4)	16/4(1273)	8	0.1608		
SR747	P.A. A Trans #5 Current	3(5)	16/5(1657)	8	0.1608		
SR748	P.A. A Trans #6 Current	3(6)	16/6(2041)	9	0.1608		
SR749	P.A. A Trans #7 Current	4(7)	16/7(2425)	8	0.1608		
SR750	P.A. A Trans #8 Current	4(8)	16/8*2809)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR751	Spare	1(1)	17(129), 23(177) 29(225), 35(273), 41(321), 47(369)	8	7.7184		All Ones
		1(2)	17(513), 23(561), 29(609), 35(657), 41(705), 47(753)				
		2(3)	17(897), 23(945), 29(993), 35(1041), 41(1089), 47(1137)				
		2(4)	17(1281), 23(1329), 29(1377), 35(1425), 41(1857), 47(1905)				
		3(5)	17(1665), 23(1713), 29(1761), 35(1809), 41(1857), 47(1905)				
		3(6)	17(2049), 23(2097), 29(2145), 35(2193), 41(2241), 47(2289)				
SR751	Spare			8	7.7184		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR751	Spare	4(7)	17(2433), 23(2481), 29(2529), 35(2577), 41(2625), 47(2673)	8	7.7184		
SR751	Spare	4(8)	17(2817), 23(2865), 29(2913), 35(2961), 41(3009), 47(3057)	8	7.7184		
SR752	P.A. B Trans #1 Current	1(1)	19/1(145)	8	0.1608		
SR753	P.A. B Trans #2 Current	1(2)	19/2(529)	8	0.1608		
SR754	P.A. B Trans #3 Current	2(3)	19/3(913)	8	0.1608		
SR755	P.A. B Trans #4 Current	2(4)	19/4(1297)	8	0.1608		
SR756	P.A. B Trans #5 Current	3(5)	19/5(1681)	8	0.1608		
SR757	P.A. B Trans #6 Current	3(6)	19/6(2065)	8	0.1608		
SR758	P.A. B Trans #7 Current	4(7)	19/7(2449)	8	0.1608		
SR759	P.A. B Trans #8 Current	4(8)	19/8(2833)	8	0.1608		
SR760	P.A. C Trans #1 Current	1(1)	20/1(153)	8	0.1608		
SR761	P.A. C Trans #2 Current	1(2)	20/2(537)	8	0.1608		
SR762	P.A. C Trans #3 Current	2(3)	20/3(921)	8	0.1608		
SR763	P.A. C Trans #4 Current	2(4)	20/4(1305)	8	0.1608		
SR764	P.A. C Trans #5 Current	3(5)	20/5(1689)	8	0.1608		
SR765	P.A. C Trans #6 Current	3(6)	20/6(2073)	8	0.1608		
SR766	P.A. C Trans #7 Current	4(7)	20/7(2457)	8	0.1608		
SR767	P.A. C Trans #8 Current	4(8)	20/8(2841)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR768	P.A. A Output Power	1(1)	21/1(161)	8	0.1608		
SR769	Driver Amp C Output Power	1(2)	21/2(545)	8	0.1608		
SR770	Reverse Power Monitor	2(3)	21/3(929)	8	0.1608		
SR771	Chirp Gen. Output Pwr	2(4)	21/4(1313)	8	0.1608		
SR772	Forward Power Monitor	3(5)	21/5(1697)	8	0.1608		
SR773	Chirp Gen. Current	3(6)	21/6(2081)	8	0.1608		
SR774	RF Mod. Gate Trigger	4(7)	21/7(2465)	8	0.1608		
SR775	Stalo Buffer Output Power	4(8)	21/8(2849)	8	0.1608		
SR776	P.A. B Output Power	1(1)	22/1(169)	8	0.1608		
SR777	Driver Amp A Output Pwr	1(2)	22/2(553)	8	0.1608		
SR778	Reverse Power Monitor	2(3)	22/3(937)	8	0.1608		
SR779	Chirp Gen. Output Pwr	2(4)	22/4(1321)	8	0.1608		
SR780	Forward Power Monitor	3(5)	22/5(1705)	8	0.1608		
SR781	Calib. Ref. Temp.	3(6)	22/6(2089)	8	0.1608		
SR782	P.A. A Switch Pos.	4(7)	22/7(2473)	8	0.1608		
SR783	Freq. Mult. Current	4(8)	22/8(2857)	8	0.1608		
SR784	P.A. C Output Power	1(1)	25/1(193)	8	0.1608		
SR785	Driver Amp 3 Output Power	1(2)	25/2(577)	8	0.1608		
SR786	Reverse Power Monitor	2(3)	25/3(961)	8	0.1608		
SR787	Forward/Reverse Pwr Mon. Temp.	2(4)	25/4(1345)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR788	Forward Power Monitor	3(5)	25/5(1729)	8	0.1608		
SR789	Freq. Mult. Output Pwr	3(6)	25/6(2113)	8	0.1608		
SR790	P.A. B Switch Pos.	4(7)	25/7(2497)	8	0.1608		
SR791	Calib. Rev. Voltage	4(8)	25/8(2881)	8	0.1608		
SR792	P.A. A Output Power	1(1)	26/1(201)	8	0.1608		
SR793	Driver Amp C Output Power	1(2)	26/2(585)	8	0.1608		
SR794	Driver Amp B Pretrigger	2(3)	26/3(969)	8	0.1608		
SR795	Power Amp C Temp.	2(4)	26/4(1353)	8	0.1608		
SR796	Forward Power Monitor	3(5)	26/5(1737)	8	0.1608		
SR797	Freq. Mult. Output Pwr	3(6)	26/6(2121)	8	0.1608		
SR798	PRF Transmit Gate	4(7)	26/7(2505)	8	0.1608		
SR799	P.A. C Switch Pos.	4(8)	26/8(2889)	8	0.1608		
SR800	P.A. B Output Power	1(1)	27/1(209)	8	0.1608		
SR801	Driver Amp. A Output Power	1(2)	27/2(593)	9	0.1608		
SR802	Driver Amp. C Prr-trigger	2(3)	27/3(977)	8	0.1608		
SR803	Power Amp. A. Temp.	2(4)	27/4(1361)	8	0.1608		
SR804	Forward Power Monitor	3(5)	27/5(1745)	8	0.1608		
SR805	Chirp Switch Drive Cur.	3(6)	27/6(2129)	8	0.1608		
SR806	Calib. Ref. Voltage	4(7)	27/7(2513)	8	0.1608		
SR807	Stalo Osc. Current	4(8)	27/8(2897)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR808	P.A. C Output Power	1(1)	28/1(217)	8	0.1608		
SR809	Driver Amp B Output Pwr	1(2)	28/2(601)	8	0.1608		
SR810	Driver Amp A Pretrigger	2(3)	28/3(985)	8	0.1608		
SR811	Power Amp B Temp.	2(4)	28/4(1369)	8	0.1608		
SR812	Forward Power Monitor	3(5)	28/5(1753)	8	0.1608		
SR813	Delay Line Temp	3(6)	28/6(2137)	8	0.1608		
SR814	Calib. Ref. Temp.	4(7)	28/7(2521)	8	0.1608		
SR815	Stalo Oven Temp.	4(8)	28/8(2905)	8	0.1608		
SR816	LCSB7 V_o	1(1)	31/1(241)	8	0.1608		
SR817	LCSB7 I_o	1(2)	31/2(625)	8	0.1608		
SR818	LCSB8 V_o	2(3)	31/3(1009)	8	0.1608		
SR819	LCSB8 I_o	2(4)	31/4(1393)	8	0.1608		
SR820	LCSB9 V_o	3(5)	31/5(1777)	8	0.1608		
SR821	LCSB9 I_o	3(6)	31/6(2161)	8	0.1608		
SR822	SPSB13 V_o	4(7)	31/7(2545)	8	0.1608		
SR823	SPSB14 I_o	4(8)	31/8(2929)	8	0.1608		
SR824	Spare	1(1)	32/1(249)	8	0.1608		All Zeros
SR825	Spare	1(2)	32/2(633)	8	0.1608		
SR826	TXOP10 V_o	2(3)	32/3(1017)	8	0.1608		
SR827	TXOP10 I_o	2(4)	32/4(1401)	8	0.1608		
SR828	TXOP8 V_o	3(5)	32/5(1785)	8	0.1608		
SR829	TXOP8 I_o	3(6)	32/6(2169)	8	0.1608		
SR830	TXSB1 V_o	4(7)	32/7(2553)	8	0.1608		
SR831	TXSB1 I_o	4(8)	32/8(2937)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR832	Spare	1(1)	33/1(257)	8	0.1608		
SR833	Spare	1(2)	33/2(641)	8	0.1608		
SR834	SPOP33 V_o	2(3)	33/3(1025)	8	0.1608		
SR835	SPOP33 I_o	2(4)	33/4(1409)	8	0.1608		
SR836	TXOP5 V_o	3(5)	33/5(1793)	8	0.1608		
SR837	TXOP5 I_o	3(6)	33/6(2177)	8	0.1608		
SR838	RXOP28 V_o	4(7)	33/7(2561)	8	0.1608		
SR839	RXOP28 I_o	4(8)	33/8(2945)	8	0.1608		
SR840	TXOP11 V_o	1(1)	34/1(265)	8	0.1608		
SR841	TXOP11 I_o	1(2)	34/2(649)	8	0.1608		
SR842	TXOP1 V_o	2(3)	34/3(1033)	8	0.1608		
SR843	TXOP1 I_o	2(4)	34/4(1417)	8	0.1608		
SR844	TXOP2 V_o	3(5)	34/5(1801)	8	0.1608		
SR845	TXOP2 I_o	3(6)	34/6(2185)	8	0.1608		
SR846	TXOP4 V_o	4(7)	34/7(2569)	8	0.1608		
SR847	TXOP4 I_o	4(8)	34/8(2953)	8	0.1608		
SR848	TXOP6 V_o	1(1)	37/1(289)	8	0.1608		
SR849	TXOP6 I_o	1(2)	37/2(673)	8	0.1608		
SR850	RXOP26 V_o	2(3)	37/3(1057)	8	0.1608		
SR851	RXOP26 I_o	2(4)	37/4(1441)	8	0.1608		
SR852	SPOP34 V_o	3(5)	37/5(1825)	8	0.1608		
SR853	SPOP34 I_o	3(6)	37/6(2209)	8	0.1608		
SR854	TXOP7 V_o	4(7)	37/7(2593)	8	0.1608		
SR855	TXOP7 I_o	4(8)	37/8(2977)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR856	RXOP22 V_o	1(1)	38/1(297)	8	0.1608		
SR857	RXOP22 I_o	1(2)	38/2(681)	8	0.1608		
SR858	RXOP24 V_o	2(3)	38/3(1065)	8	0.1608		
SR859	RXOP24 I_o	2(4)	38/4(1449)	8	0.1608		
SR860	RXOP27 V_o	3(5)	38/5(1833)	8	0.1608		
SR861	RXOP27 I_o	3(6)	38/6(2217)	8	0.1608		
SR862	RXOP23 V_o	4(7)	38/7(2701)	8	0.1608		
SR863	RXOP23 I_o	4(8)	38/8(2985)	8	0.1608		
SR864	TXSB2 V_o	1(1)	39/1(305)	8	0.1608		
SR865	TXSB2 I_o	1(2)	39/2(689)	8	0.1608		
SR866	TXSB4 V_o	2(3)	39/3(1073)	8	0.1608		
SR867	TXSB4 I_o	2(4)	39/4(1457)	8	0.1608		
SR868	TXSB5 V_o	3(5)	39/5(1841)	8	0.1608		
SR869	TXSB5 I_o	3(6)	39/6(2225)	8	0.1608		
SR870	Spare	4(7)	39/7(2609)	8	0.1608		All Zeros
SR871	Spare	4(8)	39/8(2993)	8	0.1608		All Zeros
SR872	RXOP25 Vo	1(1)	40/1(313)	8	0.1608		
SR873	RXOP25 I_o	1(2)	40/2(697)	8	0.1608		
SR874	Spare	2(3)	40/3(1081)	8	0.1608		All Zeros
SR875	Spare	2(4)	40/4(1465)	8	0.1608		All Zeros
SR876	Temp A12	3(5)	40/5(1849)	8	0.1608		
SR877	Temp A10	3(6)	40/6(2233)	8	0.1608		
SR878	Temp A9	4(7)	40/7(2617)	8	0.1608		
SR879	Temp A7	4(8)	40/8(3001)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR880	TXOP12 V_o	1(1)	43/1(337)	8	0.1608		
SR881	TXOP12 I_o	1(2)	43/2(721)	8	0.1608		
SR882	Spare	2(3)	43/3(1105)	8	0.1608		All Zeros
SR883	Spare	3(4)	43/4(1489)	8	0.1608		All Zeros
SR884	Spare	3(5)	43/5(1873)	8	0.1608		All Zeros
SR885	Spare	3(6)	43/6(2257)	8	0.1608		All Zeros
SR886	Spare	4(7)	43/7(2641)	8	0.1608		All Zeros
SR887	Temp A5	4(8)	43/8(3025)	8	0.1608		
SR888	TXOP13 V_o	1(1)	44/1(345)	8	0.1608		
SR887	TXOP13 I_o	1(2)	44/2(729)	8	0.1608		
SR890	Spare	2(3)	44/3(1113)	8	0.1608		All Zeros
SR891	Spare	2(4)	44/4(1497)	8	0.1608		All Zeros
SR892	Spare	3(5)	44/5(1881)	8	0.1608		All Zeros
SR893	Spare	3(6)	44/6(2265)	8	0.1608		All Zeros
SR894	Spare	4(7)	44/7(2649)	8	0.1608		All Zeros
SR895	Temp A4	4(8)	44/8(3033)	8	0.1608		
SR896	TXOP14 V_o	1(1)	45/1(353)	8	0.1608		
SR897	TXOP14 I_o	1(2)	45/2(737)	8	0.1608		
SR898	Spare	2(3)	45/3(1121)	8	0.1608		All Zeros
SR899	Spare	2(4)	45/4(1505)	8	0.1608		All Zeros
SR900	Spare	3(5)	45/5(1889)	8	0.1608		All Zeros
SR901	Spare	3(6)	45/6(2273)	8	0.1608		All Zeros
SR902	Spare	4(7)	45/7(2657)	8	0.1608		All Zeros
SR903	Temp A3	4(8)	45/8(3041)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID (Minor Fr.)	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr Unit	Comment
SR904	TXOP9 V_o	1(1)	46/1(361)	8	0.1608		
SR905	TXOP9 I_o	1(2)	46/2(745)	8	0.1608		
SR906	Stby V_{in}	2(3)	46/3(1129)	8	0.1608		
SR907	Stby I_{in}	2(4)	46/4(1513)	8	0.1608		
SR908	Oper V_{in}	3(5)	46/5(1897)	8	0.1608		
SR909	Oper I_{in}	3(6)	46/6(2281)	8	0.1608		
SR910	Temp A1	4(7)	46/7(2665)	8	0.1608		
SR911	Temp A2	4(8)	46/8(3049)	8	0.1608		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS700	Mode 1		9:3(83)	1			Mod 1 Sel
SS701	Mode 2		9:4(84)	1			Mod 2 Sel
SS702	Mode 3		9:5(85)	1			Mod 3 Sel
SS703	Mode 4		9:6(86)	1			Mod 4 Sel
SS704	Mode 5		9:7(87)	1			Mod 5 Sel
SS705	Mode 6		9:8(88)	1			Mod 6 Sel
SS706	Mode 7		9:9(89)	1			Mod 7 Sel
SS707	Mode 8		9:10(90)	1			Mod 8 Sel
SS708	Mode 9		10:1(91)	1			Sel
SS709	Mode 10		10:2(92)	1			Standby
SS710	Cal. Status		8:4(74)	1		Cal	No Cal
SS711	Polarization		8:6(76)	1		CW	
SS712	L/R Antenna		8:7(77)	1		CW	
SS713	F/A Antenna		8:8(78)	1		CW	
SS714	Lo Frequency Select		4:10(40)	1		Hi	Lo
SS715	Hi Frequency Select		10:4(94)	1			Hi Freq
SS716	Gain Channel No. 1		5:1,2(41)	2			
SS717	Gain Channel No. 2		5:3,4(43)	2			
SS718	Gain Channel No. 3		5:5,6(45)	2			00 = Hi
SS719	Gain Channel No. 4		5:7,8(47)	2			10 = 2nd
SS720	Gain Channel No. 5		5:9,10(49)	2			01 = 3rd
SS721	Gain Channel No. 6		6:1,2(51)	2			11 = Lo
SS722	Gain Channel No. 7		6:3,4(53)	2			
SS723	Gain Channel No. 8		6:5,6(55)	2			

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS724	Gain Channel No. 9		6:7,8(57)	2			
SS725	Gain Channel No. 10		6:9,10(59)	2		00 = Hi	
SS726	Gain Channel No. 11		7:1,2(61)	2		10 = 2nd	
SS727	Gain Channel No. 12		7:3,4(63)	2		01 = 3rd	
SS728	Gain Channel No. 13		7:5,6(65)	2		11 = Lo	
SS729	Gain Channel No. 14		7:7,8(67)	2			
SS730	Gain Channel No. 15		7:9,10(69)	2			
SS731	Sig. and Noise Ch. No. 1		13 (121)	10	0.6581		
SS732	Sig. and Noise Ch. No. 2		14 (131)	10	0.6581		
SS733	Sig. and Noise Ch. No. 3		15 (141)	10	0.6581		
SS734	Sig. and Noise Ch. No. 4		16 (151)	10	0.6581		
SS735	Sig. and Noise Ch. No. 5		17 (161)	10	0.6581		
SS736	Sig. and Noise Ch. No. 6		18 (171)	10	0.6581		
SS737	Sig. and Noise Ch. No. 7		19 (181)	10	0.6581		
SS738	Sig. and Noise Ch. No. 8		20 (191)	10	0.6581		
SS739	Sig. and Noise Ch. No. 9		21 (201)	10	0.6581		
SS740	Sig. and Noise Ch. No. 10		22 (211)	10	0.6581		
SS741	Sig. and Noise Ch. No. 11		23 (221)	10	0.6581		
SS742	Sig. and Noise Ch. No. 12		24 (231)	10	0.6581		
SS743	Sig. and Noise Ch. No. 13		25 (241)	10	0.6581		
SS744	Sig. and Noise Ch. No. 14		26 (251)	10	0.6581		
SS745	Sig. and Noise Ch. No. 15		27 (261)	10	0.6581		
SS746	Noise Only Ch. No. 1		28 (271)	10	0.6581		
SS747	Noise Only Ch. No. 1		29 (281)	10	0.6581		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS748	Noise Only Ch. No. 3		30 (291)	10	0.6581		
SS749	Noise Only Ch. No. 4		31 (301)	10	0.6581		
SS750	Noise Only Ch. No. 5		32 (311)	10	0.6581		
SS751	Noise Only Ch. No. 6		33 (321)	10	0.6581		
SS752	Noise Only Ch. No. 7		34 (331)	10	0.6581		
SS753	Noise Only Ch. No. 8		35 (341)	10	0.6581		
SS754	Noise Only Ch. No. 9		36 (351)	10	0.6581		
SS755	Noise Only Ch. No. 10		37 (361)	10	0.6581		
SS756	Noise Only Ch. No. 11		38 (371)	10	0.6581		
SS757	Noise Only Ch. No. 12		39 (381)	10	0.6581		
SS758	Noise Only Ch. No. 13		40 (391)	10	0.6581		
SS759	Noise Only Ch. No. 14		41 (401)	10	0.6581		
SS760	Noise Only Ch. No. 15		42 (411)	10	0.6581		
SS761	Transmit Power		61 (601)	10	0.6581		
SS762	Input Current Trip		8:5(75)	1		Trip	
SS763	Undervoltage Trip		8:10(80)	1		Trip	
SS764	Body Current Trip		9:1(81)	1		Trip	
SS765	TWT Cathode Voltage		56 (551)	10	0.6581		
SS766	TWT Cathode Current		57 (561)	10	0.6581		
SS767	TWT Body Current		58 (571)	10	0.6581		
SS768	Ion Pump Current		59 (581)	10	0.6581		
SS769	HVPS Input Current		60 (591)	10	0.6581		
SS770	Lo Looplock Status		10:5(95)	1		Lock-Loss	
SS771	Transmit Looplock Status		10:6(96)	1		Lock-Loss	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS772	Lo Power		54 (531)	10	0.6581		
SS773	Modulator Power		55 (541)	10	0.6581		
SS774	Transmit Channel Power		64 (631)	10	0.6581		
SS775	Up Converter Bias		75 (741)	10	0.6581		
SS776	TDA Stage 1 Bias		76 (751)	10	0.6581		
SS777	TDA Stage 2 Bias		77 (761)	10	0.6581		
SS778	TDA Stage 3 Bias		78 (771)	10	0.6581		
SS779	Rec. Protect Ckt. Status		8:9(79)	1		CW	
SS780	Noise Diode Status		9:2(82)	1		ON	
SS781	DC/DC Conv. Volt. + 5V.		51 (501)	10	0.6581		
SS782	DC/DC Conv. Volt. + 15V.		52 (511)	10	0.6581		
SS783	DC/DC Conv. Volt. - 15V.		53 (521)	10	0.6581		
SS784	Low Gain Gnd		65 (641)	10	0.6581		
SS785	DC/DC Conv. Volt. - 6V.		67 (661)	10	0.6581		
SS786	DC/DC Conv. Volt. + 6V.		68 (671)	10	0.6581		
SS787	Thermistor Ref. No. 1		69 (681)	10	0.6581		
SS788	Thermistor Ref. No. 2		70 (691)	10	0.6581		
SS789	Baseplate RT 3		44/1(431)	10	0.082		
SS790	Baseplate RT 5		43/3(421)	10	0.082		
SS791	Baseplate RT 14		44/3(431)	10	0.082		
SS792	Baseplate RT 7		45/4(441)	10	0.082		
SS793	Baseplate RT 17		43/5(421)	10	0.082		
SS794	Baseplate RT 18		44/7(431)	10	0.082		
SS795	TWT RT 6		43/2(421)	10	0.082		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS796	TWT RT 10		44/2(431)	10	0.082		
SS797	TWT RT 16		45/2(441)	10	0.082		
SS798	Output ISO RT 13		45/3(441)	10	0.082		
SS799	HVPS RT 9		44/5(431)	10	0.082		
SS800	ASM RT 12		43/4(421)	10	0.082		
C SS801	SSS/Lo RT 1		43/7(421)	10	0.082		
SS803	Up Conv. RT 2		45/1(441)	10	0.082		
SS804	A/D Conv.		43/1(421)	10	0.082		
SS805	Noise Source RT 15		45/7(441)	10	0.082		
SS806	Dir. Detector RT 11		43/8(421)	10	0.082		
SS807	1st Mixer RT 4		44/8(431)	10	0.082		
SS808	2nd Mixer		45/8(441)	10	0.082		
SS809	TDA RT 8		44/4(431)	10	0.082		
SS810	Crystal Filter P6		45/5(441)	10	0.082		
SS811	Crystal Filter P1		43/6(421)	10	0.082		
SS812	Crystal Filter P10		44/6(431)	10	0.082		
SS813	Crystal Filter P12		45/6(441)	10	0.082		
SS814	Ant. No. 1 Temp. No. 1		46/1(451)	10	0.082		
SS815	Ant. No. 1 Temp. No. 2		47/1(461)	10	0.082		
SS816	Ant. No. 1 Temp. No. 3		48/1(471)	10	0.082		
SS817	Ant. No. 1 Temp. No. 4		49/1(481)	10	0.082		
SS818	Ant. No. 1 Temp. No. 5		50/1(491)	10	0.082		
SS819	Ant. No. 1 Temp. No. 6		46/2(451)	10	0.082		
SS820	Ant. No. 1 Temp. No. 7		47/2(461)	10	0.082		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS821	Ant. No. 1 Temp. No. 8		48/2(471)	10	0.082		
SS822	Ant. No. 1 Temp. No. 9		49/2(481)	10	0.082		
SS823	Ant. No. 1 Temp. No. 10		50/2(491)	10	0.082		
SS824	Ant. No. 2 Temp. No. 1		46/5(451)	10	0.082		
SS825	Ant. No. 2 Temp. No. 2		47/5(461)	10	0.082		
SS826	Ant. No. 2 Temp. No. 3		48/5(471)	10	0.082		
SS827	Ant. No. 2 Temp. No. 4		49/5(481)	10	0.082		
SS828	Ant. No. 2 Temp. No. 5		50/5(491)	10	0.082		
SS829	Ant. No. 2 Temp. No. 6		46/6(451)	10	0.082		
SS830	Ant. No. 2 Temp. No. 7		47/6(461)	10	0.082		
SS831	Ant. No. 2 Temp. No. 8		48/6(471)	10	0.082		
SS832	Ant. No. 2 Temp. No. 9		49/6(481)	10	0.082		
SS833	Ant. No. 2 Temp. No. 10		50/6(491)	10	0.082		
SS834	Ant. No. 3 Temp. No. 1		46/3(451)	10	0.082		
SS835	Ant. No. 3 Temp. No. 2		47/3(461)	10	0.082		
SS836	Ant. No. 3 Temp. No. 3		48/3(471)	10	0.082		
SS837	Ant. No. 3 Temp. No. 4		49/3(481)	10	0.082		
SS838	Ant. No. 3 Temp. No. 5		50/3(491)	10	0.082		
SS839	Ant. No. 3 Temp. No. 6		46/4(451)	10	0.082		
SS840	Ant. No. 3 Temp. No. 7		47/4(461)	10	0.082		
SS841	Ant. No. 3 Temp. No. 8		48/4(471)	10	0.082		
SS842	Ant. No. 3 Temp. No. 9		49/7(481)	10	0.082		
SS843	Ant. No. 3 Temp. No. 10		50/4(491)	10	0.082		
SS844	Ant. No. 4 Temp. No. 1		46/7(451)	10	0.082		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
SS845	Ant. No. 4 Temp. No. 2		47/7(461)	10	0.082		
SS846	Ant. No. 4 Temp. No. 3		48/7(471)	10	0.082		
SS847	Ant. No. 4 Temp. No. 4		49/7(481)	10	0.082		
SS848	Ant. No. 4 Temp. No. 5		50/7(491)	10	0.082		
SS849	Ant. No. 4 Temp. No. 6		46/8(451)	10	0.082		
SS850	Ant. No. 4 Temp. No. 7		47/8(461)	10	0.082		
SS851	Ant. No. 4 Temp. No. 8		48/8(471)	10	0.082		
SS852	Ant. No. 4 Temp. No. 9		49/8(481)	10	0.082		
SS853	Ant. No. 4 Temp. No. 10		50/8(491)	10	0.082		
SS854	Sub. Com. Counter		8:1-3(71)	3			
SS855	Spare		4:2-9(32)	8		On "Zeros"	
SS856	Spare		10:3(93)	1		On "Zeros"	
SS857	Spare		10:7-10(97)	4		"ones"	
SS858	Spare		11:1-4(101)	4		"Ones"	
SS859	Spare		11:5-10(105)	6		"Zeros"	
SS860	Spare		12:1,2(111)	2		"Zeros"	
SS861	Spare		12:3-10(113)	8		"Ones"	
SS862	Low Gain Gnd Red.		62 (611)	10	0.6581		
SS863	Low Gain Gnd Red.		63 (621)	10	0.6581		
SS864	Low Gain Gnd Red.		66 (651)	10	0.6581		
SS865	Transmit Pwr Red.		71 (701)	10	0.6581		
SS866	Transmit Pwr Red.		72 (711)	10	0.6581		
SS867	Transmit Pwr Red.		73 (721)	10	0.6581		
SS868	Transmit Pwr Red.		74 (731)	10	0.6581		

	Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
	SS869	High Gain Gnd		79 (781)	10	0.6581		
	SS870	High Gain Gnd Red.		80 (791)	10	0.6581		
C	SS871	High Gain Gnd Red.		81 (801)	10	0.6581		
C	SS872	High Gain Gnd Red.		81 (811)	10	0.6581		
	SS873	Sync		1 (1)	10			
	SS874	Sync		2 (11)	10			
	SS875	Sync		3 (21)	10			
	SS876	Sync		4:1(41)	1		Bi-Level	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI700	DC Restore Level (VIS)	1	1(1), 3(17), 5(33), 7(49), 9(65), 11(81), 13(97), 15(113), 17(129), 19(145), 21(161), 23(177), 25(193), 27(209),	8			
VI700	DC Restore Level (VIS)	1	29(225), 31(241).	8			
VI701	DC Restore Level (IR)	1	2(9), 4(25), 6(41), 8(57), 10(73), 12(89), 14(105), 16(121), 18(137), 20(153), 22(169), 24(185), 26(201), 28(217),	8			
VI701	DC Restore Level (IR)	1	30(233), 32(249).	8			
VI702	Earth Scan Data (VIS)	1	33(257), 35(273), 37(289), 39(305), 41(321), 43(337), 45(353), 47(369), 49(385), 51(401), 53(417), 55(433), 57(449), 59(465),	8	179.2	+0.1 to -5.9Vdc	
VI702	Earth Scan Data (VIS)	1	61(481), 63(497),	8	179.2	+0.1 to -5.9Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI702	Earth Scan Data (VIS)	1	65(513), 67(529),	8	179.2	+0.1 to -5.9Vdc	
			69(545), 71(561),				
			73(577), 75(593),				
			77(609), 79(625),				
			81(641), 83(657),				
			85(673), 87(689),				
			89(705), 91(721),				
			93(737), 95(753),				
			97(769), 99(785),				
			101(801), 103(817),				
			105(833), 107(849),				
			109(865), 111(881),				
			113(897), 115(913),				
		1	117(929), 119(945),				
		2	121(961), 123(977),				
			125(993), 127(1009),				
			129(1025), 131(1041),				
			133(1057), 135(1073),				
			137(1089), 139(1105),				
			141(1121), 143(1137),				
			145(1153), 147(1169),				
			149(1185), 151(1201),				
			153(1217), 155(1233),				
VI702	Earth Scan Data (VIS)	2	157(1249), 159(1265),	8	179.2	+0.1 to -5.9Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI702	Earth Scan Data (VIS)	2	161(1281), 163(1297),	8	179.2	+0.1 to -5.9Vdc	
			165(1313), 167(1329),				
			169(1345), 171(1361),				
			173(1377), 175(1393),				
			177(1409), 179(1425),				
			181(1441), 183(1457),				
			185(1473), 187(1489),				
			189(1505), 191(1521),				
			193(1537), 195(1553),				
			197(1569), 199(1585),				
			201(1601), 203(1617),				
			205(1633), 207(1649),				
			209(1665), 211(1681),				
			213(1697), 215(1713),				
			219(1745), 221(1761),				
			223(1777), 225(1793),				
			227(1809), 229(1825),				
			231(1841), 233(1857),				
		2	235(1873),				
		3	237(1889), 239(1905),				
			241(1921), 243(1937),				
			245(1953), 247(1969),				
			249(1985), 251(2001),				
VI702	Earth Scan Data (VIS)	3	253(2017), 255(2033),	8	179.2	+0.1 to -5.9Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI702	Earth Scan Data (VIS)	3	257(2049), 259(2065), 261(2081), 263(2097), 265(2113), 267(2129), 269(2145), 271(2161), 273(2177), 275(2193), 277(2209), 279(2225), 281(2241), 283(2257), 285(2273), 287(2289), 289(2305), 291(2321), 293(2337), 295(2353), 297(2369), 299(2385), 301(2401), 303(2417), 305(2433), 307(2449), 309(2465), 311(2481), 313(2497), 315(2513), 317(2529), 319(2545), 321(2561), 323(2577), 325(2593), 327(2609), 329(2625), 331(2641), 333(2657), 335(2673), 337(2689), 339(2705), 341(2721), 343(2737), 345(2753), 347(2769),	8	179.2	+0.1 to -5.9Vdc	
VI702	Earth Scan Data (VIS)	3	349(2785), 351(2801),	8	179.2	+0.1 to -5.9Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI702	Earth Scan Data (VIS)	3	353(2817),	8	179.2	+0.1 to -5.9Vdc	
		4	355(2833), 357(2849), 359(2865), 361(2881), 263(2897), 365(2913), 367(2929), 369(2945), 371(2961), 373(2977), 375(2993), 377(3009), 379(3925), 381(3041), 383(3057), 385(3073), 387(3089), 389(3105), 391(3121), 393(3137), 395(3153), 397(3169), 399(3184), 401(3201), 403(3217), 405(3233), 407(3249), 409(3265), 411(3281), 413(3297), 415(3313), 417(3329), 419(3345), 421(3361), 423(3377), 425(3393), 427(3409), 429(3425), 431(3441), 433(3457), 435(3473), 437(3489), 439(3505), 441(3521), 443(3537),				
VI702	Earth Scan Data (VIS)	4	445(3552), 447(3576),	8	179.2	+0.1 to -5.9Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI702	Earth Scan Data (VIS)	4	449(3585), 451(3601), 453(3617), 455(3633), 457(3649), 459(3665), 461(3681), 463(3697), 465(3713), 467(3729),	8	179.2	+0.1 to -5.9Vdc	
		4	469(3745), 471(3761),				
		5	473(3777), 475(3793),				
VI702	Earth Scan Data (VIS)	5	477(3809), 479(3825)	8	179.2	+0.1 to -5.9Vdc	
VI703	Earth Scan Data (IR)	1	34(265), 36(281), 38(297), 40(313), 42(329), 44(345), 46(361), 48(377), 50(393), 52(409), 54(425), 56(441), 58(457), 60(437), 62(489), 64(505), 66(521), 68(537), 70(553), 72(569), 74(585), 76(601), 78(617), 80(633), 82(649), 84(665), 86(681), 88(697), 90(713), 92(729),	8	179.2	-6.1 to 0Vdc	
VI703	Earth Scan Data (IR)	1	94(745), 96(761),	8	179.2	-6.1 to 0Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI703	Earth Scan Data (IR)	1	98(777), 100(793),	8	179.2	-6.1 to 0Vdc	
			102(809), 104(825),				
			106(841), 108(857),				
			110(873), 112(889),				
			114(905), 116(921),				
		1	118(937), 120(953),				
		2	122(969), 124(985),				
			126(1001), 128(1017),				
			130(1033), 132(1049),				
			134(1065), 136(1081),				
			138(1097), 140(1113),				
			142(1129), 144(1145),				
			146(1161), 148(1177),				
			150(1193), 152(1209),				
			154(1225), 156(1241),				
			158(1257), 160(1273),				
			162(1289), 164(1305),				
			166(1321), 168(1337),				
			170(1353), 172(1369),				
			174(1385), 176(1401),				
			178(1417), 180(1433),				
			182(1449), 184(1465),				
			186(1481), 188(1497),				
VI703	Earth Scan Data (IR)	2	190(1513), 192(1529),	8	179.2	-6.1 to 0Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI703	Earth Scan Data (IR)	2	194(1545), 196(1561),	8	179.2	-6.1 to 0Vdc	
			198(1577), 200(1593),				
			202(1609), 204(1625),				
			206(1641), 208(1657),				
			210(1673), 212(1689),				
			214(1705), 216(1721),				
			218(1737), 220(1753),				
			222(1769), 224(1785),				
			226(1801), 228(1817),				
			230(1833), 232(1849),				
		2	234(1865), 236(1881),				
		3	238(1897), 240(1913),				
			242(1929), 244(1945),				
			246(1961), 248(1977),				
			250(1993), 252(2009),				
			254(2025), 256(2041),				
			258(2057), 260(2073),				
			262(2089), 264(2105),				
			266(2121), 268(2137),				
			270(2153), 272(2169),				
			274(2185), 276(2201),				
			278(2217), 280(2233),				
			282(2249), 284(2265),				
VI703	Earth Scan Data (IR)	3	286(2281), 288(2297),	8	179.2	-6.1 to 0Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI703	Earth Scan Data (IR)	3	290(2313), 292(2329), 294(2345), 296(2361), 298(2377), 300(2393), 302(2409), 304(2425), 306(2441), 308(2457), 310(2473), 312(2489), 314(2505), 316(2521), 318(2537), 320(2553), 322(2569), 324(2585), 326(2601), 328(2625), 330(2633), 332(2649), 334(2665), 336(2681), 338(2697), 340(2713), 342(2729), 344(2745), 346(2761), 348(2777), 350(2793), 352(2809),	8	179.2	-6.1 to 0Vdc	
		3	354(2825),				
		4	356(2841), 358(2857), 360(2873), 362(2889), 364(2905), 366(2921), 368(2037), 370(2953), 372(2969), 374(2985), 376(3001), 378(3017),				
VI703	Earth Scan Data (IR)	4	380(3033), 382(3049),	8	179.2	-6.1 to 0Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI703	Earth Scan Data (IR)	4	384(3065), 386(3081),	8	179.2	-6.1 to 0Vdc	
			388(3097), 390(3113),				
			392(3129), 394(3145),				
			396(3161), 398(3177),				
			400(3193), 402(3209),				
			404(3225), 406(3241),				
			408(3257), 410(3273),				
			412(3289), 414(3305),				
			416(3321), 418(3337),				
			420(3353), 422(3369),				
			424(3385), 426(3401),				
			428(3417), 430(3433),				
			432(3449), 434(3465),				
			436(3481), 438(3497),				
			440(3513), 442(3528),				
			444(3545), 446(3561),				
			448(3577), 450(3593),				
			452(3609), 454(3625),				
			456(3641), 458(3657),				
			460(3673), 462(3689),				
			464(3705), 466(3721),				
		4	468(3737), 470(3753),				
		5	472(3769),				
VI703	Earth Scan Data (IR)	5	474(3785), 476(3801),	8	179.2	-6.1 to 0Vdc	

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI703	Earth Scan Data (IR)	5	478(3817), 480(3833).	8	179.2	-6.1 to 0Vdc	
VI704	Voltage Cal Level (VIS)	5	481(3841), 483(3857), 485(3873), 487(3889), 489(3905), 491(3921), 493(3937), 495(3953), 497(3969), 499(3985), 501(4001), 503(4017), 505(4033), 507(4049), 509(4065), 511(4081), 513(4097), 515(4113), 517(4129), 519(4145), 521(4159), 523(4177), 525(4193), 527(4209), 529(4225), 531(4241), 533(4257), 535(4273), 537(4289), 539(4305),	8	179.2	-6.1 to 0Vdc	
VI704	Voltage Cal Level (VIS)	5	541(4321), 543(4337).	8	179.2	-6.1 to 0Vdc	
VI705	Voltage Cal Level (IR)	5	482(3849), 484(3865), 486(3881), 488(3897), 490(3931), 492(3929), 494(3945), 496(3961), 498(3977), 500(3993), 502(4009), 504(4025),	8			
VI705	Voltage Cal Level (IR)	5	506(4041), 508(4057),	8			

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI705	Voltage Cal Level (IR)	5	510(4073), 512(4089), 514(4105), 516(4121), 518(4137), 520(4153), 522(4169), 524(4185), 526(4201), 528(4215), 530(4233), 532(4249), 534(4265), 536(4281), 538(4313), 540(4313),	8			
VI705	Voltage Cal Level (IR)	5	542(4329), 544(4345).	8			
VI706	Back Scan Data (VIS)	5	545(4353), 547(4369), 549(4385), 551(4401), 553(4417), 555(4433), 557(4449), 559(4465), 561(4481), 563(4497), 565(4513), 567(4529), 569(4545), 571(4561),	8	12.8		
VI706	Back Scan Data (VIS)	5	573(4577), 575(4593).	8	12.8		
VI707	Back Scan Data (IR)	5	546(4361), 548(4377), 550(4393), 552(4409), 554(4425), 556(4441), 558(4457), 560(4473), 562(4489), 564(4505),	8	12.8		
VI707	Back Scan Data (IR)	5	566(4521), 568(4537),	8	12.8		

Meas. Desig.	Measurement Title	Data Block ID	Sensor Data Pos. Desig.	No. of Bits/ Meas.	Samp Rate SPS	Range Engr. Unit	Comment
VI707	Back Scan Data (IR)	5	570(4553), 572(4569),	8	12.8		
VI707	Back Scan Data (IR)	5	574(4585), 576(4601).	8	12.8		