

Laboratory for Atmospheric and Space Physics

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Boulder, Colorado

Aeronomy of Ice in the Mesosphere
(AIM)

SOFIE **Command & Telemetry Handbook**

Document No. SDL/05-936

Revision: A

Date: February 14, 2007



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Approval

Written by:

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Date

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A

Command Verb Summary

<i>verb phrase</i>	<i>discrete</i>	<i>comment</i>
arm	yes	A prerequisite command for a potentially hazardous command.
close	yes	Mechanically close a device controlled by the command element. <i>close</i> works in conjunction with the <i>open</i> verb.
disable	yes	Deactivate a capability or function. <i>disable</i> works in conjunction with the <i>enable</i> verb.
dump	no	Copy a specific data buffer of the command element to telemetry.
enable	yes	Activate a capability or function. <i>enable</i> works in conjunction with the <i>disable</i> verb.
inform	no	Inform an object of some current data.
init	no	Begin a software function with an initial paramter. <i>init</i> works in conjunction with the <i>term</i> verb.
issue	yes	Send a telemetry packet.
move	no	Move a machanical object from one position to another.
noop	yes	Instruct the command element to perform no operation or 'do nothing'. <i>noop</i> commands are typically used to verify a command path without disturbing configuration.
observe	no	Science observation sequencing command.
open	yes	Mechanically open a device controlled by the command element. <i>open</i> works in conjunction with the <i>close</i> verb.

A. COMMAND VERB SUMMARY

<i>verb phrase</i>	<i>discrete</i>	<i>comment</i>
pass	yes	Pass subfield data unmodified to a secondary hardware or software command receiver.
safe	yes	Configure a device to a safe state. <i>safe</i> works in conjunction with the <i>wake</i> verb.
select	yes	Select one of multiple discrete positions or modes.
set	no	Vary a continuous range parameter.
stuff	no	Load a given data set into memory at a given location.
suspend	yes	Pause command interpretation until an event occurs.
term	yes	End a software function. <i>term</i> works in conjunction with the <i>init</i> verb.
turn off	yes	Remove power from, or deactivate a device. <i>turn off</i> works in conjunction with the <i>turn on</i> verb.
turn on	yes	Apply power to, or activate a device. <i>turn on</i> works in conjunction with the <i>turn off</i> verb.
wake	yes	Wake the hardware from a safe state. <i>wake</i> works in conjunction with the <i>safe</i> verb.

B

Command List

OASIS-CC/FSW database version TBD, Wed Feb 14 14:59:10 2007.

B.1 inform inst acs_state

Packet Target Application Identifier

inst, 0x15e, (350)

Description

Spacecraft ACS status update command.

Discussion

Inform the instruments of the current spacecraft attitude control subsystem (ACS) status.

Constraints

This command does not directly command or reconfigure science instruments. Though each instrument is programmable to respond to different ACS status values under multiple conditions.

Command Target

software

Format

opcode		subfield(s)															
0	7	8	15	16	79	80	111	112	143	144	207	208	271	272	335	336	447

Command size = 448 bits = 56 bytes.

Subfield(s)

filler_1: Filler data to match OSC command structure.

bits	type	eng units	min (dn)	max (dn)	state	value
8	unsigned integer	any	0	0	default	0

filler_2: Filler data to match OSC command structure.

bits	type	eng units	min (dn)	max (dn)	state	value
64	unsigned integer	any	0	0	default	0

seconds: Seconds field of timestamp.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	any	0	4294967295	default	0

subseconds: Fractional part of timestamp.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	any	0	4294967295	default	0

sc_to_sun_u_x: Spacecraft to sun unit vector, spacecraft body frame, cartesian x coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
64	float	any	0	0	default	0

sc_to_sun_u_y: Spacecraft to sun unit vector, spacecraft body frame, cartesian y coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
64	float	any	0	0	default	0

sc_to_sun_u_z: Spacecraft to sun unit vector, spacecraft body frame, cartesian z coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
64	float	any	0	0	default	0

filler_3: Filler data to match OSC command structure.

bits	type	eng units	min (dn)	max (dn)	state	value
112	unsigned integer	any	0	0	default	0

Safety Level

SAFE

Telemetry Verification

B.2 inform inst sc_clock

Packet Target Application Identifier

inst, 0x15d, (349)

Description

Notify FSW of spacecraft time at next time sync.

Discussion

Notify FSW of the spacecraft clock time at the next sync mode code upon the 1553 bus.

Constraints

By itself, this command will not set the instrument propagated spacecraft clock. To set the clock, this command must be followed by a MIL-STD-1553 SYNC mode code within TBD seconds.

An incorrect value of spacecraft clock can seriously degrade instrument command sequencing and the resulting collection of science data.

Command Target

software

Format

opcode		subfield(s)			
0xfc	reserved	seconds	subseconds		
bit	0 7	8 15	16 47	48	79

Command size = 80 bits = 10 bytes.

Subfield(s)

reserved: Pad for even command length.

bits	type	eng units	min (dn)	max (dn)	state	value
8	unsigned integer	any	0	255	default	0

seconds: Integral seconds portion of spacecraft clock.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	any	0	4294967295	default	0

subseconds: Integral subseconds portion of spacecraft clock.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	any	0	4294967295	default	0

subseconds discussion:

Each bit represents 2 to the -32 seconds.

Safety Level

SAFE

Telemetry Verification

B.3 arm sofie cover_rls

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Arm Dust Cover Release

Discussion

Arms the aperture dust cover release mechanism.

Valid parameters are:

1 = pinpuller 1A,

2 = pinpuller 1B,
 3 = pinpuller 2A,
 4 = pinpuller 2B

Constraints

Dust cover commands can only be executed in Safe Mode. If the C&DH is not in Safe Mode an Invalid Mode error will be generated and the command will be ignored. If the dust cover is not released within 10 seconds of being armed, a dust cover timeout error message will be issued and the dust cover arm and release will be reset. If this timeout occurs the dust cover arm and release sequence will need to be restarted.

Command Target

sofie

Format

opcode	subfield(s)
0xbb44	pinpuller

Command size = 32 bits = 4 bytes.

bit 0 15 16 31

Subfield(s)

pinpuller: 0x01 = pin puller 1A, 0x02 = pin puller 1B, 0x03 = pin puller 2A, 0x04 = pin pul

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.4 dump sofie cdh_sram1

Packet Target Application Identifier

sofie, 0x183, (387)

Description

C&DH Data (Operand) SRAM Memory Dump

Discussion

Returns a block of up to 467 words of C&DH Data SRAM contents. The data dump is preceded by a header which includes C&DH data SRAM memory dump opcode, OD address of the dump (or 0xFFFF if lower SRAM), start address within the memory bank, and length of the requested data.

Constraints

The C&DH Self Test and Diagnostics Handler passes this command to the C&DH Memory Dump Queue. If a requested data dump has a length past the end of the bank, then the dump wraps around to the beginning of the bank and continues getting data from there. If the lower SRAM flag is TRUE then lower SRAM is transferred, otherwise upper SRAM data is transferred (OD address 0). A memory dump of SRAM is limited in size to what will fit in the

1553 telemetry buffer. This value is 15 messages * 32 words - 7 word CCSDS header - 2 word checksum - 4 words of dump header = 467 words. If the requested size is larger than this then the dump is truncated to the maximum allowable size and an X44_CDH_DATA_DUMP_REQUEST_SIZE_TRUNCATED error (with requested length in additional error data field) is generated. If lower SRAM is being dumped then 0xFFFF is used as the OD address in the dump header.

Command Target

sofie

Format

opcode		subfield(s)					
0xbba7		lwr_sram_flag	address	length			Command size = 64 bits = 8 bytes.
bit	0 15	16	31	32	47	48 63	

Subfield(s)

lwr_sram_flag: lower SRAM flag

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

address: address of Data (Operand) SRAM Memory Dump C&DH

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

length: length

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.5 dump sofie cdh_sram2

Packet Target Application Identifier

sofie, 0x183, (387)

Description

C&DH Instruction SRAM Memory Dump

Discussion

Returns a block of up to 467 words of C&DH Instruction SRAM contents. The C&DH code dump is preceded by a header which includes C&DH instruction SRAM memory dump opcode, most significant portion of the start address, least significant word of the start address, and length of the requested data.

Constraints

The C&DH Self Test and Diagnostics Handler passes this command to the C&DH Memory Dump Queue. If a requested code dump has a length past the end of the code memory, then the dump wraps around to the beginning

of code memory and continues getting data. A memory dump of instruction memory is limited in size to what will fit in the 1553 telemetry buffer. This value is 15 messages * 32 words - 7 word CCSDS header - 2 word checksum - 4 words of dump header = 467 words. If the requested size is larger than this then the dump is truncated to the maximum allowable size and an X44_CDH_CODE_DUMP_REQUEST_SIZE_TRUNCATED error (with requested length in additional error data field) is generated.

Command Target

sofie

Format

opcode		subfield(s)			
0xbba8		address	length		
bit	0 15	16 47	48 63		

Command size = 64 bits = 8 bytes.

Subfield(s)

address: for Instruction SRAM Memory Dump C&DH

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

length: length

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.6 dump sofie eeprom

Packet Target Application Identifier

sofie, 0x183, (387)

Description

EEPROM Memory Dump

Discussion

Returns a block of up to 467 words of EEPROM contents. The EEPROM data is preceded by a header which includes the EEPROM memory dump opcode, OD address of the EEPROM bank, start address within the EEPROM bank, and length of the requested data.

Constraints

The C&DH Self Test and Diagnostics Handler passes this command to the C&DH Memory Dump Queue. If a requested EEPROM dump has a length past the end of the bank, then the dump wraps around to the beginning of the bank and continues getting data from there. A memory dump of EEPROM is limited in size to what will fit in the 1553 telemetry buffer. This value is 15 messages * 32 words - 7 word CCSDS header - 2 word checksum - 4 word dump header = 467 words. If the request is larger than this the dump is truncated to the maximum allowable size and

an X44_EEPROM_DUMP_REQUEST_SIZE_TRUNCATED error (with requested length in additional error data field) is generated. If the data cannot be read from EEPROM an X44_EEPROM_DUMP_UNABLE_TO_COPY_DATA error (with command opcode in additional error data field) is generated.

Command Target

sofie

Format

opcode		subfield(s)					
0xbba6		OD_address	address	length			
bit	0 15	16 31	32 47	48 63			

Command size = 64 bits = 8 bytes.

Subfield(s)

OD_address: bank select OD bits for memory address EEPROM

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

address: memory address EEPROM

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

length: length

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.7 dump sofie ssb_sram1

Packet Target Application Identifier

sofie, 0x183, (387)

Description

SS&SM Data (Operand) SRAM Memory Dump

Discussion

Returns a block of up to 256 words of SSB Data SRAM contents. The SSB data dump is preceded by a header which includes SSB data memory dump opcode, OD address of the dump (or 0xFFFF if lower SRAM), start address within the memory bank, and length of the requested data.

Constraints

If a requested data dump has a length past the end of the bank, then the dump wraps around to the beginning of the bank and continues getting data from there. If the lower SRAM flag is TRUE then lower SRAM is transferred, otherwise upper SRAM data is transferred (OD address 0). Due to data transfer constraints a sun sensor board (SSB) data dump is

limited to 256 data words. If the requested size is larger than this then the dump is truncated to the maximum allowable size and an X84_SSB_DATA_DUMP_REQUEST_SIZE_TRUNCATED error (with requested length in additional error data field) is generated.

Command Target

sofie

Format

opcode		subfield(s)					
0xdda3		lwr_sram_flag	address	length			
bit	0 15	16	31	32	47	48	63

Command size = 64 bits = 8 bytes.

Subfield(s)

lwr_sram_flag: lower SRAM flag

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

address: address of Data (Operand) SRAM Memory Dump SS&SM

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

length: length

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.8 dump sofie ssb_sram2

Packet Target Application Identifier

sofie, 0x183, (387)

Description

SS&SM Instruction SRAM Memory Dump

Discussion

Returns a block of up to 256 words of SSB Instruction SRAM contents. The SSB code dump is preceded by a header which includes SSB instruction memory dump opcode, most significant portion of the start address, least significant word of the start address, and length of the requested data.

Constraints

If a requested code dump has a length past the end of code memory, then the dump wraps around to the beginning of code memory and continues getting data from there. Due to data transfer constraints a sun sensor board (SSB)

code dump is limited to 256 words. If the requested size is larger than this then the dump is truncated to the maximum allowable size and an X84_SSB_CODE_DUMP_REQUEST_SIZE_TRUNCATED error (with requested length in additional error data field) is generated.

Command Target

sofie

Format

opcode		subfield(s)			
0xdda4		address	length		
bit	0 15	16 47	48 63		

Command size = 64 bits = 8 bytes.

Subfield(s)

address: address for Instruction SRAM Memory Dump SS&SM

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

length: length

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.9 enable sofie servos

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Enable SSG servos

Discussion

Notifies SSG hardware that we are about to begin using the steering mirror to find and track the sun. SSG hardware performs hardware initialization and closes the loop, activating the servos.

Command Target

sofie

Format

opcode	
0xcc01	
bit	0 15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.10 enable sofie servost****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Enable SSG servost (Timed Execution)

Discussion

See enable_servost.

Command Target

sofie

Format

	opcode	subfield(s)	
	0xcc01	Time	
bit	0 15	16 47	Command size = 48 bits = 6 bytes.

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.11 get sofie cdh_reg****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

Query C&DH FPGQ Register

Discussion

Returns the contents of selected C&DH FPGA register to the System Data Packet.

Constraints

Valid OD_address parameters are:

4 = ARP FPGA,

6 = DAQ FPGA.

Any other value will result in an invalid FPGA bank error. This command generates a three word response: word 1 = OD address, word 2 = Register address, word 3 = value

Command Target

sofie

Format

opcode		subfield(s)			
0xbba0		OD_address	address		
bit	0 15	16	31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)

OD_address: bank select OD bits for register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

address: the register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.12 get sofie cdh_sram****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

Read value from C&DH data SRAM

Discussion

Returns the value of a single C&DH SRAM address to the System Data Packet. This command reads a one word data value from the requested C&DH data SRAM address. This command generates a two word response: word 1 = requested address, word 2 = value read from data SRAM.

Command Target

sofie

Format

	opcode	subfield(s)				
	0xbbaa	address	Command size = 32 bits = 4 bytes.			
bit	0	15	16	31		

Subfield(s)**address:** Address of data value to get

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.13 get sofie event info****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Get Event Information

Discussion

Returns event information about the requested event number. The get event info opcode, requested event number, event absolute start time (in whole seconds), and event table number are returned in the free format area of the system data packet.

Constraints

If the science event table has not been setup then this command will generate an X4D_ERROR_EVENT_TABLE_NOT_SET_UP with the requested event number in the data field. If the requested event number is less than the range contained in the science event table, an X4D_EVENT_NUMBER_OUTSIDE_CURRENT_RANGE_LOW error will be generated with the requested event number in the data field. If the requested event number is larger than the range contained in the science event table, an X4D_EVENT_NUMBER_OUTSIDE_CURRENT_RANGE_HIGH error will be generated with the requested event number in the data field.

Command Target

sofie

Format

	opcode	subfield(s)				
	0xbb4d	event_number	Command size = 32 bits = 4 bytes.			
bit	0	15	16	31		

Subfield(s)**event_number:** Event number

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.14 get sofie next_event****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Get Next Event Information

Discussion

Returns information specific to the next event in the science event table and general information about the entire science event table. This command returns the get next event opcode, start event number in the science event table, ending event number, next event number (should always be the same as the start event number), absolute start time for the next event, and event command table number for the next event. This information is returned in the system data packet.

Constraints

If the science event table has not been setup then this command will return all zeroes (other than the command opcode) in the system data packet.

Command Target

sofie

Format

	opcode	
	0xbb4e	
bit	0 15	Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.15 get sofie ssb_oper

Packet Target Application Identifier

sofie, 0x180, (384)

Description

SSB Operational? Request

Discussion

Are you alive? query from C&DH to SSB. It is used by the C&DH board to determine if the SSB is functional and ready to receive an operational software CSCI image from the C&DH board.

Constraints

This command is a SOFIE internal command and is not intended to be issued from the ground.

Command Target

sofie

Format

opcode	
0xdd43	Command size = 16 bits = 2 bytes.

bit 0 15

Subfield(s)

Safety Level

SAFE

Telemetry Verification

B.16 get sofie ssb_reg

Packet Target Application Identifier

sofie, 0x183, (387)

Description

Query SSB FPGS Register

Discussion

Returns the contents of selected SSB FPGA register to the System Data Packet.

Constraints

Valid OD.address parameter is 4. Any other value will result in an invalid FPGA bank error. This command generates a three word response: word 1 = OD address, word 2 = Register address, word 3 = value.

Command Target

sofie

Format

opcode		subfield(s)			
0xdda0		OD_address	address		
bit	0 15	16	31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)

OD_address: bank select OD bits for register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

address: the register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.17 get sofie ssb_sram****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

Read value from SSB data SRAM

Discussion

Returns the value of a single SSB SRAM address to the System Data Packet. This command reads a one word data value from the requested SSB data SRAM address. This command generates a two word response: word 1 = requested address, word 2 = value read from data SRAM.

Command Target

sofie

Format

opcode		subfield(s)	
0xdda7		address	
bit	0 15	16	31

Command size = 32 bits = 4 bytes.

Subfield(s)

address: Address of data value to get

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.18 get sofie ssb_status

Packet Target Application Identifier

sofie, 0x180, (384)

Description

SSB Status Request

Discussion

Are you operational? query from C&DH to SSB It is used by the C&DH board to determine if the SSB is operational.

Constraints

This command is a SOFIE internal command and is not intended to be issued from the ground.

Command Target

sofie

Format

opcode	
0xdd42	

Command size = 16 bits = 2 bytes.

bit 0 15

Subfield(s)

Safety Level

SAFE

Telemetry Verification

B.19 get sofie ssg_PIDreg

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Request SSG gain register values

Discussion

This command requests that the gain register values be transmitted. The SSG hardware responds by generating a message that contains all 8 gain register values.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xcc14		
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.20 get sofie ssg_PIDregT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Request SSG gain register values (Timed Execution)

Discussion

See get_ssg_PIDreg.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 48 bits = 6 bytes.
0xcc14		Time		
bit	0 15	16	47	

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.21 get sofie ssg_peek

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Read SSG memory register

Discussion

This command reads any available register in memory. The desired register is specified by 'address'. The SSG hardware responds by generating a message that echoes the 'address' and provides the register's 'value'.

Command Target

sofie

Format

opcode	subfield(s)
0xccf0	address

Command size = 32 bits = 4 bytes.

bit 0 15 16 31

Subfield(s)

address: address of register to examine

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.22 get sofie ssg_peekT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Read SSG memory register (Timed Execution)

Discussion

See get_ssg_peek.

Command Target

sofie

Format

opcode		subfield(s)			
0xccf0		Time	address		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

address: address of register to examine

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.23 get sofie ssg_posit****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Request SSG azimuth and elevation

Discussion

Requests the SSG hardware transmit only the azimuth and elevation. The SSG board replies with a packet that contains time, azimuth, and elevation. This reply is generated only once.

Command Target

sofie

Format

opcode		subfield(s)			
0xcc13		Command size = 16 bits = 2 bytes.			
bit	0 15				

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.24 get sofie ssg_posit

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Request SSG azimuth and elevation (Timed Execution)

Discussion

See get_ssg_posit.

Command Target

sofie

Format

opcode	subfield(s)
0xcc13	Time

Command size = 48 bits = 6 bytes.

bit 0 15 16 47

Subfield(s)

Time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.25 get sofie ssg_state

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Toggle On/Off SSG state data

Discussion

Valid parameters are:

0x0000 = Do not transmit state.

0x0001 = Transmit state at rate specified by register.

There is no response to this command: however, if the system is set to begin transmitting state, it will transmit a state packet at a frequency set in the State Update Rate register (0x0004).

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xcc11		state_on		
bit	0	15	16	31

Subfield(s)**state_on:** 0x0000-Do not transmit state, 0x0001-Transmit state at rate specified by register

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.26 get sofie ssg.state****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Toggle On/Off SSG state data (Timed Execution)

Discussion

See get_ssg_state.

Command Target

sofie

Format

opcode		subfield(s)				Command size = 64 bits = 8 bytes.
0xcc11		Time	state_on			
bit	0	15	16	47	48	63

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

state_on: 0x0000-Do not transmit state, 0x0001-Transmit state at rate specified by registe

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.27 get sofie ssg_status

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Toggle On/Off SSG status bits

Discussion

Valid parameters are:

0x0000 = Do not transmit status.

0x0001 = Transmit status at rate specified by register.

There is no response to this command: however, if the system is set to begin transmitting status, it will transmit a status packet at a frequency set in the Status Update Rate register (0x0003).

Command Target

sofie

Format

opcode	subfield(s)	Command size = 32 bits = 4 bytes.	
0xcc10	status_on	bit 0	bit 31

Subfield(s)

status_on: 0x0000-Do not transmit status, 0x0001-Transmit status at rate specified by regis

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.28 get sofie ssg_statusT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Toggle On/Off SSG status bits (Timed Execution)

Discussion

See get_ssg_status.

Command Target

sofie

Format

opcode		subfield(s)			
0xcc10		Time	status_on		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

status_on: 0x0000-Do not transmit status, 0x0001-Transmit status at rate specified by regis

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.29 get sofie sunimage1

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Capture and download a sun image

Discussion

The actual sun sensor image dump packets are preceded by a command response dump packet which includes the get_sunimage1 opcode and an echo of each of the parameters used in the get sun image request.

Constraints

This command can be issued from any SSB Mode but the image will ONLY be downloaded when the SSB is in Standby Mode. This command does the following:

1. Writes Sun Sensor image capture setup parameters to the correct SSB FPGA registers. It is the operators responsibility to assure that the setup parameter values are correct.
2. Writes Sun Sensor image capture information to the SSB Data SRAM that is used by the SSB Interrupt and Task Manager to download the Sun Sensor image. It is the operators responsibility to assure that the image capture information are correct.
3. Writes a value to a FPGA register to start a Sun Sensor image capture.
4. Echoes the command by writing the command to the SSB Data Queue.

The command is echoed so that the Ground Support Software can decode the image as it is downloaded. Note that the image is actually downloaded by the SSB Interrupt and Task Manager. The SSB Interrupt and Task Manger times calls to the SSB data dump command so that there are no overflows in the data transfer queues.

Command Target

sofie

Format

opcode		subfield(s)									
0x	dd86	fpa_x1	fpa_x2	fpa_y1	fpa_y2	fpa_step_size	fpa_int_time	fpa_rst_band	fpa_rst_time	fpa_row_time	
bit	0 15	16 31	32 47	48 63	64 79	80 95	96 111	112 127	128 143	144 159	160 175

Command size = 192 bits = 24 bytes.

Subfield(s)

fpa_x1: Sun Sensor X1 Block Coordinate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_x2: Sun Sensor X2 Block Coordinate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_y1: Sun Sensor Y1 Block Coordinate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_y2: Sun Sensor Y2 Block Coordinate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_step_size: Sun Sensor pixel return step size. X and Y bytes.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_int_time: Pixel integration time; integer multiple of fpa_row_time.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_rst_band: Anti-blooming. Number of pixel rows to reset on each side of the row to be retur

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_rst_time: Count represents the time required to reset rows given fpa_rst_band

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_row_time: Count represents the time required to read one complete row.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_mem_offset: Memory offset for location to return image sensor data.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

image_length: Number of data words of making up the sun image.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.30 get sofie sunimage1T

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Capture and download a sun image, Timed command

Discussion

The actual sun sensor image dump packets are preceded by a command response dump packet which includes the get_sunimage1 opcode and an echo of each of the parameters used in the get sun image request.

Command Target

sofie

Format

opcode		subfield(s)																		
0xdd86		Time	fpa_x1	fpa_x2	fpa_y1	fpa_y2	fpa_step_size	fpa_int_time	fpa_rst_band	fpa_rst_time										
bit	0	15	16	47	48	63	64	79	80	95	96	111	112	127	128	143	144	159	160	175
Command size = 224 bits = 28 bytes.																				

Subfield(s)

Time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Time discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_x1: Sun Sensor X1 block coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_x1 discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_x2: Sun Sensor X2 block coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_x2 discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_y1: Sun Sensor Y1 block coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_y1 discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_y2: Sun Sensor Y2 block coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_y2 discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_step_size: Sun Sensor pixel return step size. X and Y bytes.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_step_size discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_int_time: Pixel integration time; integer multiple of fpa_row_time.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_int_time discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_rst_band: Anti-blooming. Number of pixel rows to reset on each side of the row to be retu

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_rst_band discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_rst_time: Count represents the time required to reset rows given fps_rst_band.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_rst_time discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_row_time: Count represents the time required to read one complete row.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_row_time discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

image_length: Number of data words of making up the sun image.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

image_length discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

fpa_mem_offset: Memory offset for location to return image sensor data.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

fpa_mem_offset discussion:

This command resets the error flags on the HSS2 and SCSA interfaces when sent fr

Safety Level

SAFE

Telemetry Verification

B.31 get sofie sys_message

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Send system data messages

Discussion

Request immediate transmission of System Data Packet. This command calls the csc08EngineeringDataHandler function and the csc08SystemDataHandler function to update the System Data Packet. It then calls the dat_hdlr function with a flag to force the 1553 data handler to send the System Data Packet.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	

bit

Subfield(s)

Safety Level

SAFE

Telemetry Verification

B.32 get sofie sys_message_T

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Send system data messages (Timed execution)

Command Target

sofie

Format

opcode	subfield(s)
0xbb88	Time

Command size = 48 bits = 6 bytes.

bit 0 15 16 47

Subfield(s)

Time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.33 inform sofie acs_state

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Spacecraft ACS status update command.

Discussion

noop for SOFIE

Command Target

sofie software

Format

opcode	subfield(s)						
0xfe00	filler_2	seconds	subseconds	sc_to_sun_u_x	sc_to_sun_u_y	sc_to_sun_u_z	filler_3

bit 0 15 16 79 80 111 112 143 144 207 208 271 272 335 336 447

Command size = 448 bits = 56 bytes.

Subfield(s)

filler_2: Filler data to match OSC command structure.

bits	type	eng units	min (dn)	max (dn)	state	value
64	fill	any	0	0	default	0

seconds: Seconds field of timestamp.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	any	0	4294967295	default	0

subseconds: Fractional part of timestamp.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	any	0	4294967295	default	0

sc_to_sun_u_x: Spacecraft to sun unit vector, spacecraft body frame, cartesian x coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
64	float	any	0	0	default	0

sc_to_sun_u_y: Spacecraft to sun unit vector, spacecraft body frame, cartesian y coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
64	float	any	0	0	default	0

sc_to_sun_u_z: Spacecraft to sun unit vector, spacecraft body frame, cartesian z coordinate.

bits	type	eng units	min (dn)	max (dn)	state	value
64	float	any	0	0	default	0

filler_3: Filler data to match OSC command structure.

bits	type	eng units	min (dn)	max (dn)	state	value
112	fill	any	0	0	default	0

Safety Level

SAFE

Telemetry Verification

B.34 inform sofie pwrdown

Packet Target Application Identifier

sofie, 0x180, (384)

Description

SOFIE powerdown warning

Command Target

software

Format

opcode		Command size = 16 bits = 2 bytes.
0xbb40		
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.35 inform sofie sc_clock****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Notify FSW of spacecraft time at next time sync.

Discussion

Notify FSW of the spacecraft clock time at the next sync mode code upon the 1553 bus.

Constraints

By itself, this command will not set the instrument propagated spacecraft clock. To set the clock, this command must be followed by a MIL-STD-1553 SYNC mode code within TBD seconds.

An incorrect value of spacecraft clock can seriously degrade instrument command sequencing and the resulting collection of science data.

Command Target

software

Format

opcode		subfield(s)	
0xfc00		seconds	subseconds
bit	0 15	16 47	48 79

Command size = 80 bits = 10 bytes.

Subfield(s)**seconds:** Integral seconds portion of spacecraft clock.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

subseconds: Integral subseconds portion of spacecraft clock.

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

subseconds discussion:

Each bit represents 2 to the -32 seconds.

Safety Level

SAFE

Telemetry Verification**B.36 issue sofie command****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SOFIE command

Discussion

noop for SOFIE

Command Target

sofie software

Format

	opcode	
	0x0000	
bit	0	15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.37 issue sofie reserved_1****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

SOFIE reserved command 1

Discussion

noop for SOFIE

Command Target

sofie software

Format

opcode		Command size = 16 bits = 2 bytes.
0x0000		
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.38 issue sofie reserved_2****Packet Target Application Identifier**

sofie, 0x182, (386)

Description

SOFIE reserved command 2

Discussion

noop for SOFIE

Command Target

sofie software

Format

opcode		Command size = 16 bits = 2 bytes.
0x0000		
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.39 issue sofie reserved_3****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

SOFIE reserved command 3

Discussion

noop for SOFIE

Command Target

socie software

Format

opcode	
0x0000	Command size = 16 bits = 2 bytes.

bit 0 15

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.40 noop socie****Packet Target Application Identifier**

socie, 0x180, (384)

Description

No operation, or do nothing command.

Discussion

noop for SOFIE

Command Target

socie software

Format

opcode	
0x0000	Command size = 16 bits = 2 bytes.

bit 0 15

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.41 pass sofie codeload1

Packet Target Application Identifier

sofie, 0x180, (384)

Description

SSB Transfer Code

Discussion

Transfer the SSB code image from CDH to SSB.

Constraints

This command is a SOFIE internal command and is not intended to be issued from the ground. It is used by the C&DH board to transfer a code image from EEPROM to the SSB board.

Command Target

sofie

Format

opcode		subfield(s)				
0xdd00	start_address	length	status	checksum	Command size = 80 bits = 10 bytes.	
bit 0 15	16 31	32 47	48 63	64 79		

Subfield(s)

start_address: Destination address of the code transfer.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

length: Length of code transfer in words.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

status: Status of completed code transfer.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

checksum: Checksum of code transfer.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.42 pass sofie codeload2

Packet Target Application Identifier

sofie, 0x182, (386)

Description

Reprogram EEPROM Image

Discussion

Code upload to reprogram the EEPROM image.

Constraints

Each packet is limited to 64 words of code image.

Valid OD address: min OD address = 0x8, max OD address = 0xF.

An invalid size or OD address will generate an error and the code will not be loaded.

Command Target

sofie

Format

opcode		subfield(s)					
0xbb01		OD_address	start_address	length	checksum	data	
bit	0 15	16 31	32 47	48 63	64 95	96 1983	

Command size = 1984 bits = 248 bytes.

Subfield(s)

OD_address: bank select OD bits for code upload

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

start_address: start address of the code upload destination

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

length: length of code upload

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

checksum: checksum of data to be loaded

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

data: data to be loaded

bits	type	eng units	min (dn)	max (dn)	state	value
1888	fill	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.43 pass sofie code load3

Packet Target Application Identifier

sofie, 0x182, (386)

Description

Reprogram C&DH SRAM Image

Discussion

Code upload to reprogram the C&DH SRAM image.

Constraints

Each packet is limited to 64 words of code image. Since code is written to instruction SRAM the value of the OD address does not matter. An invalid size will generate an error and the code will not be loaded

Command Target

sofie

Format

	opcode		subfield(s)									
	0xbb02		OD_address	start_address	length	checksum	data					
bit	0	15	16	31	32	47	48	63	64	95	96	1983

Command size = 1984 bits = 248 bytes.

Subfield(s)

OD_address: bank select OD bits for code upload

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

start_address: start address of the code upload destination

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

length: length of code upload

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

checksum: checksum of data to be loaded

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

data: data to be loaded

bits	type	eng units	min (dn)	max (dn)	state	value
1888	fill	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.44 pass sofie codeload4

Packet Target Application Identifier

sofie, 0x182, (386)

Description

Reprogram SS&SM SRAM Image

Discussion

Code upload to reprogram the SSB SRAM image.

Constraints

Each packet is limited to 64 words of code image. Since code is written to instruction SRAM the value of the OD address does not matter. An invalid size will generate an error and the code will not be loaded.

Command Target

sofie

Format

opcode		subfield(s)					
bits	value	OD_address	start_address	length	checksum	data	bits
0x15	03	16	32	16	16	16	1983

Command size = 1984 bits = 248 bytes.

Subfield(s)

OD_address: bank select OD bits for code upload

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

start_address: start address of the code upload destination

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

length: length of code upload

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

checksum: checksum of data to be loaded

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

data: data to be loaded

bits	type	eng units	min (dn)	max (dn)	state	value
1888	fill	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.45 pass sofie ss_aztable

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Upload Sun Sensor Azimuth Table

Discussion

Transmit the sun sensor azimuth table from the C&DH board to the sun sensor board. This opcode can be used in two distinct ways. Either as a direct real-time command or autonomously as part of the science event processor. Normally the sun sensor azimuth table should be transferred by the science event processor as part of event processing. This ensures that the checksum for the event table (which includes the azimuth table) is checked before the azimuth table is transferred.

Constraints

This command enables the C&DH EEPROMs and then calls the blockCopyIO2S function to transmit a Sun Sensor AZ table from the C&DH EEPROM to the Sun Sensor Board. It then disables the C&DH EEPROMs. If this opcode is used as part of the normal event processing then the following errors may be generated: If the requested event command table number is outside of the allowable range (1 to 63) then an X4D_STATE_1_EVENT_TABLE_NUMBER_OUTSIDE_RANGE error is generated. The errant event table number is returned in the additional error information word. If the table cannot be read from EEPROM then an X4D_UNABLE_TO_READ_EVT_AZ_ENTRIES error will be generated. The status from the read_eeprom function is returned in the additional error information word. If the RS422 buffer (used to transmit the table to the sun sensor board) is full two retries will be used to send the azimuth table. If it can't be transmitted after three tries an X4D_UNABLE_TO_SEND_AZ_TABLE_Q_FULL error is generated with the table number returned in the additional error info. If some other comm. error occurs an X4D_UNABLE_TO_SEND_AZ_TABLE error is generated with the table number in the additional error info.

Command Target

sofie

Format

opcode	subfield(s)									
	OD_address	start_address	length	data						
0xbb84	16	31	32	47	48	63	64	1983		
bit	0	15	16	31	32	47	48	63	64	1983

Command size = 1984 bits = 248 bytes.

Subfield(s)**OD_address:** bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

start_address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

length: number of words in table

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data: table data

bits	type	eng units	min (dn)	max (dn)	state	value
1920	fill				default	

Safety Level

SAFE

Telemetry Verification**B.46 pass sofie ss_eltable****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Upload Sun Sensor Elevation Table

Discussion

Transmit the sun sensor elevation table from the C&DH board to the sun sensor board. This opcode can be used in two distinct ways. Either as a direct real-time command or autonomously as part of the science event processor. Normally the sun sensor elevation table should be transferred by the science event processor as part of event processing. This ensures that the checksum for the event table (which includes the elevation table) is checked before the elevation table is transferred.

Constraints

This command enables the C&DH EEPROMs and then calls the blockCopyIO2S function to transmit a Sun Sensor EL table from the C&DH EEPROM to the Sun Sensor Board. It then disables the C&DH EEPROMs. If this opcode is used as part of the normal event processing then the following errors may be generated: If the requested event command table number is outside of the allowable range (1 to 63) then an X4D_STATE_2_EVENT_TABLE_NUMBER_OUTSIDE_RANGE error is generated. The errant event table number is returned in the additional error information word. If the table cannot be read from EEPROM then an X4D_UNABLE_TO_READ_EVT_EL_ENTRIES error will be generated. The status from the read_eeprom function is returned in the additional error information word. If the RS422 buffer (used to transmit the table to the sun sensor board) is full two retries will be used to send the elevation table. If it can't be transmitted after three tries an X4D_UNABLE_TO_SEND_EL_TABLE_Q_FULL error is generated with the table number

returned in the additional error info. If some other comm. error occurs an X4D_UNABLE_TO_SEND_EL_TABLE error is generated with the table number in the additional error info.

Command Target

sofie

Format

opcode		subfield(s)				
0xbb85		OD_address	start_address	length	data	
bit	0 15	16 31	32 47	48 63	64 1983	

Command size = 1984 bits = 248 bytes.

Subfield(s)

OD_address: bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

start_address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

length: number of words in table

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data: table data

bits	type	eng units	min (dn)	max (dn)	state	value
1920	fill				default	

Safety Level

SAFE

Telemetry Verification

B.47 pass sofie ssainit_tbl

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Pass Sun Sensor Tracking Algorithm Initialization Table

Discussion

Transmit table of initialization parameters from C&DH EEPROM to the SSB state & event table.M-J The primary table is found on EEPROM Bank 7 (starting at 0x80) and a backup table is kept on EEPROM Bank 8.M-J This table of parameters is used for initialization of the sun sensor tracking algorithm.M-J This table is sent automatically at system startup.M-J However, this command may be used to retransmit the table, as needed.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	

Subfield(s)

Safety Level

SAFE

Telemetry Verification

B.48 perform sofie balance

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Balance strong and weak band detector signals

Discussion

Valid detector_number values are 1-16 target_counts values are either 0=32764 detector counts or 0-4095 attenuator value balance_switch values are 0-5 0 = Apply target count value now, 1 = replace target count value in eeprom, 2 = apply and replace target count in eeprom, 3 = apply new attenuator value, 4 = replace attenuator value in eeprom, 5 = apply and replace attenuator value in eeprom.

Constraints

Valid Attenuator numbers are 1 - 16. Any other attenuator number will generate an Invalid Attenuator Number error and the command will be ignored. Valid execution options are 0 - 5. Any other execution option will generate a Invalid Parameter error and the command will be ignored. It is the operators responsibility to assure that the target counts or the attenuator value are correct.

Command Target

sofie

Format

opcode		subfield(s)								Command size = 80 bits = 10 bytes.
0	15	16	31	32	47	48	63	64	79	

Subfield(s)

detector_number: Detector set to balance

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

target_counts: Balance target counts

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

balance_switch: Balance selection, 0 = Apply now, 1 = replace default, 2 = both

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

event_type: Event type 0=sunrise, 1=sunset

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.49 perform sofie balanceT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Balance strong and weak band detector signals (Timed execution)

Discussion

Valid detector_number values are 1-16 target_counts values are either 0=32764 detector counts or 0-4095 attenuator value balance_switch values are 0-5 0 = Apply target count value now, 1 = replace target count value in eeprom, 2 = apply and replace target count in eeprom, 3 = apply new attenuator value, 4 = replace attenuator value in eeprom, 5 = apply and replace attenuator value in eeprom.

Command Target

sofie

Format

opcode		subfield(s)					
0x	bb86	Time	detector_number	target_counts	balance_switch	event_type	Command size = 112
bit	0 15	16 47	48 63	64 79	80 95	96 111	

bits = 14 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

detector_number: Detector set to balance

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

target_counts: Balance target counts

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

balance_switch: Balance selection, 0 = Apply now, 1 = replace default, 2 = both

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

event_type: Event type 0=sunrise, 1=sunset

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.50 release sofie cover_rl

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Fire Dust Cover Release

Discussion

Fires the aperture dust cover release mechanism. Valid parameters are:

- 1 = pinpuller 1A,
- 2 = pinpuller 1B,
- 3 = pinpuller 2A,
- 4 = pinpuller 2B

Constraints

Dust cover commands can only be executed in Safe Mode. If the C&DH is not in Safe Mode an Invalid Mode error will be generated and the command will be ignored. In order for the dust cover to be released it has to be armed. If the dust cover is not armed a Dust Cover Not Armed error message will be issued and the dust cover will not be released. If the dust cover is not released within 10 seconds of being armed, a dust cover timeout error message will be issued and the dust cover arm and release will be reset. If this timeout occurs the dust cover arm and release sequence will need to be restarted.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xbb45		pinpuller		
bit	0	15	16	31

Subfield(s)**pinpuller:** 0x01 = pin puller 1A, 0x02 = pin puller 1B, 0x03 = pin puller 2A, 0x04 = pin pul

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.51 reset sofie all****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Reset C&DH and Sun Sensee Processors

Discussion

Returns the C&DH and SSB processors to their 'power on' condition. Performs a 'warm boot'.

Constraints

This command does the following:

1. Sends reset_ssb command to SSB board.
2. Writes a pattern to a FPGA register which places the C&DH in PROM mode.

The next instruction executed will then be the instruction at address 0 of the C&DH PROM.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xbb42		
bit	0	15

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.52 reset sofie cdh****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Reset C&DH Processor

Discussion

Returns the C&DH processor to its 'power on' condition. Performs a 'warm boot'.

Constraints

This command writes a pattern to a FPGA register which places the C&DH in PROM mode. The next instruction executed will then be the instruction at address 0 of the C&DH PROM

Command Target

sofie

Format

opcode	
0	15

0xbb43 Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.53 reset sofie code chksm****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSB Reset Transfer Code Checksum

Constraints

This command is a SOFIE internal command and is not intended to be issued from the ground. It is used by the C&DH board to reset a running checksum being calculated on the SSB board. The SSB board calculates and uses the running checksum to validate a code image transferred from the C&DH board.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.54 reset sofie cover_rls****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Reset Dust Cover Release

Discussion

Resets the aperture dust cover arming circuitry. This should be done after the cover is released. This should also be done if the cover is not released for some reason.

Constraints

Dust cover commands can only be executed in Safe Mode. If the C&DH is not in Safe Mode an Invalid Mode error will be generated and the command will be ignored. This command will reset the dust cover arm and release. After this command is issued the dust cover arm and release sequence will need to be restarted.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.55 reset sofie error_map****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Clear error map

Discussion

Clears all stored errors in C&DH error map. This command calls the csc04ClearCNDHErrorMap function to clear the C&DH error map.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xbb87	15	
bit	0	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.56 reset sofie error_mapT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Clear error map (Timed execution)

Command Target

sofie

Format

opcode		subfield(s)	
0xbb87		Time	

Command size = 48 bits = 6 bytes.

bit 0 15 16 47

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.57 reset sofie s30_timer****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Restart 30 second timer

Discussion

This command may be used to extend the time before the C&DH transmits the SSB code image to the SSB. Its intention is to provide additional time to upload new code images if desired.

Constraints

This command is used to reset the C&DH boot loader 30 sec. timer. It can only be executed while in the C&DH Boot Loader CSCI Polling Sequence. If it is executed in any other mode or sequence an invalid sequence error is returned.

Command Target

sofie

Format

opcode	
0xbb00	

Command size = 16 bits = 2 bytes.

bit 0 15

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.58 reset sofie ssb

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Reset Sun Sensor and Steering Mirror Processor

Discussion

Returns the SSB processor to its 'power on' condition. Performs a 'warm boot'.

Constraints

This command writes a pattern to a FPGA register which places the SSB in PROM mode. The next instruction executed will then be the instruction at address 0 of the SSB PROM.

Command Target

sofie

Format

opcode	
0xdd41	Command size = 16 bits = 2 bytes.
bit 0	15

Subfield(s)

Safety Level

SAFE

Telemetry Verification

B.59 reset sofie ssb_error

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Clear SSB error map

Discussion

Clears all stored errors in SSB error map. This command calls the csc12ClearSSErrorMap function to clear the SSB error map.

Command Target

sofie

Format

	opcode	
	0xdd8e	
bit	0	15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.60 reset sofie ssb_errorT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Clear SSB error map

Command Target

sofie

Format

	opcode	subfield(s)	
	0xdd8e	Time	
bit	0	15	16 47

Command size = 48 bits = 6 bytes.

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.61 reset sofie ssb_timer****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Reset SSB Relative Timer

Discussion

This command sets a bit in the FPGA so that the relative timer is reset on the next 20 Hz pulse.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xdd45	15	
bit	0	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.62 reset sofie ssg****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Reset SSG hardware to power-on state

Discussion

Returns SSG hardware to its initialized power-on state. All flas and registers, including the gain registers, are returned to their default values. The servo loop is opened, deactivating the servos.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xcc03	15	
bit	0	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.63 reset sofie ssgT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Reset SSG hardware to power-on state (Timed Execution)

Discussion

See reset_ssg.

Command Target

sofie

Format

opcode	subfield(s)
0xcc03	Time

Command size = 48 bits = 6 bytes.

bit 0 15 16 47

Subfield(s)

Time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.64 reset sofie tc_entry

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Delete a Timed Command Entry by Opcode

Discussion

Remove a selected Timed Command entry from the timed command table (based on absolute time in whole seconds and opcode). If the requested deletion is successful, the delete timed command entry opcode, absolute command time (in whole seconds) and requested command opcode are returned in the free format section of the system data packet.

Constraints

If the requested command cannot be found, for deletion, an X4C_COMMAND_REQUESTED_FOR_DELETION_NOT_FOUND (0x4C01) error is generated with the opcode of the requested command as the data word.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb4b		time	Opcode		
bit	0 15	16 47	48 63		

Command size = 64 bits = 8 bytes.

Subfield(s)**time:** Time of the command to delete

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Opcode: Opcode of the command to delete

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.65 reset sofie tc_range****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Delete a Timed Command Entries by Time Range

Discussion

Remove all timed commands over a range of absolute times. This command is used to support the science event processor. The return status from this command is provided in the free format area of the system data packet. The returned opcode is the same as the command opcode. However, the number of deleted commands is appended after the absolute start and stop times.

Constraints

It is up to ground operations to ensure that the requested start and end times are valid.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb4c		start_time	end_time		
bit	0 15	16 47	48 79		

Command size = 80 bits = 10 bytes.

Subfield(s)

start_time: Start time of the time range for commands to delete

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

end_time: End time of the time range for commands to delete

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.66 reset sofie tc_table

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Reset (Flush) the Timed Command Table

Discussion

Resets the in-use entries of the timed command table and resets the number of entries in use to zero.

Command Target

sofie

Format

opcode	Command size = 16 bits = 2 bytes.
0xbb4a	
bit 0 15	

Subfield(s)

Safety Level

SAFE

Telemetry Verification

B.67 safe sofie

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Place the sofie instrument in a safe state.

Discussion

Any current sofie instrument activity is halted, and the instrument is configured to a safe state via the default instrument shut down sequence. The sofie instrument may be left in the safe configuration indefinitely.

Constraints

None. This command can be received at any time.

Command Target

sofie software

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	
bit		

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

sofie mode (??)

Related Commands

<i>command</i>	<i>description</i>
wake sofie (152)	Remove sofie safing constraints, allowing transition out of safe hold.

B.68 select sofie safe**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Transition to Safe Mode

Discussion

This command immediately places the C&DH board in Safe Mode.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	
bit		

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.69 select sofie science****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Transition to Science Mode

Constraints

The C&DH board can not transition from Safe Mode to Science Mode. If the C&DH board is in Safe mode an Invalid Mode error will be generated and the command will be ignored. If the C&DH is not in Safe Mode this command immediately places the C&DH board in Science Mode.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0x	bb49	
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.70 select sofie science_S****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSB Transition to Science mode

Discussion

This command immediately places the SSB board in Science Mode

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0x	dd47	
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.71 select sofie ssb_quiet****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSB Quiet Mode

Discussion

This command is used to synchronize the C&DH and SSB Free Running Timers. It places the SSB into a high speed polling mode which empties the SSB command queues and allows the SSB to respond as quickly as possible to a time synchronization message.

Constraints

This command is a SOFIE internal command and is not intended to be issued from the ground.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0x	dd44	
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.72 select sofie standby**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Transition to Standby Mode

Discussion

This command immediately places the C&DH board in Standby Mode.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.73 select sofie standby_S****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSB Transition to Standby mode

Discussion

This command immediately places the SSB board in Standby Mode

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0	15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.74 set sofie autrep_rate****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Automation Reporting Rate

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xbb2b		autom_rept_rate		
bit	0	15	16	31

Subfield(s)**autom_rept_rate:** automation reporting rate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.75 set sofie autrep_rateT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set Automation Reporting Rate (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb2b		Time	autom_rept_rate		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

autom_rept_rate: automation reporting rate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.76 set sofie bore_freq****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Frequency of Boresight Calibrations

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)	
0xbb27		boresight_freq	
bit	0 15	16	31

Command size = 32 bits = 4 bytes.

Subfield(s)

boresight_freq: frequency of boresight calibrations

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.77 set sofie bore_freqT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Frequency of Boresight Calibrations (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)	
0xbb27	Time	boresight_freq	

Command size = 64 bits = 8 bytes.

bit 0 15 16 47 48 63

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

boresight_freq: frequency of boresight calibrations

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.78 set sofie bore_table

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Set Default Boresight Calibration Table

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb25	OD_address	Address			
bit 0	15	16	31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)

OD_address: bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.79 set sofie bore_tableT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Default Boresight Calibration Table (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0x	bb25	Time	OD_address	Address	
bit	0 15	16 47	48 63	64	79

Command size = 80 bits = 10 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

OD_address: bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.80 set sofie cdh_echo****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

C&DH Processor Echo

Discussion

Echos the command opcode to the system data packet. The command is echoed by writing the command to the C&DH Message Queue

Command Target

sofie

Format

opcode	
0x	bb80
bit	0 15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.81 set sofie cdh_echoT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

C&DH Processor Echo (Timed execution)

Discussion

Echos the command opcode to the system data packet. The command is echoed by writing the command to the C&DH Message Queue

Command Target

sofie

Format

opcode		subfield(s)		Command size = 48 bits = 6 bytes.
0xbb80		Time		
bit	0 15	16	47	

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification**B.82 set sofie cdh_reg****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set C&DH FPGA Register Value

Discussion

Loads a selected C&DH FPGA register.

Constraints

Valid OD_address parameters are:

4 = ARP FPGA,

6 = DAQ FPGA.

Any other value will result in an invalid FPGA bank error. Allows operator to select any register address and register value. It is the operators responsibility to assure valid values are selected.

Command Target

sofie

Format

opcode		subfield(s)					
0xbb83		OD_address	address	value			
bit	0 15	16 31	32 47	48 63			

Command size = 64 bits = 8 bytes.

Subfield(s)

OD_address: bank select OD bits for register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

address: the register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

value: the value to place in the register.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.83 set sofie cdh_regT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set C&DH FPGA Register Value (Timed execution)

Discussion

Loads a selected C&DH FPGA register.

Command Target

sofie

Format

opcode		subfield(s)				
0xbb83		Time	OD_address	address	value	
bit	0 15	16 47	48 63	64 79	80 95	

Command size = 96 bits = 12 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

OD_address: bank select OD bits for register address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

address: the register address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

value: the value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.84 set sofie cdh_sram****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set value in C&DH data SRAM

Discussion

Loads selected C&DH data SRAM address.

Constraints

This command writes a one word data value to the requested C&DH data SRAM address. It is the operators responsibility to assure that the data address and data value are correct.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb89		address	value		
bit	0 15	16 31	32 47		

Command size = 48 bits = 6 bytes.

Subfield(s)**address:** Address of data word to set

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

value: Value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.85 set sofie cdh_sramT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set value in C&DH data SRAM

Discussion

Loads selected C&DH data SRAM address.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb89		time	address	value	
bit	0 15	16 47	48 63	64 79	

Command size = 80 bits = 10 bytes.

Subfield(s)**time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

address: Address of data word to set

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

value: Value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.86 set sofie endata_rate

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Set Engineering Data Transmission Rate

Discussion

Sets the rate (in seconds) at which engineering data is transmitted.

Command Target

sofie

Format

opcode	subfield(s)
0xbb29	eng_data_rate

Command size = 32 bits = 4 bytes.

bit	0	15	16	31
-----	---	----	----	----

Subfield(s)

eng_data_rate: engineering data transmission rate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.87 set sofie endata_rate

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Engineering Data Transmission Rate (Timed execution)

Discussion

Sets the rate (in seconds) at which engineering data is transmitted.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb29		Time	eng_data_rate		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

eng_data_rate: engineering data transmission rate

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.88 set sofie event_pred

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Activate/Deactivate Science Event Prediction

Constraints

This command is a remnant from the descoped autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xbb2c		predict_switch		
bit	0	15	16	31

Subfield(s)**predict_switch:** Boolean enable or disable science event prediction

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.89 set sofie event_predT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Activate/Deactivate Science Event Prediction (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)				Command size = 64 bits = 8 bytes.
0xbb2c		Time	predict_switch			
bit	0	15	16	47	48	63

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

predict_switch: Boolean enable or disable science event prediction

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.90 set sofie faultovercd

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Set On-Board Fault Response Override for C&DH

Constraints

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid fault response override parameter error.

Command Target

sofie

Format

opcode		subfield(s)	
0xbb2e	CDH_fault_over	Command size = 32 bits = 4 bytes.	
bit 0	15	16	31

Subfield(s)

CDH_fault_over: Boolean set on-board fault response override for C&DH

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.91 set sofie faultovercdT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set On-Board Fault Response Override for C&DH (Timed execution)

Constraints

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid fault response override parameter error.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb2e		Time	CDH_fault_over		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

CDH_fault_over: Boolean set on-board fault response override for C&DH

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.92 set sofie faultoverss****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set On-Board Fault Response Override for SS&SM

Constraints

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid fault response override parameter error.

Command Target

sofie

Format

opcode		subfield(s)	
0xdd20		SSM_fault_over	
bit	0 15	16	31

Command size = 32 bits = 4 bytes.

Subfield(s)

SSM_fault_over: Boolean set on-board fault response override for SS&SM

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.93 set sofie faultoverssT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set On-Board Fault Response Override for SS&SM (Timed execution)

Constraints

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid fault response override parameter error.

Command Target

sofie

Format

opcode		subfield(s)	
0xdd20		Time	SSM_fault_over
bit	0 15	16 47	48 63

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

SSM_fault_over: Boolean set on-board fault response override for SS&SM

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.94 set sofie gain_freq****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Frequency of Gain Calibrations

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode	subfield(s)
0xbb28	gain_freq

Command size = 32 bits = 4 bytes.

bit 0 15 16 31

Subfield(s)**gain_freq:** frequency of gain calibrations

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.95 set sofie gain_freqT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set Frequency of Gain Calibrations (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb28		Time	gain_freq		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

gain_freq: frequency of gain calibrations

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.96 set sofie gain_table****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Default Gain Calibration Table

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)		
0xbb26		OD_address	Address	
bit	0 15	16 31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)**OD_address:** bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.97 set sofie gain_tableT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Default Gain Calibration Table (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb26		Time	OD_address	Address	
bit	0 15	16 47	48 63	64 79	

Command size = 80 bits = 10 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

OD_address: bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.98 set sofie m1553_chksm**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set 1553 Checksum Verification

Discussion

Turn on or off the 1553 checksum verification.

Constraints

Valid parameters are 0 = reset, 1 = set.

Any other value will result in an invalid set 1553 checksum parameter error.

Command Target

sofie

Format

	opcode	subfield(s)		
	0xbb20	checksum_switch		Command size = 32 bits = 4 bytes.
bit	0	15	16	31

Subfield(s)**checksum_switch:** Boolean enable or disable checksum verification

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.99 set sofie m1553_chksmT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set 1553 Checksum Verification (Timed execution)

Discussion

Turn on or off the 1553 checksum verification.

Constraints

Valid parameters are 0 = reset, 1 = set.

Any other value will result in an invalid set 1553 checksum parameter error.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb20		Time	checksum_switch		Command size = 64 bits = 8 bytes.
bit	0 15	16 47	48	63	

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

checksum_switch: Boolean enable or disable checksum verification

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.100 set sofie mcurr_limit

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Set Steering Mirror Current Limit

Constraints

This command writes the mirror current limit to the C&DH State and Event Shared Memory Table. Note: it does NOT set any SSG board values.

Command Target

sofie

Format

opcode		subfield(s)	
0xbb2d		murr_curr_limit	
bit	0 15	16	31

Command size = 32 bits = 4 bytes.

Subfield(s)

mirr_curr_limit: steering mirror current limit

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.101 set sofie mcurr_limitT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Steering Mirror Current Limit (Timed execution)

Constraints

This command writes the mirror current limit to the C&DH State and Event Shared Memory Table. Note: it does NOT set any SSG board values.

Command Target

sofie

Format

opcode		subfield(s)				
0xbb2d		Time	mirr_curr_limit			
bit	0	15	16	47	48	63

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

mirr_curr_limit: steering mirror current limit

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.102 set sofie orb_period**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Orbit Period

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)	
0xbb23		orbitTime	
bit	0 15	16	47

Command size = 48 bits = 6 bytes.

Subfield(s)**orbitTime:** time of orbit period

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification**B.103 set sofie orb_periodT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set Orbit Period (Timed execution)

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)				
0xbb23		Time	orbitTime			
bit	0 15	16 47	48	79		

Command size = 80 bits = 10 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

orbitTime: time of orbit period

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification**B.104 set sofie pix_tm****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Pixel telemetry mode.

Command Target

software

Format

opcode		subfield(s)	
0xdd88		mode	
bit	0 15	16	31

Command size = 32 bits = 4 bytes.

Subfield(s)**mode:** Pixel telemetry mode, 0=sums, 1=pixels

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.105 set sofie plelem**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Pointing low elevation edge mode.

Command Target

software

Format

opcode	subfield(s)
0xdd87	low_edge

Command size = 32 bits = 4 bytes.

bit 0 15 16 31

Subfield(s)**low_edge:** Edge mode, 0 =high elevation edge, 1=low elevation edge

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.106 set sofie sci_evt_tbl****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Setup Science Event Table

Discussion

Initialize the science event table with 256 event entries. The first event number in the table is determined by the supplied parameter. Upon completion of this command, the command opcode and start event number are returned in the free format section of the system data packet.

Constraints

This command calls the csc07SEPSetupScienceEventTable function with the operator supplied event number. If this command is not used before the first set_sunset_event or set_sunris_event command then the table is initialized using the event number from the set_sunset_event or set_sunris_event command. The start event number is any unsigned sixteen bit integer.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xbb2f		event_number		
bit	0	15	16	31

Subfield(s)**event_number:** Event number

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.107 set sofie sci_table****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Default Science Table

Constraints

This command is a remnant from the descoped autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 48 bits = 6 bytes.		
0xbb24		OD_address	Address			
bit	0	15	16	31	32	47

Subfield(s)**OD_address:** bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.108 set sofie sci_tableT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Default Science Table (Timed execution)

Constraints

This command is a remnant from the descoped autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb24		Time	OD_address	Address	
bit	0 15	16 47	48 63	64 79	

Command size = 80 bits = 10 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

OD_address: bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Address: the memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.109 set sofie ssb_echo**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSB Processor Echo

Discussion

Echos the command opcode to the system data packet. The command is echoed by writing the command to the SSB Data Queue

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xdd80	15	
bit	0	15

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.110 set sofie ssb_echoT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

SSB Processor Echo (Timed execution)

Discussion

Echos the command opcode to the system data packet. The command is echoed by writing the command to the SSB Data Queue

Command Target

sofie

Format

opcode		subfield(s)		Command size = 48 bits = 6 bytes.
0xdd80	15	16	47	
bit	0	15	16	47

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification**B.111 set sofie ssb_reg****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set SSB FPGA Register Value

Discussion

Loads a selected SSB FPGA register.

Constraints

Valid OD_address parameter is 4 = FPGA.

Any other value will result in an invalid FPGA bank error. Allows operator to select any register address and register value. It is the operators responsibility to assure valid values are selected.

Command Target

sofie

Format

opcode		subfield(s)					
0xdd82		OD_address	address	value	Command size = 64 bits = 8 bytes.		
bit	0 15	16 31	32 47	48 63			

Subfield(s)**OD_address:** bank select OD bits for register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

address: the register address.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

value: the value to place in the register.

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	any	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.112 set sofie ssb_regT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set SSB FPGA Register Value (Timed execution)

Discussion

Loads a selected SSB FPGA register.

Command Target

sofie

Format

opcode		subfield(s)				
0xdd82		Time	OD_address	address	value	
bit	0 15	16 47	48 63	64 79	80 95	Command size = 96 bits = 12 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

OD_address: bank select OD bits for register address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

address: the register address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

value: the value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.113 set sofie_ssb_sram****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set value in SSB data SRAM

Discussion

Loads selected SSB data SRAM address.

Constraints

This command writes a one word data value to the requested SSB data SRAM address. It is the operators responsibility to assure that the data address and data value are correct.

Command Target

sofie

Format

opcode		subfield(s)			
0xdd8f		address	value		
bit	0 15	16 31	32	47	

Command size = 48 bits = 6 bytes.

Subfield(s)**address:** Address of data word to set

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

value: Value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.114 set sofie_ssb_sramT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set value in SSB data SRAM

Discussion

Loads selected SSB data SRAM address.

Command Target

sofie

Format

opcode		subfield(s)					
0xdd8f		time	address	value			Command size = 80 bits = 10 bytes.
bit	0 15	16 47	48 63	64 79			

Subfield(s)

time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

address: Address of data word to set

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

value: Value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.115 set sofie ssbp_echo****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSB Processor Priority Echo

Discussion

Echos the command opcode to the system data packet. The command is echoed by writing the command to the SSB High Priority Reply Queue

Command Target

sofie

Format

	opcode	
	0xdd81	
bit	0	15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.116 set sofie ssbp_echoT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

SSB Priority Processor Echo (Timed execution)

Discussion

Echos the command opcode to the system data packet. The command is echoed by writing the command to the SSB High Priority Reply Queue

Command Target

sofie

Format

	opcode	subfield(s)	
	0xdd81	Time	
bit	0	15	16 47

Command size = 48 bits = 6 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification

B.117 set sofie ssg_PIDreg

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Load SSG PID registers

Discussion

This command sets the PID registers to the values transmitted. The SSG hardware responds by generating a message that contains all 8 PID register values, as they were written.

Command Target

sofie

Format

opcode		subfield(s)							
0xcc21		PID_azP	PID_azI	PID_azD	PID_azFF	PID_eIP	PID_eII	PID_eID	PID_eIFF
bit	0 15	16 31	32 47	48 63	64 79	80 95	96 111	112 127	128 143

Command size = 144 bits = 18 bytes.

Subfield(s)

PID_azP: Azimuth proportional gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_azI: Azimuth integral gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_azD: Azimuth derivative gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_azFF: Azimuth feed forward gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_eIP: Elevation proportional gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_eII: Elevation integral gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_eID: Elevation derivative gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

PID_eIFF: Elevation feed forward gain value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.118 set sofie ssg_az_el

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Position SSG mirror

Discussion

This commands the mirror to a position relative to its home position. Parameter 'flag' indicates if 'azimuth' or 'elevation' or both are to be changed.

Constraints

Valid parameters are:

0x0000 = change neither.

0x0001 = change elevation only.

0x0100 = change azimuth only.

0x0101 change azimuth and elevation.

Command Target

sofie

Format

opcode		subfield(s)					
0xcc20		position_flag	azimuth	elevation			Command size = 64 bits = 8 bytes.
bit	0 15	16 31	32 47	48 63			

Subfield(s)

position_flag: 0x0000-Change neither, 0x0001-Change elevation only, 0x0100-Change azimuth only,

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

azimuth: Azimuth

bits	type	eng units	min (dn)	max (dn)	state	value
16	signed integer				default	

elevation: Elevation

bits	type	eng units	min (dn)	max (dn)	state	value
16	signed integer				default	

Safety Level

SAFE

Telemetry Verification**B.119 set sofie ssg_az_elT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Position SSG mirror (Timed Execution)

Discussion

See set_ssg_az_el.

Command Target

sofie

Format

opcode		subfield(s)							
bit		Time	position_flag	azimuth	elevation				
0	15	16	47	48	63	64	79	80	95

Command size = 96 bits = 12 bytes.

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

position_flag: 0x0000-Change neither, 0x0001-Change elevation only, 0x0100-Change azimuth only,

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

azimuth: Azimuth

bits	type	eng units	min (dn)	max (dn)	state	value
16	signed integer				default	

elevation: Elevation

bits	type	eng units	min (dn)	max (dn)	state	value
16	signed integer				default	

Safety Level

SAFE

Telemetry Verification**B.120 set sofie ssg_echo1****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSG Echo one word

Discussion

This command is used to test the communication link. Upon receipt of the Echo command, SSG hardware responds with an identical packet. Only the response opcode and checksum will be different. The maximum number of data words is 1.

Constraints

Allowable parameter values are:

- 1 = echo one word,
- 2 = echo two words,
- 3 = echo three words.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xcc00		data1		
bit	0	15	16	31

Subfield(s)**data1:** word #1

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.121 set sofie ssg_echo1T****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

SSG Echo one word (Timed Execution)

Discussion

See set_ssg_echo1.

Command Target

sofie

Format

opcode		subfield(s)			
0xcc00		Time	data1		
bit	0 15	16 47	48 63		

Command size = 64 bits = 8 bytes.

Subfield(s)

Time: Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

data1: word #1

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.122 set sofie ssg_echo2****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSG Echo two words

Discussion

This command is used to test the communication link. Upon receipt of the Echo command, SSG hardware responds with an identical packet. Only the response opcode and checksum will be different. The maximum number of data words is 2.

Constraints

Allowable parameter values are:

- 1 = echo one word,
- 2 = echo two words,
- 3 = echo three words.

Command Target

sofie

Format

opcode		subfield(s)		
0xcc00		data1	data2	

Command size = 48 bits = 6 bytes.

bit 0 15 16 31 32 47

Subfield(s)**data1:** word #1

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data2: word #2

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.123 set sofie ssg_echo2T****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

SSG Echo two words (Timed Execution)

Discussion

See set_ssg_echo2.

Command Target

sofie

Format

opcode		subfield(s)			
0xcc00		Time	data1	data2	

Command size = 80 bits = 10 bytes.

bit 0 15 16 47 48 63 64 79

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

data1: word #1

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data2: word #2

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.124 set sofie ssg_echo3****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

SSG Echo three words

Discussion

This command is used to test the communication link. Upon receipt of the Echo command, SSG hardware responds with an identical packet. Only the response opcode and checksum will be different. The maximum number of data words is 3.

Constraints

Allowable parameter values are:

- 1 = echo one word,
- 2 = echo two words,
- 3 = echo three words.

Command Target

sofie

Format

opcode		subfield(s)					
0xcc00		data1	data2	data3			
bit	0 15	16 31	32 47	48 63			

Command size = 64 bits = 8 bytes.

Subfield(s)**data1:** word #1

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data2: word #2

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data3: word #3

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.125 set sofie ssg_echo3T****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

SSG Echo three words (Timed Execution)

Discussion

See set_ssg_echo3.

Command Target

sofie

Format

opcode		subfield(s)							
0xcc00		Time	data1	data2	data3				
bit	0 15	16 47	48 63	64 79	80 95				

Command size = 96 bits = 12 bytes.

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

data1: word #1

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data2: word #2

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

data3: word #3

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.126 set sofie ssg_poke****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Load SSG memory register

Discussion

This command loads any available register in memory. The desired register is specified by 'address'. The SSG hardware responds by generating a message that echoes the 'address', provides the register's previous value and its new value.

Command Target

sofie

Format

opcode		subfield(s)			
bit					
0	15	16	31	32	47
0xccf1		address	value	Command size = 48 bits = 6 bytes.	

Subfield(s)**address:** address of register to load

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

value: load value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.127 set sofie ssg_pokeT**Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Load SSG memory register (Timed Execution)

Discussion

See set_ssg_poke.

Command Target

sofie

Format

opcode		subfield(s)			
0xccf1		Time	address	value	
bit	0 15	16 47	48 63	64 79	

Command size = 80 bits = 10 bytes.

Subfield(s)**Time:** Time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

address: address of register to load

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

value: load value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.128 set sofie sunris_event****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Sunrise Event

Discussion

Set the absolute start time and event command table number for the requested event number. If the science event table has not previously been initialized then this function will call csc07SEPSSetupScienceEventTable to initialize the table. The requested event number for this command will be used as the starting event number in the table. The functions used for this command are identical to those used for Set Sunset Event. If this command successfully updates the event start time and table number it returns the set_sunris_event opcode, event number, event start time and event command table number in the system data packet.

Constraints

If the science event table has not been initialized before this command is executed then an X4D_WARNING_EVENT_TABLE_NOT_PREV warning will be generated. The requested event number is returned in the additional error information word. If the event number parameter is less than the range currently held in the event table then an X4D_EVENT_NUMBER_OUTSIDE_CURRENT error is generated. The requested event number is returned in the additional error information word. If the requested event number is greater than the range currently held in the event table then an X4D_EVENT_NUMBER_OUTSIDE_CURRENT_RANGE error is generated. The requested event number is returned in the additional error information word. If the requested event command table number is less than the allowed range (1 to 63) then an X4D_EVENT_TABLE_NUMBER_OUTSIDE_RANGE_LOW error is generated. The errant event table number is returned in the additional error information word. If the requested event command table number is greater than the allowed range (1 to 63) then an X4D_EVENT_TABLE_NUMBER_OUTSIDE_RANGE_HIGH error is generated. The errant event table number is returned in the additional error information word.

Command Target

sofie

Format

opcode		subfield(s)			Command size = 80 bits = 10 bytes.		
0xbb61	eventNo	eventTime	table				
bit 0	15	16	31	32	63	64	79

Subfield(s)

eventNo: event number

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

eventTime: time of sunrise event

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

table: event table

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.129 set sofie sunris_time**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Time of Sunrise Event

Constraints

This command is a remnant from the descoped autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode	subfield(s)
0xbb21	eventTime

Command size = 48 bits = 6 bytes.

bit 0 15 16 47

Subfield(s)**eventTime:** time of sunrise event

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification**B.130 set sofie sunris_timeT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Set Time of Sunrise Event (Timed execution)

Constraints

This command is a remnant from the descoped autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb21		Time	eventTime		
bit	0 15	16 47	48	79	

Command size = 80 bits = 10 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

eventTime: time of sunrise event

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification**B.131 set sofie sunset_event****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Sunset Event

Discussion

Set the absolute start time and event command table number for the requested event number. If the science event table has not previously been initialized then this function will call `csc07SEPSSetupScienceEventTable` to initialize the table. The requested event number for this command will be used as the starting event number in the table. The functions used for this command are identical to those used for Set Sunrise Event. If this command successfully updates the event start time and table number it returns the `set_sunset_event` opcode, event number, event start time and event command table number in the system data packet.

Constraints

If the science event table has not been initialized before this command is executed then an `X4D_WARNING_EVENT_TABLE_NOT_PREV` warning will be generated. The requested event number is returned in the additional error information word. If the event number parameter is less than the range currently held in the event table then an `X4D_EVENT_NUMBER_OUTSIDE_CURRENT` error is generated. The requested event number is returned in the additional error information word. If the requested event number is greater than the range currently held in the event table then an `X4D_EVENT_NUMBER_OUTSIDE_CURRENT_RANGE` error is generated. The requested event number is returned in the additional error information word. If the requested event command table number is less than the allowed range (1 to 63) then an `X4D_EVENT_TABLE_NUMBER_OUTSIDE_RANGE_LOV` error is generated. The errant event table number is returned in the additional error information word. If the requested event command table number is greater than the allowed range (1 to 63) then an `X4D_EVENT_TABLE_NUMBER_OUTSIDE_RANGE_H` error is generated. The errant event table number is returned in the additional error information word.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb60		eventNo	eventTime	table	
bit	0 15	16 31	32 63	64 79	

Command size = 80 bits = 10 bytes.

Subfield(s)**eventNo:** event number

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

eventTime: time of sunset event

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

table: event table

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.132 set sofie sunset_time****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Time of Sunset Event

Constraints

This command is a remnant from the descope autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)	
0xbb22		eventTime	
bit	0 15	16	47

Command size = 48 bits = 6 bytes.

Subfield(s)

eventTime: time of sunset event

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification

B.133 set sofie sunset_timeT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Time of Sunset Event (Timed execution)

Constraints

This command is a remnant from the descoped autonomy functions. It remains as a placeholder should the autonomy functions be added in the future.

Command Target

sofie

Format

opcode		subfield(s)				
0xbb22		Time	eventTime			
bit	0 15	16 47	48 79			

Command size = 80 bits = 10 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

eventTime: time of sunset event

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

Safety Level

SAFE

Telemetry Verification

B.134 set sofie track_abort**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Sun Sensor Track Abort

Discussion

(0 = normal, 1 = abort observation)

Constraints

This command will set or reset the Sun Sensor Track Abort bit in the SSB State and Event Shared Memory Table. If the Abort bit is set then the Sun Sensor Track Acquire bit will be reset.

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid track parameter error.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xdd8b		sstrack_abort		
bit	0	15	16	31

Subfield(s)**sstrack_abort:** Boolean Sun Sensor Track Abort 0 = normal, 1 = abort observation

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.135 set sofie track_abortT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Sun Sensor Track Abort (Timed execution)

Discussion

(0 = normal, 1 = abort observation)

Command Target

sofie

Format

opcode		subfield(s)			
0xdd8b		Time	sstrack_abort		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

sstrack_abort: Boolean Sun Sensor Track Abort 0 = normal, 1 = abort observation

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.136 set sofie track_acqui****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Sun Sensor Track Acquire

Discussion

(0 = normal, 1 = acquire and track sun)

Constraints

This command will set or reset the Sun Sensor Track Acquire bit in the SSB State and Event Shared Memory Table.

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid track parameter error.

Command Target

sofie

Format

opcode		subfield(s)	
0xdd8c		sstrack_acquire	
bit	0 15	16	31

Command size = 32 bits = 4 bytes.

Subfield(s)

sstrack_acquire: Boolean Sun Sensor Track Acquire 0 = normal, 1 = acquire and track

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.137 set sofie track_acquiT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Sun Sensor Track Acquire (Timed execution)

Discussion

(0 = normal, 1 = acquire and track sun)

Command Target

sofie

Format

opcode		subfield(s)	
0xdd8c	Time	sstrack_acquire	Command size = 64 bits = 8 bytes.
bit 0	15	16	47 48 63

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

sstrack_acquire: Boolean Sun Sensor Track Acquire 0 = normal, 1 = acquire and track

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.138 set sofie track_data**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Sun Sensor Track Data

Discussion

(0 = normal, 1 = acquire, track sun, and transmit data)

Constraints

This command will set or reset the Sun Sensor Track Data bit in the SSB State and Event Shared Memory Table.

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid track parameter error.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xdd8d	sstrack_data_dl			
bit	0	15	16	31

Subfield(s)**sstrack_data_dl:** Boolean Sun Sensor Track Data 0 = normal, 1 = acquire, track, and transmit dat

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.139 set sofie track_dataT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Sun Sensor Track Data (Timed execution)

Discussion

(0 = normal, 1 = acquire, track sun, and transmit data)

Command Target

sofie

Format

opcode		subfield(s)			
0xdd8d	Time	sstrack_data_dl			
bit 0	15	16	47	48	63

Command size = 64 bits = 8 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

sstrack_data_dl: Boolean Sun Sensor Track Data 0 = normal, 1 = acquire, track, and transmit dat

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.140 set sofie track_param****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Set Sun Tracking Algorithm Parameter

Discussion

This command writes a Sun Tracking Algorithm value to the SSB State and Event Shared Memory Table.

Command Target

sofie

Format

opcode		subfield(s)			
0xdd85	suntrk_parameter	suntrk_value			
bit 0	15	16	31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)**suntrk_parameter:** Sun Tracking Algorithm Parameter

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

suntrk_value: Sun Tracking Algorithm Parameter value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.141 set sofie track_paramT

Packet Target Application Identifier

sofie, 0x181, (385)

Description

Set Sun Tracking Algorithm Parameter (Timed execution)

Discussion

This command writes a Sun Tracking Algorithm value to the SSB State and Event Shared Memory Table.

Command Target

sofie

Format

opcode		subfield(s)				
0x	dd85	Time	suntrk_parameter	suntrk_value		
bit	0 15	16 47	48 63	64 79		

Command size = 80 bits = 10 bytes.

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

suntrk_parameter: Sun Tracking Algorithm Parameter

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

suntrk_value: Sun Tracking Algorithm Parameter value

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.142 set sofie track_stby**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Sun Sensor Track Standby

Discussion

(0 = not in standby mode, 1 = in standby mode)

Constraints

This command will set or reset the Sun Sensor Track Standby bit in the SSB State and Event Shared Memory Table.

Valid parameters 0 = reset, 1 = set.

Any other value will result in an invalid track parameter error.

Command Target

sofie

Format

opcode		subfield(s)		Command size = 32 bits = 4 bytes.
0xdd8a		sstrack_switch		
bit	0	15	16	31

Subfield(s)**sstrack_switch:** Boolean Sun Sensor Track Standby 0 = not standby, 1 = standby

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.143 set sofie track_stbyT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Sun Sensor Track Standby (Timed execution)

Discussion

(0 = not in standby mode, 1 = in standby mode)

Command Target

sofie

Format

opcode		subfield(s)			
0xdd8a		Time	sstrack_switch		
bit	0 15	16 47	48	63	

Command size = 64 bits = 8 bytes.

Subfield(s)**Time:** time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

sstrack_switch: Boolean Sun Sensor Track Standby 0 = not standby, 1 = standby

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.144 test sofie cdh_chksum****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

Checksum of image running in instruction SRAM

Discussion

Performs a commanded checksum test of the C&DH SRAM code image. This command does the following:

1. Calculates the checksum of the code image currently running in C&DH instruction SRAM.
2. Compares the calculated checksum with the checksum stored in memory.
3. If the calculated checksum does not match the stored checksum a bad image checksum error message is generated.

Command Target

sofie

Format

opcode	
0xbba9	
bit	0 15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.145 test sofie cdh_sram1****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

C&DH Data (Operand) SRAM Pattern Test

Discussion

Diagnostic write/read test for C&DH Data SRAM. Intended to search for bad memory locations.

Constraints

This command writes a specified test pattern to the specified locations in C&DH Data SRAM. It is the operators responsibility to assure that the Start address and Length are valid. Before writing the test pattern the original value is saved into a register. After the test pattern is written and tested the original value is written back to the memory location being tested. This allows the Data SRAM to be tested without destroying the original value. This command generates a single word response = error count. The addresses of up to the first 0x400 memory locations that generated an error will be saved at address B780h and can be downloaded using the dump_cdh_sram1 command. No error code is placed in the error map.

Command Target

sofie

Format

opcode		subfield(s)			
0xbba4		address	length	pattern	
bit	0 15	16 31	32 47	48	63

Command size = 64 bits = 8 bytes.

Subfield(s)**address:** address for Data (Operand) SRAM Pattern Test C&DH

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

length: number of address locations to test

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

pattern: test pattern

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.146 test sofie cdh_sram2

Packet Target Application Identifier

sofie, 0x183, (387)

Description

C&DH Instruction SRAM Pattern Test

Discussion

Diagnostic write/read test for C&DH Instruction SRAM. Intended to search for bad memory locations.

Constraints

This command writes a specified test pattern to the specified locations in C&DH Instruction SRAM. IT IS THE OPERATORS RESPONSIBILITY TO ASSURE THAT THE START ADDRESS AND LENGTH ARE VALID AND THAT NO CODE SEGMENT THAT IS CURRENTLY BEING EXECUTED BY THE CPU IS TESTED WITH THIS COMMAND! Before writing the test pattern the original value is saved into a register. After the test pattern is written and tested the original value is written back to the memory location being tested. This allows the instruction SRAM to be tested without destroying the original value. If the operator selects an instruction SRAM segment that does not interfere with code execution causing the watchdog timer to reset the CPU this command will generate a single word response = error count. The addresses of up to the first 0x400 memory locations that generated an error will be saved at address B780h and can be downloaded using the dump_cdh_sram1 command. No error code is placed in the error map.

Command Target

sofie

Format

opcode		subfield(s)			
0xbba5		address	length	pattern	
bit	0 15	16 47	48 63	64	79

Command size = 80 bits = 10 bytes.

Subfield(s)

address: address for Instruction SRAM Pattern Test C&DH

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

length: number of address locations to test

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

pattern: test pattern

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.147 test sofie ee_chksum

Packet Target Application Identifier

sofie, 0x183, (387)

Description

Code Image Checksum Test

Discussion

Performs a commanded checksum test of the EEPROM.

Constraints

This command performs a checksum on a specified code image in EEPROM. It is the operators responsibility to assure that the OD address and address point to the beginning of a valid code image. This command generates a two word response: word 1 = Checksum read from memory, word 2 = calculated checksum.

Command Target

sofie

Format

opcode		subfield(s)			
0xbba2		OD_address	address		
bit	0 15	16	31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)

OD_address: bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

address: address of code image

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.148 test sofie ssb_chksum****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

Checksum of image running in instruction SRAM

Discussion

Performs a commanded checksum test of the SSB SRAM code image. This command does the following:

1. Calculates the checksum of the code image currently running in SSB instruction SRAM.
2. Compares the calculated checksum with the checksum stored in memory.
3. If the calculated checksum does not match the stored checksum a bad image checksum error message is generated.

Command Target

sofie

Format

opcode
0xdda6

Command size = 16 bits = 2 bytes.
 bit 0 15
Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.149 test sofie ssb_sram1****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

SS&SM Data (Operand) SRAM Pattern Test

Discussion

Diagnostic write/read test for SSB Data SRAM. Intended to search for bad memory locations.

Constraints

This command writes a specified test pattern to the specified locations in SSB Data SRAM. It is the operators responsibility to assure that the Start address and Length are valid. Before writing the test pattern the original value is saved into a register. After the test pattern is written and tested the original value is written back to the memory location being tested. This allows the Data SRAM to be tested without destroying the original value. This command generates a single word response = error count. The addresses of up to the first 0x400 memory locations that generated an error will be saved at address 4380h and can be downloaded using the dump_ssb_sram1 command. No error code is placed in the error map.

Command Target

sofie

Format

opcode		subfield(s)			
0xdda1		address	length	pattern	
bit	0 15	16 31	32 47	48 63	

Command size = 64 bits = 8 bytes.

Subfield(s)

address: address for Data (Operand) SRAM Pattern Test SS&SM

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

length: number of address locations to test

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

pattern: test pattern

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification**B.150 test sofie ssb_sram2****Packet Target Application Identifier**

sofie, 0x183, (387)

Description

SS&SM Instruction SRAM Pattern Test

Discussion

Diagnostic write/read test for SSB Instruction SRAM. Intended to search for bad memory locations.

Constraints

This command writes a specified test pattern to the specified locations in SSB Instruction SRAM. IT IS THE OPERATORS RESPONSIBILITY TO ASSURE THAT THE START ADDRESS AND LENGTH ARE VALID AND THAT NO CODE SEGMENT THAT IS CURRENTLY BEING EXECUTED BY THE CPU IS TESTED WITH THIS COMMAND! Before writing the test pattern the original value is saved into a register. After the test pattern is written and tested the original value is written back to the memory location being tested. This allows the instruction SRAM to be tested without destroying the original value. If the operator selects an instruction SRAM segment that does not interfere with code execution causing the watchdog timer to reset the CPU this command will generate a single word response = error count. The addresses of up to the first 0x400 memory locations that generated an error will be saved at address 4380h and can be downloaded using the dump_ssb_sram1 command. No error code is placed in the error map.

Command Target

sofie

Format

opcode		subfield(s)			
0xdda2		address	length	pattern	
bit	0 15	16 47	48 63	64	79

Command size = 80 bits = 10 bytes.

Subfield(s)

address: address for Instruction SRAM Pattern Test SS&SM

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer	dn	0	4294967295	default	0

length: number of address locations to test

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

pattern: test pattern

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer	dn	0	65535	default	0

Safety Level

SAFE

Telemetry Verification

B.151 test sofie timesync

Packet Target Application Identifier

sofie, 0x183, (387)

Description

Time Synchronization Test

Discussion

This command is used to synchronize the C&DH, SSB, and SSG relative timers. The result of the synchronization is recorded in the Software Status Register. If the command is successful bit 20 in the CDH software status register and the SSB software status registers will be set. Time messages will be sent to the free format area of the system data packet as follows. CDH ee04 1st word = hi order seconds, 2nd word = low order seconds, 3rd word = hi order subseconds, 4th word low order subseconds.

Command Target

sofie

Format

opcode	
0xbba1	
bit	0 15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.152 turn off sofie all****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Shutdown C&DH and Sun Sensor

Discussion

Prepare SOFIE for power shutdown.

Constraints

This command does the following:

1. Sends turn_off_ssb command to SSB board.
2. Turns off TEC channels.
3. Places the C&DH in Safe Mode.

Note: It does NOT shutdown the C&DH power.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xbb40		
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.153 turn off sofie cdh****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Shutdown C&DH

Discussion

Prepare CDH for power shutdown.

Constraints

This command does the following:

1. Turns off TEC channels.
2. Places the C&DH in Safe Mode.

Note: It does NOT shutdown the C&DH power.

Command Target

sofie

Format

opcode		Command size = 16 bits = 2 bytes.
0xbb41		
bit	0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

B.154 turn off sofie ssb**Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Shutdown Sun Sensor

Discussion

Prepare SSB for power shutdown.

Constraints

This command does the following:

1. Sends command to SSG board to move the mirror to 0,0.
2. Sends reset command to SSG board to turn off the servos.
3. Places the SSB board in Standby Mode.

Note: It does NOT shutdown the SSB power.

Command Target

sofie

Format

opcode	Command size = 16 bits = 2 bytes.
0xdd40	
bit 0 15	

Subfield(s)**Safety Level**

SAFE

Telemetry Verification**B.155 use sofie balance****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Select balance table to use

Command Target

software

Format

opcode		subfield(s)	
0xbb8a		event_type	

Command size = 32 bits = 4 bytes.

bit 0 15 16 31

Subfield(s)

event_type: Event type 0=sunrise, 1=sunset

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.156 use sofie balanceT****Packet Target Application Identifier**

sofie, 0x181, (385)

Description

Select balance table to use (timed execution)

Command Target

software

Format

opcode		subfield(s)			
0xbb8a		Time	event_type		

Command size = 64 bits = 8 bytes.

bit 0 15 16 47 48 63

Subfield(s)

Time: time of command execution

bits	type	eng units	min (dn)	max (dn)	state	value
32	unsigned integer				default	

event_type: Event type 0=sunrise, 1=sunset

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.157 use sofie cdh_image

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Specify C&DH code image to load

Discussion

Select which copy of CDH code image to use. One of several code images may be selected by address.

Constraints

Allows user to select any OD address and start address. It is the operators responsibility to assure these values point to a valid code image.

Command Target

sofie

Format

opcode		subfield(s)			
0xbb05		OD_address	start_address		
bit	0 15	16	31	32	47

Command size = 48 bits = 6 bytes.

Subfield(s)

OD_address: Bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

start_address: start address of code image

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification

B.158 use sofie ssb_image

Packet Target Application Identifier

sofie, 0x180, (384)

Description

Specify SSB code image to load

Discussion

Select which copy of SSB code image to use. One of several code images may be selected by address.

Constraints

Allows user to select any OD address and start address. It is the operators responsibility to assure these values point to a valid code image.

Command Target

sofie

Format

opcode		subfield(s)				
0xbb06		OD_address	start_address			
bit	0 15	16	31	32	47	

Command size = 48 bits = 6 bytes.

Subfield(s)

OD_address: Bank select OD bits for memory address

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

start_address: start address of code image

bits	type	eng units	min (dn)	max (dn)	state	value
16	unsigned integer				default	

Safety Level

SAFE

Telemetry Verification**B.159 wake sofie****Packet Target Application Identifier**

sofie, 0x180, (384)

Description

Remove sofie safing constraints, allowing transition out of safe hold.

Constraints

This command is only valid as a real-time command (cannot be executed in a sequence).

Command Target

sofie software

Format

opcode	
0xfb00	
bit	0 15

Command size = 16 bits = 2 bytes.

Subfield(s)**Safety Level**

SAFE

Telemetry Verification

sofie cmd_succ_ct (??)

Related Commands

<i>command</i>	<i>description</i>
safe sofie (81)	Place the sofie instrument in a safe state.

C

Command Opcode Summary

Command Opcode Summary

cmd ref.	apid ref.	apid (hex)	opcode (hex)	command
1	1	0x15d	0xfc	inform inst sc_clock (28)
2	1	0x15e	0xfe	inform inst acs_state (27)
3	1	0x181	0x0000	issue sofie reserved_1 (58)
4	1	0x180	0x0000	noop sofie (60)
5	1	0x183	0x0000	issue sofie reserved_3 (59)
6	1	0x182	0x0000	issue sofie reserved_2 (59)
7	1	0x180	0x0000	issue sofie command (58)
8	2	0x180	0xbb00	reset sofie s30_timer (75)
9	1	0x182	0xbb01	pass sofie codeload2 (62)
10	2	0x182	0xbb02	pass sofie codeload3 (63)
11	3	0x182	0xbb03	pass sofie codeload4 (64)
12	1	0x180	0xbb05	use sofie cdh_image (151)
13	2	0x180	0xbb06	use sofie ssb_image (151)
14	3	0x180	0xbb20	set sofie m1553_chksm (104)
15	1	0x181	0xbb20	set sofie m1553_chksmT (104)
16	1	0x180	0xbb21	set sofie sunris_time (129)
17	1	0x181	0xbb21	set sofie sunris_timeT (129)
18	2	0x181	0xbb22	set sofie sunset_timeT (132)
19	1	0x180	0xbb22	set sofie sunset_time (131)
20	1	0x181	0xbb23	set sofie orb_periodT (107)
21	1	0x180	0xbb23	set sofie orb_period (107)
22	1	0x181	0xbb24	set sofie sci_tableT (111)
23	1	0x180	0xbb24	set sofie sci_table (110)
24	1	0x181	0xbb25	set sofie bore_tableT (89)
25	1	0x180	0xbb25	set sofie bore_table (89)
26	2	0x180	0xbb26	set sofie gain_table (102)
27	1	0x181	0xbb26	set sofie gain_tableT (103)
28	2	0x181	0xbb27	set sofie bore_freqT (88)
29	1	0x180	0xbb27	set sofie bore_freq (87)

C. COMMAND OPCODE SUMMARY

Command Opcode Summary, cont'd

cmd ref.	apid ref.	apid (hex)	opcode (hex)	command
30	1	0x181	0xbb28	set sofie gain_freqT (101)
31	1	0x180	0xbb28	set sofie gain_freq (101)
32	2	0x180	0xbb29	set sofie endata_rate (95)
33	1	0x181	0xbb29	set sofie endata_rateT (96)
34	2	0x181	0xbb2b	set sofie autrep_rateT (86)
35	1	0x180	0xbb2b	set sofie autrep_rate (86)
36	2	0x180	0xbb2c	set sofie event_pred (96)
37	1	0x181	0xbb2c	set sofie event_predT (97)
38	1	0x180	0xbb2d	set sofie mcurr_limit (105)
39	1	0x181	0xbb2d	set sofie mcurr_limitT (106)
40	1	0x180	0xbb2e	set sofie faultovercd (98)
41	1	0x181	0xbb2e	set sofie faultovercdT (98)
42	1	0x180	0xbb2f	set sofie sci_evt_tbl (109)
43	2	0x180	0xbb40	inform sofie pwrdown (56)
44	3	0x180	0xbb40	turn off sofie all (147)
45	4	0x180	0xbb41	turn off sofie cdh (148)
46	5	0x180	0xbb42	reset sofie all (71)
47	6	0x180	0xbb43	reset sofie cdh (72)
48	7	0x180	0xbb44	arm sofie cover_rls (29)
49	8	0x180	0xbb45	release sofie cover_rl (70)
50	9	0x180	0xbb46	reset sofie cover_rls (73)
51	10	0x180	0xbb47	select sofie standby (85)
52	11	0x180	0xbb48	select sofie safe (82)
53	12	0x180	0xbb49	select sofie science (83)
54	13	0x180	0xbb4a	reset sofie tc_table (81)
55	14	0x180	0xbb4b	reset sofie tc_entry (79)
56	15	0x180	0xbb4c	reset sofie tc_range (80)
57	16	0x180	0xbb4d	get sofie event_info (38)
58	17	0x180	0xbb4e	get sofie next_event (39)
59	18	0x180	0xbb60	set sofie sunset_event (130)
60	19	0x180	0xbb61	set sofie sunris_event (127)
61	20	0x180	0xbb62	pass sofie ssainit_tbl (67)
62	1	0x181	0xbb80	set sofie cdh_echoT (91)
63	1	0x180	0xbb80	set sofie cdh_echo (90)
64	1	0x181	0xbb83	set sofie cdh_regT (92)
65	1	0x180	0xbb83	set sofie cdh_reg (91)
66	2	0x180	0xbb84	pass sofie ss_aztable (65)
67	3	0x180	0xbb85	pass sofie ss_eltable (66)
68	4	0x180	0xbb86	perform sofie balance (68)
69	1	0x181	0xbb86	perform sofie balanceT (69)
70	1	0x180	0xbb87	reset sofie error_map (74)
71	1	0x181	0xbb87	reset sofie error_mapT (74)
72	2	0x181	0xbb88	get sofie sys_messageT (55)
73	1	0x180	0xbb88	get sofie sys_message (54)
74	2	0x180	0xbb89	set sofie cdh_sram (93)

Command Opcode Summary, cont'd

cmd ref.	apid ref.	apid (hex)	opcode (hex)	command
75	1	0x181	0xbb89	set sofie cdh_sramT (94)
76	1	0x180	0xbb8a	use sofie balance (149)
77	1	0x181	0xbb8a	use sofie balanceT (150)
78	1	0x183	0xbba0	get sofie cdh_reg (36)
79	2	0x183	0xbba1	test sofie timesync (146)
80	3	0x183	0xbba2	test sofie ee_chksum (143)
81	4	0x183	0xbba4	test sofie cdh_sram1 (141)
82	5	0x183	0xbba5	test sofie cdh_sram2 (142)
83	6	0x183	0xbba6	dump sofie eeprom (32)
84	7	0x183	0xbba7	dump sofie cdh_sram1 (30)
85	8	0x183	0xbba8	dump sofie cdh_sram2 (31)
86	9	0x183	0xbba9	test sofie cdh_chksum (140)
87	10	0x183	0xbbaa	get sofie cdh_sram (37)
88	1	0x181	0xcc00	set sofie ssg_echo3T (125)
89	2	0x181	0xcc00	set sofie ssg_echo2T (123)
90	3	0x181	0xcc00	set sofie ssg_echo1T (121)
91	1	0x180	0xcc00	set sofie ssg_echo2 (122)
92	2	0x180	0xcc00	set sofie ssg_echo1 (121)
93	3	0x180	0xcc00	set sofie ssg_echo3 (124)
94	1	0x181	0xcc01	enable sofie servosT (36)
95	1	0x180	0xcc01	enable sofie servos (35)
96	2	0x180	0xcc03	reset sofie ssg (78)
97	1	0x181	0xcc03	reset sofie ssgT (79)
98	1	0x180	0xcc10	get sofie ssg_status (48)
99	1	0x181	0xcc10	get sofie ssg_statusT (49)
100	1	0x180	0xcc11	get sofie ssg_state (46)
101	1	0x181	0xcc11	get sofie ssg_stateT (47)
102	2	0x181	0xcc13	get sofie ssg_positT (46)
103	1	0x180	0xcc13	get sofie ssg_posit (45)
104	2	0x180	0xcc14	get sofie ssg_PIDreg (42)
105	1	0x181	0xcc14	get sofie ssg_PIDregT (43)
106	2	0x181	0xcc20	set sofie ssg_az_elT (120)
107	1	0x180	0xcc20	set sofie ssg_az_el (119)
108	2	0x180	0xcc21	set sofie ssg_PIDreg (118)
109	3	0x180	0xccf0	get sofie ssg_peek (44)
110	1	0x181	0xccf0	get sofie ssg_peekT (44)
111	2	0x181	0xccf1	set sofie ssg_pokeT (127)
112	1	0x180	0xccf1	set sofie ssg_poke (126)
113	2	0x180	0xdd00	pass sofie codeload1 (61)
114	3	0x180	0xdd01	reset sofie code_chksm (72)
115	4	0x180	0xdd20	set sofie faultoverss (99)
116	1	0x181	0xdd20	set sofie faultoverssT (100)
117	1	0x180	0xdd40	turn off sofie ssb (149)
118	2	0x180	0xdd41	reset sofie ssb (76)
119	3	0x180	0xdd42	get sofie ssb_status (42)

C. COMMAND OPCODE SUMMARY

Command Opcode Summary, cont'd

cmd ref.	apid ref.	apid (hex)	opcode (hex)	command
120	4	0x180	0xdd43	get sofie ssb_oper (40)
121	5	0x180	0xdd44	select sofie ssb_quiet (84)
122	6	0x180	0xdd45	reset sofie ssb_timer (77)
123	7	0x180	0xdd46	select sofie standby_S (85)
124	8	0x180	0xdd47	select sofie science_S (83)
125	9	0x180	0xdd80	set sofie ssb_echo (112)
126	1	0x181	0xdd80	set sofie ssb_echoT (112)
127	1	0x180	0xdd81	set sofie ssbp_echo (116)
128	1	0x181	0xdd81	set sofie ssbp_echoT (117)
129	2	0x181	0xdd82	set sofie ssb_regT (114)
130	1	0x180	0xdd82	set sofie ssb_reg (113)
131	2	0x180	0xdd85	set sofie track_param (137)
132	1	0x181	0xdd85	set sofie track_paramT (138)
133	1	0x180	0xdd86	get sofie sunimage1 (49)
134	1	0x181	0xdd86	get sofie sunimage1T (51)
135	1	0x180	0xdd87	set sofie plelem (109)
136	2	0x180	0xdd88	set sofie pix_tm (108)
137	3	0x180	0xdd8a	set sofie track_stby (139)
138	1	0x181	0xdd8a	set sofie track_stbyT (139)
139	2	0x181	0xdd8b	set sofie track_abortT (133)
140	1	0x180	0xdd8b	set sofie track_abort (133)
141	2	0x180	0xdd8c	set sofie track_acqui (134)
142	1	0x181	0xdd8c	set sofie track_acquiT (135)
143	1	0x180	0xdd8d	set sofie track_data (136)
144	1	0x181	0xdd8d	set sofie track_dataT (136)
145	1	0x180	0xdd8e	reset sofie ssb_error (76)
146	1	0x181	0xdd8e	reset sofie ssb_errorT (77)
147	1	0x180	0xdd8f	set sofie ssb_sram (115)
148	1	0x181	0xdd8f	set sofie ssb_sramT (115)
149	1	0x183	0xdda0	get sofie ssb_reg (40)
150	2	0x183	0xdda1	test sofie ssb_sram1 (144)
151	3	0x183	0xdda2	test sofie ssb_sram2 (145)
152	4	0x183	0xdda3	dump sofie ssb_sram1 (33)
153	5	0x183	0xdda4	dump sofie ssb_sram2 (34)
154	6	0x183	0xdda6	test sofie ssb_chksun (144)
155	7	0x183	0xdda7	get sofie ssb_sram (41)
156	1	0x180	0xfb00	wake sofie (152)
157	2	0x180	0xfc00	inform sofie sc_clock (57)
158	3	0x180	0xfd00	safe sofie (81)
159	4	0x180	0xfe00	inform sofie acs_state (55)

D

Command Packet Summary

Command Packet Summary

pkt no.	apid (hex)	packet
1	0x15d	inst
2	0x15e	inst
3	0x180	sofie
4	0x181	sofie
5	0x182	sofie
6	0x183	sofie

D. COMMAND PACKET SUMMARY

E

Telemetry Measurement List

OASIS-CC/FSW database version TBD, Wed Feb 14 14:59:11 2007.

E.1 sofie A_Det_V01

Description

Band 1 (O3 strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.2 sofie A_Det_V02

Description

Band 5 (H2O weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.3 sofie A_Det_V03

Description

Band 9 (particle B strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.4 sofie A_Det_V04**Description**

Band 13 (CO2 B strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.5 sofie A_Det_V05**Description**

Difference 1-2 (O3), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.6 sofie A_Det_V06**Description**

Difference 5-6 (H2O), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.7 sofie A_Det_V07**Description**

Difference 9-10 (particle B), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.8 sofie A_Det_V08

Description

Difference 13-14 (CO2 B), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.9 sofie A_Det_V09

Description

Band 2 (O3 weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.10 sofie A_Det_V10**Description**

Band 6 (H2O strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.11 sofie A_Det_V11**Description**

Band 10 (particle B weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.12 sofie A_Det_V12**Description**

Band 14 (CO2 B weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.13 sofie A_Det_V13**Description**

Band 3 (particle A strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.14 sofie A_Det_V14**Description**

Band 7 (CO2 A strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.15 sofie A_Det_V15**Description**

Band 11 (CH4 strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.16 sofie A_Det_V16**Description**

Band 15 (NO weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.17 sofie A_Det_V17**Description**

Difference 3-4 (particle A), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.18 sofie A_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.19 sofie A_Det_V19**Description**

Difference 11-12 (CH4), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.20 sofie A_Det_V20**Description**

Difference 15-16 (NO), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.21 sofie A_Det_V21**Description**

Band 4 (particle A weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.22 sofie A_Det_V22**Description**

Band 8 (CO2 A weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.23 sofie A_Det_V23**Description**

Band 12 (CH4 weak), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.24 sofie A_Det_V24**Description**

Band 16 (NO strong), Observation #1

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.25 sofie A_PnS_DMA**Description**

Control Mirror Azimuth, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.26 sofie A_PnS_DME**Description**

Control Mirror Elevation, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.27 sofie A_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.28 sofie A_SMA_AME**Description**

Actual Mirror Elevation, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.29 sofie A_Sum_C01**Description**

Center Sum 1, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.30 sofie A_Sum_C02

Description

Center Sum 2, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.31 sofie A_Sum_C03

Description

Center Sum 3, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.32 sofie A_Sum_C04

Description

Center Sum 4, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.33 sofie A_Sum_C05**Description**

Center Sum 5, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.34 sofie A_Sum_C06**Description**

Center Sum 6, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.35 sofie A_Sum_C07**Description**

Center Sum 7, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.36 sofie A_Sum_HX01**Description**

High X Sum 1, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.37 sofie A_Sum_HX02**Description**

High X Sum 2, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.38 sofie A_Sum_HX03**Description**

High X Sum 3, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.39 sofie A_Sum_HX04**Description**

High X Sum 4, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.40 sofie A_Sum_HX05**Description**

High X Sum 5, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.41 sofie A_Sum_HX06**Description**

High X Sum 6, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.42 sofie A_Sum_HX07**Description**

High X Sum 7, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.43 sofie A_Sum_HY01**Description**

High Y Sum 1, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.44 sofie A_Sum_HY02**Description**

High Y Sum 2, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.45 sofie A_Sum_HY03**Description**

High Y Sum 3, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.46 sofie A_Sum_HY04**Description**

High Y Sum 4, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.47 sofie A_Sum_HY05**Description**

High Y Sum 5, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.48 sofie A_Sum_LX01**Description**

Low X Sum 1, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.49 sofie A_Sum_LX02**Description**

Low X Sum 2, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.50 sofie A_Sum_LX03**Description**

Low X Sum 3, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.51 sofie A_Sum_LX04**Description**

Low X Sum 4, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.52 sofie A_Sum_LX05**Description**

Low X Sum 5, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.53 sofie A_Sum_LX06**Description**

Low X Sum 6, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.54 sofie A_Sum_LX07**Description**

Low X Sum 7, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.55 sofie A_Sum_LY01**Description**

Low Y Sum 1, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.56 sofie A_Sum_LY02**Description**

Low Y Sum 2, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.57 sofie A_Sum_LY03**Description**

Low Y Sum 3, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.58 sofie A_Sum_LY04**Description**

Low Y Sum 4, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.59 sofie A_Sum_LY05**Description**

Low Y Sum 5, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.60 sofie A_TIME_Det

Description

Timestamp, Detector data, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.61 sofie A_TIME_Pix

Description

Timestamp, Pixels, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.62 sofie A_TIME_PnS

Description

Time stamp, Pointing and Stabilization, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.63 sofie A_TIME_TkA**Description**

Timestamp, Tracking, Observation #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.64 sofie A_TkA_HiX**Description**

High X FPA Coordinates, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.65 sofie A_TkA_HiY**Description**

High Y FPA Coordinates, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.66 sofie A_TkA_LwX**Description**

Low X FPA Coordinates, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.67 sofie A_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #1

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.68 sofie B_Det_V01**Description**

Band 1 (O3 strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.69 sofie B_Det_V02**Description**

Band 5 (H2O weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.70 sofie B_Det_V03**Description**

Band 9 (particle B strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.71 sofie B_Det_V04**Description**

Band 13 (CO2 B strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.72 sofie B_Det_V05**Description**

Difference 1-2 (O3), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.73 sofie B_Det_V06**Description**

Difference 5-6 (H2O), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.74 sofie B_Det_V07**Description**

Difference 9-10 (particle B), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.75 sofie B_Det_V08**Description**

Difference 13-14 (CO2 B), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.76 sofie B_Det_V09**Description**

Band 2 (O3 weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.77 sofie B_Det_V10**Description**

Band 6 (H2O strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.78 sofie B_Det_V11**Description**

Band 10 (particle B weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.79 sofie B_Det_V12**Description**

Band 14 (CO2 B weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.80 sofie B_Det_V13**Description**

Band 3 (particle A strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.81 sofie B_Det_V14**Description**

Band 7 (CO2 A strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.82 sofie B_Det_V15**Description**

Band 11 (CH4 strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.83 sofie B_Det_V16**Description**

Band 15 (NO weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.84 sofie B_Det_V17**Description**

Difference 3-4 (particle A), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.85 sofie B_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.86 sofie B_Det_V19**Description**

Difference 11-12 (CH4), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.87 sofie B_Det_V20**Description**

Difference 15-16 (NO), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.88 sofie B_Det_V21**Description**

Band 4 (particle A weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.89 sofie B_Det_V22**Description**

Band 8 (CO2 A weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.90 sofie B_Det_V23**Description**

Band 12 (CH4 weak), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.91 sofie B_Det_V24**Description**

Band 16 (NO strong), Observation #2

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.92 sofie B_PnS_DMA**Description**

Control Mirror Azimuth, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.93 sofie B_PnS_DME**Description**

Control Mirror Elevation, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.94 sofie B_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.95 sofie B_SMA_AME**Description**

Actual Mirror Elevation, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.96 sofie B_Sum_C01**Description**

Center Sum 1, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.97 sofie B_Sum_C02**Description**

Center Sum 2, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.98 sofie B_Sum_C03**Description**

Center Sum 3, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.99 sofie B_Sum_C04**Description**

Center Sum 4, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.100 sofie B_Sum_C05**Description**

Center Sum 5, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.101 sofie B_Sum_C06**Description**

Center Sum 6, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.102 sofie B_Sum_C07**Description**

Center Sum 7, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.103 sofie B_Sum_HX01**Description**

High X Sum 1, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.104 sofie B_Sum_HX02**Description**

High X Sum 2, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.105 sofie B_Sum_HX03**Description**

High X Sum 3, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.106 sofie B_Sum_HX04**Description**

High X Sum 4, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.107 sofie B_Sum_HX05**Description**

High X Sum 5, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.108 sofie B_Sum_HX06**Description**

High X Sum 6, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.109 sofie B_Sum_HX07**Description**

High X Sum 7, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.110 sofie B_Sum_HY01**Description**

High Y Sum 1, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.111 sofie B_Sum_HY02**Description**

High Y Sum 2, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.112 sofie B_Sum_HY03**Description**

High Y Sum 3, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.113 sofie B_Sum_HY04**Description**

High Y Sum 4, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.114 sofie B_Sum_HY05**Description**

High Y Sum 5, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.115 sofie B_Sum_LX01**Description**

Low X Sum 1, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.116 sofie B_Sum_LX02**Description**

Low X Sum 2, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.117 sofie B_Sum_LX03**Description**

Low X Sum 3, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.118 sofie B_Sum_LX04**Description**

Low X Sum 4, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.119 sofie B_Sum_LX05**Description**

Low X Sum 5, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.120 sofie B_Sum_LX06**Description**

Low X Sum 6, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.121 sofie B_Sum_LX07**Description**

Low X Sum 7, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.122 sofie B_Sum_LY01**Description**

Low Y Sum 1, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.123 sofie B_Sum_LY02**Description**

Low Y Sum 2, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.124 sofie B_Sum_LY03**Description**

Low Y Sum 3, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.125 sofie B_Sum_LY04**Description**

Low Y Sum 4, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.126 sofie B_Sum_LY05**Description**

Low Y Sum 5, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.127 sofie B_TIME_Det**Description**

Timestamp, Detector data, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.128 sofie B_TIME_Pix**Description**

Timestamp, Pixels, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.129 sofie B_TIME_PnS**Description**

Time stamp, Pointing and Stabilization, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.130 sofie B_TIME_TkA**Description**

Timestamp, Tracking, Observation #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.131 sofie B_TkA_HiX**Description**

High X FPA Coordinates, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.132 sofie B_TkA_HiY**Description**

High Y FPA Coordinates, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.133 sofie B_TkA_LwX**Description**

Low X FPA Coordinates, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.134 sofie B_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #2

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.135 sofie C_Det_V01**Description**

Band 1 (O3 strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.136 sofie C_Det_V02**Description**

Band 5 (H2O weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.137 sofie C_Det_V03**Description**

Band 9 (particle B strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.138 sofie C_Det_V04**Description**

Band 13 (CO2 B strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.139 sofie C_Det_V05**Description**

Difference 1-2 (O3), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.140 sofie C_Det_V06**Description**

Difference 5-6 (H2O), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.141 sofie C_Det_V07**Description**

Difference 9-10 (particle B), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.142 sofie C_Det_V08**Description**

Difference 13-14 (CO2 B), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.143 sofie C_Det_V09**Description**

Band 2 (O3 weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.144 sofie C_Det_V10**Description**

Band 6 (H2O strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.145 sofie C_Det_V11**Description**

Band 10 (particle B weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.146 sofie C_Det_V12**Description**

Band 14 (CO2 B weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.147 sofie C_Det_V13**Description**

Band 3 (particle A strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.148 sofie C_Det_V14**Description**

Band 7 (CO2 A strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.149 sofie C_Det_V15**Description**

Band 11 (CH4 strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.150 sofie C_Det_V16**Description**

Band 15 (NO weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.151 sofie C_Det_V17**Description**

Difference 3-4 (particle A), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.152 sofie C_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.153 sofie C_Det_V19**Description**

Difference 11-12 (CH4), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.154 sofie C_Det_V20**Description**

Difference 15-16 (NO), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.155 sofie C_Det_V21**Description**

Band 4 (particle A weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.156 sofie C_Det_V22**Description**

Band 8 (CO2 A weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.157 sofie C_Det_V23**Description**

Band 12 (CH4 weak), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.158 sofie C_Det_V24**Description**

Band 16 (NO strong), Observation #3

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.159 sofie C_PnS_DMA**Description**

Control Mirror Azimuth, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.160 sofie C_PnS_DME**Description**

Control Mirror Elevation, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.161 sofie C_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.162 sofie C_SMA_AME**Description**

Actual Mirror Elevation, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.163 sofie C_Sum_C01**Description**

Center Sum 1, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.164 sofie C_Sum_C02**Description**

Center Sum 2, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.165 sofie C_Sum_C03**Description**

Center Sum 3, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.166 sofie C_Sum_C04**Description**

Center Sum 4, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.167 sofie C_Sum_C05**Description**

Center Sum 5, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.168 sofie C_Sum_C06**Description**

Center Sum 6, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.169 sofie C_Sum_C07**Description**

Center Sum 7, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.170 sofie C_Sum_HX01**Description**

High X Sum 1, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.171 sofie C_Sum_HX02**Description**

High X Sum 2, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.172 sofie C_Sum_HX03**Description**

High X Sum 3, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.173 sofie C_Sum_HX04**Description**

High X Sum 4, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.174 sofie C_Sum_HX05**Description**

High X Sum 5, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.175 sofie C_Sum_HX06**Description**

High X Sum 6, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.176 sofie C_Sum_HX07**Description**

High X Sum 7, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.177 sofie C_Sum_HY01**Description**

High Y Sum 1, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.178 sofie C_Sum_HY02**Description**

High Y Sum 2, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.179 sofie C_Sum_HY03**Description**

High Y Sum 3, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.180 sofie C_Sum_HY04**Description**

High Y Sum 4, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.181 sofie C_Sum_HY05**Description**

High Y Sum 5, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.182 sofie C_Sum_LX01**Description**

Low X Sum 1, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.183 sofie C_Sum_LX02**Description**

Low X Sum 2, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.184 sofie C_Sum_LX03**Description**

Low X Sum 3, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.185 sofie C_Sum_LX04**Description**

Low X Sum 4, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.186 sofie C_Sum_LX05**Description**

Low X Sum 5, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.187 sofie C_Sum_LX06**Description**

Low X Sum 6, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.188 sofie C_Sum_LX07**Description**

Low X Sum 7, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.189 sofie C_Sum_LY01**Description**

Low Y Sum 1, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.190 sofie C_Sum_LY02**Description**

Low Y Sum 2, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.191 sofie C_Sum_LY03**Description**

Low Y Sum 3, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.192 sofie C_Sum_LY04**Description**

Low Y Sum 4, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.193 sofie C_Sum_LY05**Description**

Low Y Sum 5, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.194 sofie C_TIME_Det**Description**

Timestamp, Detector data, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.195 sofie C_TIME_Pix**Description**

Timestamp, Pixels, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.196 sofie C_TIME_PnS**Description**

Time stamp, Pointing and Stabilization, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.197 sofie C_TIME_TkA**Description**

Timestamp, Tracking, Observation #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.198 sofie C_TkA_HiX**Description**

High X FPA Coordinates, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.199 sofie C_TkA_HiY**Description**

High Y FPA Coordinates, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.200 sofie C_TkA_LwX**Description**

Low X FPA Coordinates, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.201 sofie C_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #3

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.202 sofie D_Det_V01**Description**

Band 1 (O3 strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.203 sofie D_Det_V02**Description**

Band 5 (H2O weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.204 sofie D_Det_V03**Description**

Band 9 (particle B strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.205 sofie D_Det_V04**Description**

Band 13 (CO2 B strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.206 sofie D_Det_V05**Description**

Difference 1-2 (O3), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.207 sofie D_Det_V06**Description**

Difference 5-6 (H2O), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.208 sofie D_Det_V07**Description**

Difference 9-10 (particle B), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.209 sofie D_Det_V08**Description**

Difference 13-14 (CO2 B), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.210 sofie D_Det_V09**Description**

Band 2 (O3 weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.211 sofie D_Det_V10**Description**

Band 6 (H2O strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.212 sofie D_Det_V11**Description**

Band 10 (particle B weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.213 sofie D_Det_V12**Description**

Band 14 (CO2 B weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.214 sofie D_Det_V13**Description**

Band 3 (particle A strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.215 sofie D_Det_V14**Description**

Band 7 (CO2 A strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.216 sofie D_Det_V15**Description**

Band 11 (CH4 strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.217 sofie D_Det_V16**Description**

Band 15 (NO weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.218 sofie D_Det_V17**Description**

Difference 3-4 (particle A), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.219 sofie D_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.220 sofie D_Det_V19**Description**

Difference 11-12 (CH4), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.221 sofie D_Det_V20**Description**

Difference 15-16 (NO), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.222 sofie D_Det_V21**Description**

Band 4 (particle A weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.223 sofie D_Det_V22**Description**

Band 8 (CO2 A weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.224 sofie D_Det_V23**Description**

Band 12 (CH4 weak), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.225 sofie D_Det_V24**Description**

Band 16 (NO strong), Observation #4

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.226 sofie D_PnS_DMA**Description**

Control Mirror Azimuth, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.227 sofie D_PnS_DME**Description**

Control Mirror Elevation, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.228 sofie D_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.229 sofie D_SMA_AME**Description**

Actual Mirror Elevation, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.230 sofie D_Sum_C01**Description**

Center Sum 1, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.231 sofie D_Sum_C02**Description**

Center Sum 2, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.232 sofie D_Sum_C03**Description**

Center Sum 3, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.233 sofie D_Sum_C04**Description**

Center Sum 4, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.234 sofie D_Sum_C05**Description**

Center Sum 5, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.235 sofie D_Sum_C06**Description**

Center Sum 6, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.236 sofie D_Sum_C07**Description**

Center Sum 7, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.237 sofie D_Sum_HX01**Description**

High X Sum 1, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.238 sofie D_Sum_HX02**Description**

High X Sum 2, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.239 sofie D_Sum_HX03**Description**

High X Sum 3, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.240 sofie D_Sum_HX04**Description**

High X Sum 4, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.241 sofie D_Sum_HX05**Description**

High X Sum 5, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.242 sofie D_Sum_HX06**Description**

High X Sum 6, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.243 sofie D_Sum_HX07**Description**

High X Sum 7, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.244 sofie D_Sum_HY01**Description**

High Y Sum 1, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.245 sofie D_Sum_HY02**Description**

High Y Sum 2, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.246 sofie D_Sum_HY03**Description**

High Y Sum 3, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.247 sofie D_Sum_HY04**Description**

High Y Sum 4, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.248 sofie D_Sum_HY05**Description**

High Y Sum 5, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.249 sofie D_Sum_LX01**Description**

Low X Sum 1, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.250 sofie D_Sum_LX02**Description**

Low X Sum 2, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.251 sofie D_Sum_LX03**Description**

Low X Sum 3, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.252 sofie D_Sum_LX04**Description**

Low X Sum 4, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.253 sofie D_Sum_LX05**Description**

Low X Sum 5, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.254 sofie D_Sum_LX06**Description**

Low X Sum 6, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.255 sofie D_Sum_LX07**Description**

Low X Sum 7, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.256 sofie D_Sum_LY01**Description**

Low Y Sum 1, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.257 sofie D_Sum_LY02**Description**

Low Y Sum 2, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.258 sofie D_Sum_LY03**Description**

Low Y Sum 3, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.259 sofie D_Sum_LY04**Description**

Low Y Sum 4, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.260 sofie D_Sum_LY05**Description**

Low Y Sum 5, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.261 sofie D_TIME_Det**Description**

Timestamp, Detector data, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.262 sofie D_TIME_Pix**Description**

Timestamp, Pixels, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.263 sofie D_TIME_PnS**Description**

Time stamp, Pointing and Stabilization, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.264 sofie D_TIME_TkA**Description**

Timestamp, Tracking, Observation #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.265 sofie D_TkA_HiX**Description**

High X FPA Coordinates, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.266 sofie D_TkA_HiY**Description**

High Y FPA Coordinates, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.267 sofie D_TkA_LwX**Description**

Low X FPA Coordinates, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.268 sofie D_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #4

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.269 sofie E_Det_V01**Description**

Band 1 (O3 strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.270 sofie E_Det_V02**Description**

Band 5 (H2O weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.271 sofie E_Det_V03**Description**

Band 9 (particle B strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.272 sofie E_Det_V04**Description**

Band 13 (CO2 B strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.273 sofie E_Det_V05**Description**

Difference 1-2 (O3), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.274 sofie E_Det_V06**Description**

Difference 5-6 (H2O), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.275 sofie E_Det_V07**Description**

Difference 9-10 (particle B), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.276 sofie E_Det_V08**Description**

Difference 13-14 (CO2 B), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.277 sofie E_Det_V09**Description**

Band 2 (O3 weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.278 sofie E_Det_V10**Description**

Band 6 (H2O strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.279 sofie E_Det_V11**Description**

Band 10 (particle B weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.280 sofie E_Det_V12**Description**

Band 14 (CO2 B weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.281 sofie E_Det_V13**Description**

Band 3 (particle A strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.282 sofie E_Det_V14**Description**

Band 7 (CO2 A strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.283 sofie E_Det_V15**Description**

Band 11 (CH4 strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.284 sofie E_Det_V16**Description**

Band 15 (NO weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.285 sofie E_Det_V17**Description**

Difference 3-4 (particle A), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.286 sofie E_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.287 sofie E_Det_V19**Description**

Difference 11-12 (CH4), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.288 sofie E_Det_V20**Description**

Difference 15-16 (NO), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.289 sofie E_Det_V21**Description**

Band 4 (particle A weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.290 sofie E_Det_V22**Description**

Band 8 (CO2 A weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.291 sofie E_Det_V23**Description**

Band 12 (CH4 weak), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.292 sofie E_Det_V24**Description**

Band 16 (NO strong), Observation #5

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.293 sofie E_PnS_DMA**Description**

Control Mirror Azimuth, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.294 sofie E_PnS_DME**Description**

Control Mirror Elevation, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.295 sofie E_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.296 sofie E_SMA_AME**Description**

Actual Mirror Elevation, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.297 sofie E_Sum_C01**Description**

Center Sum 1, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.298 sofie E_Sum_C02**Description**

Center Sum 2, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.299 sofie E_Sum_C03**Description**

Center Sum 3, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.300 sofie E_Sum_C04**Description**

Center Sum 4, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.301 sofie E_Sum_C05**Description**

Center Sum 5, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.302 sofie E_Sum_C06**Description**

Center Sum 6, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.303 sofie E_Sum_C07**Description**

Center Sum 7, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.304 sofie E_Sum_HX01**Description**

High X Sum 1, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.305 sofie E_Sum_HX02**Description**

High X Sum 2, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.306 sofie E_Sum_HX03**Description**

High X Sum 3, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.307 sofie E_Sum_HX04**Description**

High X Sum 4, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.308 sofie E_Sum_HX05**Description**

High X Sum 5, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.309 sofie E_Sum_HX06**Description**

High X Sum 6, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.310 sofie E_Sum_HX07**Description**

High X Sum 7, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.311 sofie E_Sum_HY01**Description**

High Y Sum 1, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.312 sofie E_Sum_HY02**Description**

High Y Sum 2, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.313 sofie E_Sum_HY03**Description**

High Y Sum 3, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.314 sofie E_Sum_HY04**Description**

High Y Sum 4, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.315 sofie E_Sum_HY05**Description**

High Y Sum 5, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.316 sofie E_Sum_LX01**Description**

Low X Sum 1, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.317 sofie E_Sum_LX02**Description**

Low X Sum 2, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.318 sofie E_Sum_LX03**Description**

Low X Sum 3, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.319 sofie E_Sum_LX04**Description**

Low X Sum 4, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.320 sofie E_Sum_LX05**Description**

Low X Sum 5, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.321 sofie E_Sum_LX06**Description**

Low X Sum 6, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.322 sofie E_Sum_LX07**Description**

Low X Sum 7, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.323 sofie E_Sum_LY01**Description**

Low Y Sum 1, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.324 sofie E_Sum_LY02**Description**

Low Y Sum 2, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.325 sofie E_Sum_LY03**Description**

Low Y Sum 3, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.326 sofie E_Sum_LY04**Description**

Low Y Sum 4, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.327 sofie E_Sum_LY05**Description**

Low Y Sum 5, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.328 sofie E_TIME_Det**Description**

Timestamp, Detector data, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.329 sofie E_TIME_Pix**Description**

Timestamp, Pixels, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.330 sofie E_TIME_PnS**Description**

Time stamp, Pointing and Stabilization, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.331 sofie E_TIME_TkA**Description**

Timestamp, Tracking, Observation #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.332 sofie E_TkA_HiX**Description**

High X FPA Coordinates, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.333 sofie E_TkA_HiY**Description**

High Y FPA Coordinates, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.334 sofie E_TkA_LwX**Description**

Low X FPA Coordinates, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.335 sofie E_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #5

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.336 sofie F_Det_V01**Description**

Band 1 (O3 strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.337 sofie F_Det_V02**Description**

Band 5 (H2O weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.338 sofie F_Det_V03**Description**

Band 9 (particle B strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.339 sofie F_Det_V04**Description**

Band 13 (CO2 B strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.340 sofie F_Det_V05**Description**

Difference 1-2 (O3), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.341 sofie F_Det_V06**Description**

Difference 5-6 (H2O), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.342 sofie F_Det_V07**Description**

Difference 9-10 (particle B), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.343 sofie F_Det_V08**Description**

Difference 13-14 (CO2 B), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.344 sofie F_Det_V09**Description**

Band 2 (O3 weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.345 sofie F_Det_V10**Description**

Band 6 (H2O strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.346 sofie F_Det_V11**Description**

Band 10 (particle B weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.347 sofie F_Det_V12**Description**

Band 14 (CO2 B weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.348 sofie F_Det_V13**Description**

Band 3 (particle A strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.349 sofie F_Det_V14**Description**

Band 7 (CO2 A strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.350 sofie F_Det_V15**Description**

Band 11 (CH4 strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.351 sofie F_Det_V16**Description**

Band 15 (NO weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.352 sofie F_Det_V17**Description**

Difference 3-4 (particle A), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.353 sofie F_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.354 sofie F_Det_V19**Description**

Difference 11-12 (CH4), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.355 sofie F_Det_V20**Description**

Difference 15-16 (NO), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.356 sofie F_Det_V21**Description**

Band 4 (particle A weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.357 sofie F_Det_V22**Description**

Band 8 (CO2 A weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.358 sofie F_Det_V23**Description**

Band 12 (CH4 weak), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.359 sofie F_Det_V24**Description**

Band 16 (NO strong), Observation #6

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.360 sofie F_PnS_DMA**Description**

Control Mirror Azimuth, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.361 sofie F_PnS_DME**Description**

Control Mirror Elevation, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.362 sofie F_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.363 sofie F_SMA_AME**Description**

Actual Mirror Elevation, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.364 sofie F_Sum_C01**Description**

Center Sum 1, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.365 sofie F_Sum_C02**Description**

Center Sum 2, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.366 sofie F_Sum_C03**Description**

Center Sum 3, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.367 sofie F_Sum_C04**Description**

Center Sum 4, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.368 sofie F_Sum_C05**Description**

Center Sum 5, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.369 sofie F_Sum_C06**Description**

Center Sum 6, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.370 sofie F_Sum_C07**Description**

Center Sum 7, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.371 sofie F_Sum_HX01**Description**

High X Sum 1, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.372 sofie F_Sum_HX02**Description**

High X Sum 2, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.373 sofie F_Sum_HX03**Description**

High X Sum 3, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.374 sofie F_Sum_HX04**Description**

High X Sum 4, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.375 sofie F_Sum_HX05**Description**

High X Sum 5, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.376 sofie F_Sum_HX06**Description**

High X Sum 6, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.377 sofie F_Sum_HX07**Description**

High X Sum 7, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.378 sofie F_Sum_HY01**Description**

High Y Sum 1, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.379 sofie F_Sum_HY02**Description**

High Y Sum 2, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.380 sofie F_Sum_HY03**Description**

High Y Sum 3, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.381 sofie F_Sum_HY04**Description**

High Y Sum 4, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.382 sofie F_Sum_HY05**Description**

High Y Sum 5, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.383 sofie F_Sum_LX01**Description**

Low X Sum 1, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.384 sofie F_Sum_LX02**Description**

Low X Sum 2, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.385 sofie F_Sum_LX03**Description**

Low X Sum 3, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.386 sofie F_Sum_LX04**Description**

Low X Sum 4, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.387 sofie F_Sum_LX05**Description**

Low X Sum 5, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.388 sofie F_Sum_LX06**Description**

Low X Sum 6, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.389 sofie F_Sum_LX07**Description**

Low X Sum 7, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.390 sofie F_Sum_LY01**Description**

Low Y Sum 1, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.391 sofie F_Sum_LY02**Description**

Low Y Sum 2, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.392 sofie F_Sum_LY03**Description**

Low Y Sum 3, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.393 sofie F_Sum_LY04**Description**

Low Y Sum 4, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.394 sofie F_Sum_LY05**Description**

Low Y Sum 5, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.395 sofie F_TIME_Det**Description**

Timestamp, Detector data, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.396 sofie F_TIME_Pix**Description**

Timestamp, Pixels, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.397 sofie F_TIME_PnS**Description**

Time stamp, Pointing and Stabilization, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.398 sofie F_TIME_TkA**Description**

Timestamp, Tracking, Observation #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.399 sofie F_TkA_HiX**Description**

High X FPA Coordinates, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.400 sofie F_TkA_HiY**Description**

High Y FPA Coordinates, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.401 sofie F_TkA_LwX**Description**

Low X FPA Coordinates, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.402 sofie F_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #6

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.403 sofie G_Det_V01**Description**

Band 1 (O3 strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.404 sofie G_Det_V02**Description**

Band 5 (H2O weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.405 sofie G_Det_V03**Description**

Band 9 (particle B strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.406 sofie G_Det_V04**Description**

Band 13 (CO2 B strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.407 sofie G_Det_V05**Description**

Difference 1-2 (O3), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.408 sofie G_Det_V06**Description**

Difference 5-6 (H2O), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.409 sofie G_Det_V07**Description**

Difference 9-10 (particle B), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.410 sofie G_Det_V08**Description**

Difference 13-14 (CO2 B), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.411 sofie G_Det_V09**Description**

Band 2 (O3 weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.412 sofie G_Det_V10**Description**

Band 6 (H2O strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.413 sofie G_Det_V11**Description**

Band 10 (particle B weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.414 sofie G_Det_V12**Description**

Band 14 (CO2 B weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.415 sofie G_Det_V13**Description**

Band 3 (particle A strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.416 sofie G_Det_V14**Description**

Band 7 (CO2 A strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.417 sofie G_Det_V15**Description**

Band 11 (CH4 strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.418 sofie G_Det_V16**Description**

Band 15 (NO weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.419 sofie G_Det_V17**Description**

Difference 3-4 (particle A), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.420 sofie G_Det_V18**Description**

Difference 7-8 (CO2 A), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.421 sofie G_Det_V19**Description**

Difference 11-12 (CH4), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.422 sofie G_Det_V20**Description**

Difference 15-16 (NO), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.423 sofie G_Det_V21**Description**

Band 4 (particle A weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.424 sofie G_Det_V22**Description**

Band 8 (CO2 A weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.425 sofie G_Det_V23**Description**

Band 12 (CH4 weak), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.426 sofie G_Det_V24**Description**

Band 16 (NO strong), Observation #7

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	0
c1	9.15527270990424e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie sci (529)

E.427 sofie G_PnS_DMA**Description**

Control Mirror Azimuth, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.428 sofie G_PnS_DME**Description**

Control Mirror Elevation, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.429 sofie G_SMA_AMA**Description**

Actual Mirror Azimuth, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.430 sofie G_SMA_AME**Description**

Actual Mirror Elevation, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.431 sofie G_Sum_C01**Description**

Center Sum 1, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.432 sofie G_Sum_C02**Description**

Center Sum 2, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.433 sofie G_Sum_C03**Description**

Center Sum 3, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.434 sofie G_Sum_C04**Description**

Center Sum 4, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.435 sofie G_Sum_C05**Description**

Center Sum 5, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.436 sofie G_Sum_C06**Description**

Center Sum 6, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.437 sofie G_Sum_C07**Description**

Center Sum 7, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.438 sofie G_Sum_HX01**Description**

High X Sum 1, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.439 sofie G_Sum_HX02**Description**

High X Sum 2, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.440 sofie G_Sum_HX03**Description**

High X Sum 3, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.441 sofie G_Sum_HX04**Description**

High X Sum 4, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.442 sofie G_Sum_HX05**Description**

High X Sum 5, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.443 sofie G_Sum_HX06**Description**

High X Sum 6, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.444 sofie G_Sum_HX07**Description**

High X Sum 7, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.445 sofie G_Sum_HY01**Description**

High Y Sum 1, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.446 sofie G_Sum_HY02**Description**

High Y Sum 2, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.447 sofie G_Sum_HY03**Description**

High Y Sum 3, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.448 sofie G_Sum_HY04**Description**

High Y Sum 4, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.449 sofie G_Sum_HY05**Description**

High Y Sum 5, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.450 sofie G_Sum_LX01**Description**

Low X Sum 1, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.451 sofie G_Sum_LX02**Description**

Low X Sum 2, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.452 sofie G_Sum_LX03**Description**

Low X Sum 3, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.453 sofie G_Sum_LX04**Description**

Low X Sum 4, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.454 sofie G_Sum_LX05**Description**

Low X Sum 5, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.455 sofie G_Sum_LX06**Description**

Low X Sum 6, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.456 sofie G_Sum_LX07**Description**

Low X Sum 7, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.457 sofie G_Sum_LY01**Description**

Low Y Sum 1, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.458 sofie G_Sum_LY02**Description**

Low Y Sum 2, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.459 sofie G_Sum_LY03**Description**

Low Y Sum 3, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.460 sofie G_Sum_LY04**Description**

Low Y Sum 4, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.461 sofie G_Sum_LY05**Description**

Low Y Sum 5, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.462 sofie G_TIME_Det**Description**

Timestamp, Detector data, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.463 sofie G_TIME_Pix**Description**

Timestamp, Pixels, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.464 sofie G_TIME_PnS**Description**

Time stamp, Pointing and Stabilization, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.465 sofie G_TIME_TkA**Description**

Timestamp, Tracking, Observation #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.466 sofie G_TkA_HiX**Description**

High X FPA Coordinates, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.467 sofie G_TkA_HiY**Description**

High Y FPA Coordinates, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.468 sofie G_TkA_LwX**Description**

Low X FPA Coordinates, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.469 sofie G_TkA_LwY**Description**

Low Y FPA Coordinates, Observation #7

Data Type

16 bits, signed integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.470 sofie OD_address**Description**

bank select OD bits for memory address

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie test_dump (544)

E.471 sofie atten_setting_1**Description**

Attenuator setting #1

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.472 sofie atten_setting_10**Description**

Attenuator setting #10

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.473 sofie atten_setting_11**Description**

Attenuator setting #11

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.474 sofie atten_setting_12**Description**

Attenuator setting #12

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.475 sofie atten_setting_13**Description**

Attenuator setting #13

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.476 sofie atten_setting_14**Description**

Attenuator setting #14

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.477 sofie atten_setting_15**Description**

Attenuator setting #15

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.478 sofie atten_setting_16**Description**

Attenuator setting #16

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.479 sofie atten_setting_2**Description**

Attenuator setting #2

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.480 sofie atten_setting_3**Description**

Attenuator setting #3

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.481 sofie atten_setting_4**Description**

Attenuator setting #4

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.482 sofie atten_setting_5**Description**

Attenuator setting #5

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.483 sofie atten_setting_6**Description**

Attenuator setting #6

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.484 sofie atten_setting_7**Description**

Attenuator setting #7

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.485 sofie atten_setting_8**Description**

Attenuator setting #8

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.486 sofie atten_setting_9**Description**

Attenuator setting #9

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.487 sofie automat_proc_err**Description**

Automation Processor errors (0x4D)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.488 sofie cdh_EH_FR_err**Description**

&DH Error Handler& Fault Response errors (0x46)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.489 sofie cdh_I_T_err**Description**

&DH Init and Task Manager errors (0x41)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.490 sofie cdh_ST_Diag_err**Description**

&DH Self-Test and Diagnostics errors (0x44)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.491 sofie cdh_cmndexec_err**Description**

&DH Command Executor errors (0x48)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.492 sofie cdh_comm_err**Description**

&DH Board Comm Handler errors (0x82)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.493 sofie cdh_critical_err**Description**

&DH critical errors (0x40)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.494 sofie cdh_data_acq_err**Description**

&DH Data Acquisition Handler errors (0x4E)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.495 sofie cdh_queue_err**Description**

&DH Queue Function errors (0x52)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.496 sofie cdh_taskm_stat_1**Description**

Interrupt count, CDH task manager status

Data Type

6 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.497 sofie cdh_taskm_stat_2**Description**

Mode, CDH task manager status

Data Type

4 bits, discrete state, engineering units = dn.

Measurement Source

sofie

State Conversions

state	value	desirability
SAFE	1	CAUTION
STANDBY	2	GOOD
SCIENCE	4	GOOD
SCIENCE_DATA	12	GOOD

Telemetry Source Packets

sofie system_data (540)

E.498 sofie cdh_taskm_stat_3**Description**

Sequence, CDH task manager status

Data Type

4 bits, discrete state, engineering units = dn.

Measurement Source

sofie

State Conversions

state	value	desirability
INIT	0	GOOD
POLLING	1	GOOD
LOAD	2	GOOD
TEST1	4	GOOD
TEST2	8	GOOD

Telemetry Source Packets

sofie system_data (540)

E.499 sofie cdh_taskm_stat_4**Description**

20 Hz& 1 Hz interrupt, CDH task manager status

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.500 sofie cdh_taskm_stat_5**Description**

Error, CDH task manager status

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.501 sofie cdh_taskm_stat_6**Description**

Timer, CDH task manager status

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.502 sofie cdh_taskm_stat_7**Description**

Quiet_100Hz, CDH task manager status

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.503 sofie cdh_taskm_stat_8**Description**

SSB, CDH task manager status

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.504 sofie cdh_taskm_stat_9**Description**

Int_5_0, CDH task manager status

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.505 sofie checksum**Description**

Science packet checksum

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.506 sofie chop_ctrl_err**Description**

Chopper Control errors (0x4B)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.507 sofie chop_health_left**Description**

Chopper health left channel (ts61)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	4.57763671875e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	65535
yellow high	0.5
yellow low	0.200000002980232
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.508 sofie chop_health_rt**Description**

Chopper health right channel (ts29)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	4.57763671875e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	65535
yellow high	0.00999999977648258
yellow low	9.99999974737875e-05
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.509 sofie cmnd_opcode**Description**

Opcode of the most recent command with a single word response

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.510 sofie cmnd_preproc_err**Description**

Command Pre-Processor errors (0x43)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.511 sofie cmnd_response**Description**

Response from the latest single word response command

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.512 sofie cmnds_accepted**Description**

&DH Commands accepted

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.513 sofie cmnds_rejected**Description**

&DH Commands rejected

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.514 sofie codeupdate_err**Description**

Code Updater errors (0x45)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.515 sofie curr_m12v_inst**Description**

PS Current Monitor -12V.I (ps4)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-0.0201991219073534
c1	8.75608384376392e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2
yellow high	1.60000002384186
yellow low	0.150000005960464
red low	0.0099999977648258
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.516 sofie curr_m12v_sm**Description**

PS Current Monitor -12V_SM (ps12)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-0.00199762871488929
c1	8.40755456010811e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	3
yellow high	2
yellow low	-0.200000002980232
red low	-0.300000011920929
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.517 sofie curr_p12v_inst**Description**

PS Current Monitor +12V_I (ps3)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0.0547322258353233
c1	8.7648855696898e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2
yellow high	1.60000002384186
yellow low	0.200000002980232
red low	0.0099999977648258
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.518 sofie curr_p12v_sm**Description**

PS Current Monitor +12V_SM (ps11)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-0.264408826828003
c1	8.80678053363226e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	3
yellow high	2.29999995231628
yellow low	-0.200000002980232
red low	-0.300000011920929
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.519 sofie curr_p2_5v_fpga**Description**

PS Current Monitor +2.5V FPGA (ps16)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-0.00287073175422847
c1	1.11649678729009e-05
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	0.400000005960464
yellow high	0.300000011920929
yellow low	0.0500000007450581
red low	0.0099999977648258
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.520 sofie curr_p3_3v_tec**Description**

PS Current Monitor +3.3V TEC (ps8)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-0.0201891679316759
c1	0.000219782828935422
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	6
yellow high	5.5
yellow low	-0.300000011920929
red low	-0.400000005960464
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.521 sofie curr_p3_3v_tec2**Description**

PS Current Monitor +3.3V TEC V2 (ps15)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0.124094091355801
c1	0.000220433706999756
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	6
yellow high	5.5
yellow low	-0.300000011920929
red low	-0.400000005960464
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.522 sofie curr_p5v**Description**

PS Current Monitor +5V (ps7)

Data Type

16 bits, signed integer, engineering units = a.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0.0566778220236301
c1	0.000220433706999756
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	3
yellow high	2.29999995231628
yellow low	0.5
red low	0.00999999977648258
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.523 sofie data_space**Description**

space for data to be dumped

Data Type

7504 bits, fill, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie test_dump (544)

E.524 sofie det_ctrl_err**Description**

Detector Channel Control errors (0x4A)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.525 sofie detector_temp_1**Description**

Detector 1 Temperature (dt1)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.526 sofie detector_temp_10**Description**

Detector 10 Temperature (dt10)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.527 sofie detector_temp_11**Description**

Detector 11 Temperature (dt11)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.528 sofie detector_temp_12**Description**

Detector 12 Temperature (dt12)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.529 sofie detector_temp_13**Description**

Detector 13 Temperature (dt13)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.0217878799885511
c2	2.56489192906884e-06
c3	-1.58573071340484e-10
c4	5.29730254751398e-15
c5	-9.65521529370664e-20
c6	9.02560216351421e-25
c7	-3.38257320358722e-30

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-71
red low	-75
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.530 sofie detector_temp_14**Description**

Detector 14 Temperature (dt14)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.0217878799885511
c2	2.56489192906884e-06
c3	-1.58573071340484e-10
c4	5.29730254751398e-15
c5	-9.65521529370664e-20
c6	9.02560216351421e-25
c7	-3.38257320358722e-30

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-71
red low	-75
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.531 sofie detector_temp_15**Description**

Detector 15 Temperature (dt15)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.0217878799885511
c2	2.56489192906884e-06
c3	-1.58573071340484e-10
c4	5.29730254751398e-15
c5	-9.65521529370664e-20
c6	9.02560216351421e-25
c7	-3.38257320358722e-30

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-71
red low	-75
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.532 sofie detector_temp_16**Description**

Detector 16 Temperature (dt16)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.0217878799885511
c2	2.56489192906884e-06
c3	-1.58573071340484e-10
c4	5.29730254751398e-15
c5	-9.65521529370664e-20
c6	9.02560216351421e-25
c7	-3.38257320358722e-30

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-71
red low	-75
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.533 sofie detector_temp_2**Description**

Detector 2 Temperature (dt2)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.534 sofie detector_temp_3**Description**

Detector 3 Temperature (dt3)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.535 sofie detector_temp_4**Description**

Detector 4 Temperature (dt4)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.536 sofie detector_temp_5**Description**

Detector 5 Temperature (dt5)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.537 sofie detector_temp_6**Description**

Detector 6 Temperature (dt6)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.538 sofie detector_temp_7**Description**

Detector 7 Temperature (dt7)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.539 sofie detector_temp_8**Description**

Detector 8 Temperature (dt8)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.540 sofie detector_temp_9**Description**

Detector 9 Temperature (dt9)

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_7D
start	-32768
stop	32767
c0	30.8576354980469
c1	-0.00627892790362239
c2	2.13014956784718e-07
c3	-3.79525534263681e-12
c4	3.65373352800757e-17
c5	-1.91917501523053e-22
c6	5.17010452818661e-28
c7	-5.58394209033898e-34

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-46
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.541 sofie eng_data_err**Description**

Engineering Data Handler errors (0x4F)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.542 sofie free_run_time**Description**

Timestamp, Packet

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.543 sofie freeformspace**Description**

Free form data space

Data Type

3488 bits, fill, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.544 sofie hk_checksum**Description**

Checksum

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie hk (525)

E.545 sofie length**Description**

length of data dump

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie test_dump (544)

E.546 sofie lost_messages**Description**

Number of lost free format messages

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.547 sofie m1553_cmnd_err**Description**

1553 Command Handler errors (0x42)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.548 sofie m1553_data_err**Description**

1553 Data Handler errors (0x47)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	2
yellow high	1
yellow low	-1
red low	-2
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.549 sofie p384flg**Description**

SOFIE housekeeping packet header, segment flags

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.550 sofie p384hws**Description**

SOFIE housekeeping secondary header, seconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.551 sofie p384hwss**Description**

SOFIE housekeeping secondary header, subseconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.552 sofie p384lws**Description**

SOFIE housekeeping secondary header, seconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.553 sofie p384lwss**Description**

SOFIE housekeeping secondary header, subseconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.554 sofie p384pid**Description**

SOFIE housekeeping packet header, type and apid

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.555 sofie p384pl**Description**

SOFIE housekeeping packet header, packet length

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.556 sofie p384sct**Description**

SOFIE housekeeping packet header, sequence counter

Data Type

14 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie hk (525)

E.557 sofie p385flg**Description**

SOFIE science packet header, segment flags

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.558 sofie p385hws**Description**

SOFIE science secondary header, seconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.559 sofie p385hwss**Description**

SOFIE science secondary header, subseconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.560 sofie p385lws**Description**

SOFIE science secondary header, seconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.561 sofie p385lwss**Description**

SOFIE science secondary header, subseconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.562 sofie p385pid**Description**

SOFIE science packet header, type and apid

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.563 sofie p385pl**Description**

SOFIE science packet header, packet length

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.564 sofie p385sct**Description**

SOFIE science packet header, sequence counter

Data Type

14 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie sci (529)

E.565 sofie p386flg**Description**

SOFIE reserved 1 packet header, segment flags

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.566 sofie p386hws**Description**

SOFIE reserved 1 secondary header, seconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.567 sofie p386hwss**Description**

SOFIE reserved 1 secondary header, subseconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.568 sofie p386lws**Description**

SOFIE reserved 1 secondary header, seconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.569 sofie p386lwss**Description**

SOFIE reserved 1 secondary header, subseconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.570 sofie p386pid**Description**

SOFIE reserved 1 packet header, type and apid

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.571 sofie p386pl**Description**

SOFIE reserved 1 packet header, packet length

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.572 sofie p386sct**Description**

SOFIE reserved 1 packet header, sequence counter

Data Type

14 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie system_data (540)

E.573 sofie p387flg**Description**

SOFIE reserved 2 packet header, segment flags

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.574 sofie p387hws**Description**

SOFIE reserved 2 secondary header, seconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.575 sofie p387hwss**Description**

SOFIE reserved 2 secondary header, subseconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.576 sofie p387lws**Description**

SOFIE reserved 2 secondary header, seconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.577 sofie p387lwss**Description**

SOFIE reserved 2 secondary header, subseconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.578 sofie p387pid**Description**

SOFIE reserved 2 packet header, type and apid

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.579 sofie p387pl**Description**

SOFIE reserved 2 packet header, packet length

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.580 sofie p387sct**Description**

SOFIE reserved 2 packet header, sequence counter

Data Type

14 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie event_data (524)

E.581 sofie p388flg**Description**

SOFIE reserved 3 packet header, segment flags

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.582 sofie p388hws**Description**

SOFIE reserved 3 secondary header, seconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.583 sofie p388hwss**Description**

SOFIE reserved 3 secondary header, subseconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.584 sofie p388lws**Description**

SOFIE reserved 3 secondary header, seconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.585 sofie p388lwss**Description**

SOFIE reserved 3 secondary header, subseconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.586 sofie p388pid**Description**

SOFIE reserved 3 packet header, type and apid

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.587 sofie p388pl**Description**

SOFIE reserved 3 packet header, packet length

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.588 sofie p388sct**Description**

SOFIE reserved 3 packet header, sequence counter

Data Type

14 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie mem_dump (528)

E.589 sofie p389flg**Description**

SOFIE reserved 4 packet header, segment flags

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.590 sofie p389hws**Description**

SOFIE reserved 4 secondary header, seconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.591 sofie p389hwss**Description**

SOFIE reserved 4 secondary header, subseconds (high order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.592 sofie p389lws**Description**

SOFIE reserved 4 secondary header, seconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.593 sofie p389lwss**Description**

SOFIE reserved 4 secondary header, subseconds (low order)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.594 sofie p389pid**Description**

SOFIE reserved 4 packet header, type and apid

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.595 sofie p389pl**Description**

SOFIE reserved 4 packet header, packet length

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.596 sofie p389sct**Description**

SOFIE reserved 4 packet header, sequence counter

Data Type

14 bits, unsigned integer, engineering units = dn.

Measurement Source

SOFIE

Telemetry Source Packets

sofie test_dump (544)

E.597 sofie pkt_filler**Description**

sofie packet filler.

Data Type

7568 bits, character string, engineering units = any.

Measurement Source

software

Discussion

NOTE: This is a NON-FLIGHT ISIM-ONLY telemetry item.

Telemetry Source Packets

sofie event_data (524), sofie mem_dump (528)

E.598 sofie point_stabil_err**Description**

Pointing and Stabilization errors (0x87)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.599 sofie prt_volt_ref_1**Description**

PRT voltage reference channel 1 (ts16)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.600 sofie prt_volt_ref_2**Description**

PRT voltage reference channel 2 (ts32)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.601 sofie prt_volt_ref_3**Description**

PRT voltage reference channel 3 (ts48)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.602 sofie prt_volt_ref_4**Description**

PRT voltage reference channel 4 (ts64)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.603 sofie ref res 1380_ch1**Description**

”(INT) Reference resistor, 1.38 KOhms = 373 Kelvin (ts2)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	100
yellow high	98
yellow low	95
red low	93
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.604 sofie ref_res_1380_ch2**Description**

“(INT) Reference resistor, 1.38 KOhms = 373 Kelvin (ts18)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	100
yellow high	98
yellow low	95
red low	93
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.605 sofie ref_res_1380_ch3**Description**

”(INT) Reference resistor, 1.38 KOhms = 373 Kelvin (ts34)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	100
yellow high	98
yellow low	95
red low	93
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.606 sofie ref_res_1380_ch4**Description**

”(INT) Reference resistor, 1.38 KOhms = 373 Kelvin (ts50)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	100
yellow high	98
yellow low	95
red low	93
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.607 sofie ref_res_200_ch1**Description**

”(INT) Reference resistor, 200 Ohms = 77 Kelvin (ts1)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	-201
yellow high	-203
yellow low	-207
red low	-209
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.608 sofie ref_res_200_ch2**Description**

”(INT) Reference resistor, 200 Ohms = 77 Kelvin (ts17)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	-201
yellow high	-203
yellow low	-207
red low	-209
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.609 sofie ref_res_200_ch3**Description**

“(INT) Reference resistor, 200 Ohms = 77 Kelvin (ts33)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	-201
yellow high	-203
yellow low	-207
red low	-209
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.610 sofie ref_res_200_ch4**Description**

”(INT) Reference resistor, 200 Ohms = 77 Kelvin (ts49)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	-201
yellow high	-203
yellow low	-207
red low	-209
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.611 sofie reserved10**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.612 sofie reserved11**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.613 sofie reserved12**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.614 sofie reserved13**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.615 sofie reserved14**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.616 sofie reserved15**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.617 sofie reserved16**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.618 sofie reserved17**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.619 sofie reserved7**Description**

Reserved

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.620 sofie reserved8**Description**

Reserved

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.621 sofie reserved9**Description**

Reserved

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.622 sofie sci_data_err**Description**

Science Data Handler errors (0x50)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.623 sofie science_spare**Description**

unused

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.624 sofie ss_EH_FR_err**Description**

Sun Sensor Error Handling& Fault Response errors (0x85)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.625 sofie ss_I_T_err**Description**

Sun Sensor Init& Task Manager errors (0x81)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.626 sofie ss_ST_Diag_err**Description**

Sun Sensor Self-Test and Diagnostics errors (0x84)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.627 sofie ss_cmndexec_err**Description**

Sun Sensor Command Executor errors (0x86)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.628 sofie ss_critical_err**Description**

Sun Sensor Critical errors (0x80)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.629 sofie ss_data_acq_err**Description**

Sun Sensor Data Acquisition Handler errors (0x83)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.630 sofie ss_queue_err**Description**

Sun Sensor Queue Function errors (0x8A)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.631 sofie_ssb_comm_err**Description**

Sun Sensor Board Comm Handler errors (0x51)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.632 sofie_ssb_state_table0**Description**

SSB State& Event table word 0 (processing rate, etc.)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.633 sofie_ssb_state_table1**Description**

SSB State& Event table word 1 (subslice #)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.634 sofie_ssb_state_table2**Description**

SSB State& Event table word 2 (20 Hz Interrupt counter)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.635 sofie_ssb_state_table3**Description**

SSB State& Event table word 3 (modes)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.636 sofie_ssb_state_table4**Description**

SSB State& Event table word 4 (SS algorithm state)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.637 sofie ssb_taskm_stat_1**Description**

Interrupt count, SSB task manager status

Data Type

6 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.638 sofie ssb_taskm_stat_2**Description**

Mode, SSB task manager status

Data Type

4 bits, discrete state, engineering units = dn.

Measurement Source

sofie

State Conversions

state	value	desirability
SAFE	1	CAUTION
STANDBY	2	GOOD
SCIENCE	4	GOOD
QUIET	8	GOOD

Telemetry Source Packets

sofie system_data (540)

E.639 sofie ssb_taskm_stat_3**Description**

Sequence, SSB task manager status

Data Type

4 bits, discrete state, engineering units = dn.

Measurement Source

sofie

State Conversions

state	value	desirability
INIT	0	GOOD
POLLING	1	GOOD
LOAD	2	GOOD
TEST1	4	GOOD
TEST2	8	GOOD

Telemetry Source Packets

sofie system_data (540)

E.640 sofie ssb_taskm_stat_4**Description**

20 Hz & 1 Hz interrupt, SSB task manager status

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.641 sofie ssb_taskm_stat_5**Description**

Error, SSB task manager status

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.642 sofie ssb_taskm_stat_6**Description**

Timer, SSB task manager status

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.643 sofie ssb_taskm_stat_7**Description**

Quiet_100Hz, SSB task manager status

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.644 sofie ssb_taskm_stat_8**Description**

SSB, SSB task manager status

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.645 sofie ssb_taskm_stat_9**Description**

Int_5_0, SSB task manager status

Data Type

2 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.646 sofie start_address**Description**

start address of data dump

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie test_dump (544)

E.647 sofie steermirror_err**Description**

Steering Mirror Handler errors (0x88)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.648 sofie suntrack_err**Description**

Sun Tracking Algorithm errors (0x89)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	2
yellow high	1
yellow low	-1
red low	-2
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.649 sofie sync_ctrl_reg**Description**

Sync Control Register

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.650 sofie sync_fall_ps_1**Description**

Sync Rectifier #1 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	428
yellow low	408
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.651 sofie sync_fall_ps_10**Description**

Sync Rectifier #10 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	424
yellow low	404
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.652 sofie sync fall_ps_11**Description**

Sync Rectifier #11 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	422
yellow low	402
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.653 sofie sync fall_ps_12**Description**

Sync Rectifier #12 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	422
yellow low	402
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.654 sofie sync_fall_ps_13**Description**

Sync Rectifier #13 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	422
yellow low	402
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.655 sofie sync_fall_ps_14**Description**

Sync Rectifier #14 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	422
yellow low	402
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.656 sofie sync fall_ps_15**Description**

Sync Rectifier #15 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	422
yellow low	402
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.657 sofie sync fall_ps_16**Description**

Sync Rectifier #16 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	422
yellow low	402
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.658 sofie sync_fall_ps_2**Description**

Sync Rectifier #2 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	428
yellow low	408
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.659 sofie sync_fall_ps_3**Description**

Sync Rectifier #3 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	420
yellow low	400
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.660 sofie sync_fall_ps_4**Description**

Sync Rectifier #4 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	421
yellow low	401
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.661 sofie sync_fall_ps_5**Description**

Sync Rectifier #5 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	425
yellow low	405
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.662 sofie sync_fall_ps_6**Description**

Sync Rectifier #6 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	425
yellow low	405
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.663 sofie sync_fall_ps_7**Description**

Sync Rectifier #7 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	436
yellow low	416
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.664 sofie sync_fall_ps_8**Description**

Sync Rectifier #8 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	433
yellow low	413
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.665 sofie sync_fall_ps_9**Description**

Sync Rectifier #9 Falling Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	423
yellow low	403
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.666 sofie sync_pulse_width1**Description**

Sync Rectifier Pulse Width (microseconds)

Data Type

12 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.667 sofie sync_pulse_width2**Description**

Sync Rectifier Pulse Width (additional 83.33 nsec clock pulses)

Data Type

4 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie system_data (540)

E.668 sofie sync_rise_ps_1**Description**

Sync Rectifier #1 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	344
yellow low	324
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.669 sofie sync_rise_ps_10**Description**

Sync Rectifier #10 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	335
yellow low	315
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.670 sofie sync_rise_ps_11**Description**

Sync Rectifier #11 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	337
yellow low	317
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.671 sofie sync_rise_ps_12**Description**

Sync Rectifier #12 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	335
yellow low	315
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.672 sofie sync_rise_ps_13**Description**

Sync Rectifier #13 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	337
yellow low	317
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.673 sofie sync_rise_ps_14**Description**

Sync Rectifier #14 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	337
yellow low	317
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.674 sofie sync_rise_ps_15**Description**

Sync Rectifier #15 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	336
yellow low	316
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.675 sofie sync_rise_ps_16**Description**

Sync Rectifier #16 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	336
yellow low	316
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.676 sofie sync_rise_ps_2**Description**

Sync Rectifier #2 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	344
yellow low	324
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.677 sofie sync_rise_ps_3**Description**

Sync Rectifier #3 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	334
yellow low	314
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.678 sofie sync_rise_ps_4**Description**

Sync Rectifier #4 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	332
yellow low	312
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.679 sofie sync_rise_ps_5**Description**

Sync Rectifier #5 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	333
yellow low	313
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.680 sofie sync_rise_ps_6**Description**

Sync Rectifier #6 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	335
yellow low	315
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.681 sofie sync_rise_ps_7**Description**

Sync Rectifier #7 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	333
yellow low	313
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.682 sofie sync_rise_ps_8**Description**

Sync Rectifier #8 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	338
yellow low	318
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.683 sofie sync_rise_ps_9**Description**

Sync Rectifier #9 Rising Edge Phase Shift

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	65535
yellow high	335
yellow low	315
red low	-65535
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.684 sofie sys_critical_err**Description**

System Critical errors (0x00)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.685 sofie tec_ctrl_err**Description**

Thermo-Electric Coolers Control errors (0x49)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.686 sofie tec_volt_ref_1**Description**

TEC voltage reference channel 1 (ts14)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.687 sofie tec_volt_ref_2**Description**

TEC voltage reference channel 2 (ts15)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.688 sofie tec_volt_ref_3**Description**

TEC voltage reference channel 3 (ts30)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.689 sofie tec_volt_ref_4**Description**

TEC voltage reference channel 4 (ts31)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.690 sofie tec_volt_ref_5**Description**

TEC voltage reference channel 5 (ts46)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.691 sofie tec_volt_ref_6**Description**

TEC voltage reference channel 6 (ts47)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.692 sofie tec_volt_ref_7**Description**

TEC voltage reference channel 7 (ts62)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.693 sofie tec_volt_ref_8**Description**

TEC voltage reference channel 8 (ts63)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00011444091796875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.694 sofie temp_aft_optic1**Description**

”(EXT) temperature sensor, Aft optics bench #1 (ts22)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.695 sofie temp_aft_optic2**Description**

”(EXT) temperature sensor, Aft optics bench #2 (ts41)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.696 sofie temp_aft_optic3**Description**

”(EXT) temperature sensor, Aft optics bench #3 (ts57)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.697 sofie temp_apt_housing**Description**

“(EXT) temperature sensor, Sterring mirror housing top (ts54)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.698 sofie temp_base_deck**Description**

”(EXT) temperature sensor, Base deck plate (ts42)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.699 sofie temp_cable_blkhd**Description**

”(EXT) temperature sensor, Upper cable bulkhead (ts20)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.700 sofie temp_cdh_pcb**Description**

”(INT) temperature sensor, &DH PCB (ts12)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.701 sofie temp_chop_pcb**Description**

”(INT) temperature sensor, Chopper PCB (ts44)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.702 sofie temp_cover_hinge**Description**

“(EXT) temperature sensor, Aperature cover base frame (ts51)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.703 sofie temp_csm_bmsplit**Description**

”(EXT) temperature sensor, CSM beamsplitter assembly (ts10)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.704 sofie temp_datacq_pcb1**Description**

”(INT) temperature sensor, Data acquisition PCB #1 (ts13)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.705 sofie temp_datacq_pcb2**Description**

”(INT) temperature sensor, Data acquisition PCB #2 (ts45)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.706 sofie temp_ebox_base1**Description**

”(INT) temperature sensor, Electronics box baseplate #1 (ts11)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	70
yellow high	65
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.707 sofie temp_ebox_base2**Description**

"(INT) temperature sensor, Electronics box baseplate #2 (ts43)"

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	70
yellow high	65
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.708 sofie temp_far_optics**Description**

”(EXT) temperature sensor, CSM far optics module (ts25)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.709 sofie temp_fore_optic1**Description**

”(EXT) temperature sensor, Fore optics bench #1 (ts6)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.710 sofie temp_fore_optic2**Description**

”(EXT) temperature sensor, Fore optics bench #2 (ts52)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.711 sofie temp_fore_optic3**Description**

”(EXT) temperature sensor, Blueline electronics box (ts35)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.712 sofie temp_mid_optics**Description**

“(EXT) temperature sensor, Mid optics housing (ts36)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.713 sofie temp_near_optics**Description**

”(EXT) temperature sensor, CSM near optics module (ts9)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.714 sofie temp_ohb_10_12**Description**

”(EXT) temperature sensor, Optics housing bands 10 and 12 (ts39)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.715 sofie temp_ohb_13_15**Description**

”(EXT) temperature sensor, Optics housing bands 13 and 15 (ts40)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.716 sofie temp_ohb_14_16**Description**

”(EXT) temperature sensor, Optics housing bands 14 and 16 (ts24)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.717 sofie temp_ohb_1_3**Description**

“(EXT) temperature,sensor, Optics housing bands 1 and 3 (ts7)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.718 sofie temp_ohb_2_4**Description**

”(EXT) temperature sensor, Optics housing bands 2 and 4 (ts56)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.719 sofie temp_ohb_5_7**Description**

”(EXT) temperature sensor, Optics housing bands 5 and 7 (ts55)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.720 sofie temp_ohb_6_8**Description**

”(EXT) temperature sensor, Optics housing bands 6 and 8 (ts8)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.721 sofie temp_ohb_9_11**Description**

”(EXT) temperature sensor, Optics housing bands 9 and 11 (ts23)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.722 sofie temp_pin_puller**Description**

“(EXT) temperature sensor, Pin puller (ts4)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.723 sofie temp_rad_center**Description**

”(EXT) temperature sensor, Radiator center (ts37)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	60
yellow high	55
yellow low	-90
red low	-95
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.724 sofie temp_rad_top**Description**

”(EXT) temperature sensor, Radiator top (ts5)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	60
yellow high	55
yellow low	-90
red low	-95
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.725 sofie temp_sigcon_tec1**Description**

”(INT) temperature sensor, Signal Conditioning / TEC PCB #1 (ts27)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.726 sofie temp_sigcon_tec2**Description**

”(INT) temperature sensor, Signal Conditioning / TEC PCB #2 (ts28)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.727 sofie temp_sigcon_tec3**Description**

"(INT) temperature sensor, Signal Conditioning / TEC PCB #3 (ts59)"

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.728 sofie temp_sigcon_tec4**Description**

”(INT) temperature sensor, Signal Conditioning / TEC PCB #4 (ts60)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.729 sofie temp_spare_38**Description**

”(EXT) temperature sensor, Spare (ts38)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Telemetry Source Packets

sofie hk (525)

E.730 sofie temp_ss_module**Description**

”(EXT) temperature sensor, Sun sensor module (ts53)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-39
red low	-42
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.731 sofie temp_ss_pcb**Description**

“(EXT) temperature sensor, Sun sensor PCB (ts21)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-39
red low	-42
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.732 sofie temp_ssg_pcb**Description**

”(INT) temperature sensor, SSG Mirror amplifier PCB (ts26)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.733 sofie temp_ssg_servo**Description**

”(INT) temperature sensor, SSG Servo I/O PCB (ts58)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	75
yellow high	70
yellow low	-45
red low	-50
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.734 sofie temp_steer_base**Description**

”(EXT) temperature sensor, Steering mirror base (ts19)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.735 sofie temp_steer_mirr**Description**

”(EXT) temperature sensor, Steering mirror motor coil (ts3)”

Data Type

16 bits, signed integer, engineering units = C.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	-256.033325195312
c1	0.0117182433605194
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	50
yellow high	45
yellow low	-60
red low	-65
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.736 sofie timed_cmnd_err**Description**

Timed Command Processor errors (0x4C)

Data Type

32 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Limits

alarm	limit
red high	1
yellow high	1
yellow low	-1
red low	-1
delta	<i>none</i>

Telemetry Source Packets

sofie system_data (540)

E.737 sofie timestamp_wd2**Description**

Timestamp, (Absolute Time, Word 2)

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie hk (525)

E.738 sofie timestamp_wd3**Description**

”Timestamp, (Absolute Time, Word 3)”

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie hk (525)

E.739 sofie type_identifier**Description**

type of data dump

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie test_dump (544)

E.740 sofie unused**Description**

unused

Data Type

16 bits, unsigned integer, engineering units = dn.

Measurement Source

sofie

Telemetry Source Packets

sofie sci (529)

E.741 sofie volts_m12v_inst**Description**

PS Voltage Monitor -12V.I (ps2)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.000459594739368185
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	-11.3000001907349
yellow high	-11.6000003814697
yellow low	-12.3999996185303
red low	-12.6999998092651
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.742 sofie volts_m12v_sm**Description**

PS Voltage Monitor -12V_SM (ps10)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.000459594739368185
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	-11.1000003814697
yellow high	-11.3999996185303
yellow low	-12.6000003814697
red low	-12.8999996185303
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.743 sofie volts_p12v_inst**Description**

PS Voltage Monitor +12V_I (ps1)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.000459594739368185
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	12.6999998092651
yellow high	12.3999996185303
yellow low	11.6000003814697
red low	11.3000001907349
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.744 sofie volts_p12v_sm**Description**

PS Voltage Monitor +12V_SM (ps9)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions

Segment 1

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.000459594739368185
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	12.8999996185303
yellow high	12.6000003814697
yellow low	11.3999996185303
red low	11.1000003814697
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.745 sofie volts_p2_5v_fpga**Description**

PS Voltage Monitor +2.5V FPGA (ps14)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00018310546875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	2.70000004768372
yellow high	2.59999990463257
yellow low	2.40000009536743
red low	2.29999995231628
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.746 sofie volts_p3_3v_tec**Description**

PS Voltage Monitor +3.3V TEC (ps6)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00018310546875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	3.59999990463257
yellow high	3.5
yellow low	3.09999990463257
red low	3
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.747 sofie volts_p3_3v_tec2**Description**

PS Voltage Monitor +3.3V TEC V2 (ps13)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00018310546875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	3.59999990463257
yellow high	3.5
yellow low	3.09999990463257
red low	3
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

E.748 sofie volts_p5v**Description**

PS Voltage Monitor +5V (ps5)

Data Type

16 bits, signed integer, engineering units = V.

Measurement Source

sofie

Analog Conversions**Segment 1**

type	UNSEGMENTED_5D
start	-32768
stop	32767
c0	0
c1	0.00018310546875
c2	0
c3	0
c4	0
c5	0
c6	0
c7	0

Limits

alarm	limit
red high	5.40000009536743
yellow high	5.19999980926514
yellow low	4.80000019073486
red low	4.59999990463257
delta	<i>none</i>

Telemetry Source Packets

sofie hk (525)

F

Telemetry Packet List

OASIS-CC/FSW database version TBD, Wed Feb 14 14:59:11 2007.

F.1 sofie event_data

Packet Source Application Identifier

0x183 (387)

OASIS Stream Name

sofie387

Description

sofie reserved packet.

Discussion

SOFIE event data packet. Default Packet Production Status: Packets produced asynchronously on command.

Format

Packet **sofie event_data** Format

start bit	stop bit	size bits	field	control	method
0	15	16	sofie p387pid (424)	–	–
16	17	2	sofie p387flg (422)	–	–
18	31	14	sofie p387sct (425)	–	–
32	47	16	sofie p387pl (424)	–	–
48	63	16	sofie p387hws (423)	–	–
64	79	16	sofie p387lws (423)	–	–
80	95	16	sofie p387hwss (423)	–	–
96	111	16	sofie p387lwss (424)	–	–
112	7679	7568	sofie pkt.filler (430)	–	–

Packet size = 7680 bits (960 bytes) .

F.2 sofie hk

Packet Source Application Identifier

0x180 (384)

OASIS Stream Name

sofie384

Description

sofie housekeeping.

Discussion

SOFIE software status: state, counters, etc and hardware housekeeping values: temperatures, voltages, etc..

Default Packet Production Status:

Packets produced every TBS seconds.

Format

Packet **sofie hk** Format

start bit	stop bit	size bits	field	control	method
0	15	16	sofie p384pid (416)	–	–
16	17	2	sofie p384flg (414)	–	–
18	31	14	sofie p384sct (417)	–	–
32	47	16	sofie p384pl (416)	–	–
48	63	16	sofie p384hws (415)	–	–
64	79	16	sofie p384lws (415)	–	–
80	95	16	sofie p384hwss (415)	–	–
96	111	16	sofie p384lwss (416)	–	–
112	127	16	sofie timestamp_wd2 (514)	–	–
128	143	16	sofie timestamp_wd3 (514)	–	–
144	159	16	sofie detector_temp_1 (399)	–	–
160	175	16	sofie detector_temp_5 (407)	–	–
176	191	16	sofie detector_temp_9 (411)	–	–
192	207	16	sofie detector_temp_13 (402)	–	–
208	223	16	sofie ref_res_200_ch1 (437)	–	–
224	239	16	sofie ref_res_200_ch2 (438)	–	–
240	255	16	sofie ref_res_200_ch3 (439)	–	–
256	271	16	sofie ref_res_200_ch4 (440)	–	–
272	287	16	sofie detector_temp_2 (405)	–	–
288	303	16	sofie detector_temp_6 (408)	–	–
304	319	16	sofie detector_temp_10 (399)	–	–
320	335	16	sofie detector_temp_14 (403)	–	–
336	351	16	sofie ref_res_1380_ch1 (434)	–	–
352	367	16	sofie ref_res_1380_ch2 (435)	–	–
368	383	16	sofie ref_res_1380_ch3 (436)	–	–
384	399	16	sofie ref_res_1380_ch4 (437)	–	–
400	415	16	sofie detector_temp_3 (406)	–	–
416	431	16	sofie detector_temp_7 (409)	–	–

Packet **sofie hk** Format, cont'd

start bit	stop bit	size bits	field		
432	447	16	sofie detector_temp_11 (400)	–	–
448	463	16	sofie detector_temp_15 (403)	–	–
464	479	16	sofie temp_steer_mirr (512)	–	–
480	495	16	sofie temp_steer_base (511)	–	–
496	511	16	sofie temp_fore_optic3 (493)	–	–
512	527	16	sofie temp_cover_hinge (486)	–	–
528	543	16	sofie detector_temp_4 (407)	–	–
544	559	16	sofie detector_temp_8 (410)	–	–
560	575	16	sofie detector_temp_12 (401)	–	–
576	591	16	sofie detector_temp_16 (404)	–	–
592	607	16	sofie temp_pin_puller (502)	–	–
608	623	16	sofie temp_cable_blkhd (484)	–	–
624	639	16	sofie temp_mid_optics (494)	–	–
640	655	16	sofie temp_fore_optic2 (492)	–	–
656	671	16	sofie volts_p12v_inst (516)	–	–
672	687	16	sofie volts_p5v (520)	–	–
688	703	16	sofie volts_p12v_sm (517)	–	–
704	719	16	sofie volts_p3_3v_tec2 (520)	–	–
720	735	16	sofie temp_rad_top (504)	–	–
736	751	16	sofie temp_ss_pcb (509)	–	–
752	767	16	sofie temp_rad_center (503)	–	–
768	783	16	sofie temp_ss_module (508)	–	–
784	799	16	sofie volts_m12v_inst (515)	–	–
800	815	16	sofie volts_p3_3v_tec (519)	–	–
816	831	16	sofie volts_m12v_sm (516)	–	–
832	847	16	sofie volts_p2_5v_fpga (518)	–	–
848	863	16	sofie temp_fore_optic1 (492)	–	–
864	879	16	sofie temp_aft_optic1 (480)	–	–
880	895	16	sofie temp_spare_38 (508)	–	–
896	911	16	sofie temp_apr_housing (482)	–	–
912	927	16	sofie curr_p12v_inst (393)	–	–
928	943	16	sofie curr_p5v (397)	–	–
944	959	16	sofie curr_p12v_sm (394)	–	–
960	975	16	sofie curr_p3_3v_tec2 (396)	–	–
976	991	16	sofie temp_ohb_1_3 (498)	–	–
992	1007	16	sofie temp_ohb_9_11 (501)	–	–
1008	1023	16	sofie temp_ohb_10_12 (496)	–	–
1024	1039	16	sofie temp_ohb_5_7 (500)	–	–
1040	1055	16	sofie curr_m12v_inst (391)	–	–
1056	1071	16	sofie curr_p3_3v_tec (395)	–	–
1072	1087	16	sofie curr_m12v_sm (392)	–	–
1088	1103	16	sofie curr_p2_5v_fpga (395)	–	–
1104	1119	16	sofie temp_ohb_6_8 (500)	–	–
1120	1135	16	sofie temp_ohb_14_16 (497)	–	–
1136	1151	16	sofie temp_ohb_13_15 (496)	–	–
1152	1167	16	sofie temp_ohb_2_4 (499)	–	–
1168	1183	16	sofie temp_near_optics (495)	–	–

Packet **sofie hk** Format, cont'd

start bit	stop bit	size bits	field		
1184	1199	16	sofie temp_far_optics (491)	–	–
1200	1215	16	sofie temp_aft_optic2 (480)	–	–
1216	1231	16	sofie temp_aft_optic3 (481)	–	–
1232	1247	16	sofie temp_csm_bmsplit (487)	–	–
1248	1263	16	sofie temp_ssg_pcb (510)	–	–
1264	1279	16	sofie temp_base_deck (483)	–	–
1280	1295	16	sofie temp_ssg_servo (511)	–	–
1296	1311	16	sofie temp_ebox_base1 (489)	–	–
1312	1327	16	sofie temp_sigcon_tec1 (504)	–	–
1328	1343	16	sofie temp_ebox_base2 (490)	–	–
1344	1359	16	sofie temp_sigcon_tec3 (506)	–	–
1360	1375	16	sofie temp_cdh_pcb (484)	–	–
1376	1391	16	sofie temp_sigcon_tec2 (505)	–	–
1392	1407	16	sofie temp_chop_pcb (485)	–	–
1408	1423	16	sofie temp_sigcon_tec4 (507)	–	–
1424	1439	16	sofie temp_datacq_pcb1 (488)	–	–
1440	1455	16	sofie chop_health_rt (388)	–	–
1456	1471	16	sofie temp_datacq_pcb2 (488)	–	–
1472	1487	16	sofie chop_health_left (387)	–	–
1488	1503	16	sofie tec_volt_ref_1 (473)	–	–
1504	1519	16	sofie tec_volt_ref_3 (475)	–	–
1520	1535	16	sofie tec_volt_ref_5 (476)	–	–
1536	1551	16	sofie tec_volt_ref_7 (478)	–	–
1552	1567	16	sofie tec_volt_ref_2 (474)	–	–
1568	1583	16	sofie tec_volt_ref_4 (476)	–	–
1584	1599	16	sofie tec_volt_ref_6 (477)	–	–
1600	1615	16	sofie tec_volt_ref_8 (479)	–	–
1616	1631	16	sofie prt_volt_ref_1 (431)	–	–
1632	1647	16	sofie prt_volt_ref_2 (432)	–	–
1648	1663	16	sofie prt_volt_ref_3 (433)	–	–
1664	1679	16	sofie prt_volt_ref_4 (433)	–	–
1680	1695	16	sofie hk_checksum (412)	–	–

Packet size = 1696 bits (212 bytes) .

F.3 sofie mem_dump

Packet Source Application Identifier

0x184 (388)

OASIS Stream Name

sofie388

Description

sofie memory dump packet.

Discussion

SOFIE memory dump packet.

Default Packet Production Status:

Packets produced asynchronously on command.

Format

Packet **sofie mem_dump** Format

start bit	stop bit	size bits	field	control	method
0	15	16	sofie p388pid (427)	–	–
16	17	2	sofie p388flg (425)	–	–
18	31	14	sofie p388sct (427)	–	–
32	47	16	sofie p388pl (427)	–	–
48	63	16	sofie p388hws (425)	–	–
64	79	16	sofie p388lws (426)	–	–
80	95	16	sofie p388hwss (426)	–	–
96	111	16	sofie p388lwss (426)	–	–
112	7679	7568	sofie pkt_filler (430)	–	–

Packet size = 7680 bits (960 bytes) .

F.4 sofie sci

Packet Source Application Identifier

0x181 (385)

OASIS Stream Name

sofie385

Description

sofie science packet.

Discussion

Contains SOFIE science detector data and corresponding instrument configuration.

Default Packet Production Status:

Enabled and produced synchronously after enough SOFIE cycles have completed such that the packet is full.

Format

Packet **sofie sci** Format

start bit	stop bit	size bits	field	control	method
0	15	16	sofie p385pid (419)	–	–
16	17	2	sofie p385flg (417)	–	–
18	31	14	sofie p385sct (419)	–	–
32	47	16	sofie p385pl (419)	–	–
48	63	16	sofie p385hws (417)	–	–
64	79	16	sofie p385lws (418)	–	–
80	95	16	sofie p385hwss (418)	–	–
96	111	16	sofie p385lwss (418)	–	–
112	127	16	sofie free_run_time (412)	–	–
128	143	16	sofie science_spare (445)	–	–
144	159	16	sofie A.TIME_Det (189)	–	–
160	175	16	sofie A.Det.V01 (161)	–	–
176	191	16	sofie A.Det.V02 (162)	–	–
192	207	16	sofie A.Det.V03 (162)	–	–
208	223	16	sofie A.Det.V04 (163)	–	–
224	239	16	sofie A.Det.V05 (164)	–	–
240	255	16	sofie A.Det.V06 (164)	–	–
256	271	16	sofie A.Det.V07 (165)	–	–
272	287	16	sofie A.Det.V08 (166)	–	–
288	303	16	sofie A.Det.V09 (166)	–	–
304	319	16	sofie A.Det.V10 (167)	–	–
320	335	16	sofie A.Det.V11 (168)	–	–
336	351	16	sofie A.Det.V12 (168)	–	–
352	367	16	sofie A.Det.V13 (169)	–	–
368	383	16	sofie A.Det.V14 (170)	–	–
384	399	16	sofie A.Det.V15 (170)	–	–
400	415	16	sofie A.Det.V16 (171)	–	–
416	431	16	sofie A.Det.V17 (172)	–	–

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
432	447	16	sofie A_Det_V18 (172)	--	--
448	463	16	sofie A_Det_V19 (173)	--	--
464	479	16	sofie A_Det_V20 (174)	--	--
480	495	16	sofie A_Det_V21 (174)	--	--
496	511	16	sofie A_Det_V22 (175)	--	--
512	527	16	sofie A_Det_V23 (176)	--	--
528	543	16	sofie A_Det_V24 (176)	--	--
544	559	16	sofie B_TIME_Det (219)	--	--
560	575	16	sofie B_Det_V01 (191)	--	--
576	591	16	sofie B_Det_V02 (192)	--	--
592	607	16	sofie B_Det_V03 (193)	--	--
608	623	16	sofie B_Det_V04 (193)	--	--
624	639	16	sofie B_Det_V05 (194)	--	--
640	655	16	sofie B_Det_V06 (195)	--	--
656	671	16	sofie B_Det_V07 (195)	--	--
672	687	16	sofie B_Det_V08 (196)	--	--
688	703	16	sofie B_Det_V09 (197)	--	--
704	719	16	sofie B_Det_V10 (197)	--	--
720	735	16	sofie B_Det_V11 (198)	--	--
736	751	16	sofie B_Det_V12 (199)	--	--
752	767	16	sofie B_Det_V13 (199)	--	--
768	783	16	sofie B_Det_V14 (200)	--	--
784	799	16	sofie B_Det_V15 (201)	--	--
800	815	16	sofie B_Det_V16 (201)	--	--
816	831	16	sofie B_Det_V17 (202)	--	--
832	847	16	sofie B_Det_V18 (203)	--	--
848	863	16	sofie B_Det_V19 (203)	--	--
864	879	16	sofie B_Det_V20 (204)	--	--
880	895	16	sofie B_Det_V21 (205)	--	--
896	911	16	sofie B_Det_V22 (205)	--	--
912	927	16	sofie B_Det_V23 (206)	--	--
928	943	16	sofie B_Det_V24 (207)	--	--
944	959	16	sofie C_TIME_Det (249)	--	--
960	975	16	sofie C_Det_V01 (222)	--	--
976	991	16	sofie C_Det_V02 (222)	--	--
992	1007	16	sofie C_Det_V03 (223)	--	--
1008	1023	16	sofie C_Det_V04 (224)	--	--
1024	1039	16	sofie C_Det_V05 (224)	--	--
1040	1055	16	sofie C_Det_V06 (225)	--	--
1056	1071	16	sofie C_Det_V07 (226)	--	--
1072	1087	16	sofie C_Det_V08 (226)	--	--
1088	1103	16	sofie C_Det_V09 (227)	--	--
1104	1119	16	sofie C_Det_V10 (228)	--	--
1120	1135	16	sofie C_Det_V11 (228)	--	--
1136	1151	16	sofie C_Det_V12 (229)	--	--
1152	1167	16	sofie C_Det_V13 (230)	--	--
1168	1183	16	sofie C_Det_V14 (230)	--	--

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
1184	1199	16	sofie C_Det_V15 (231)	--	--
1200	1215	16	sofie C_Det_V16 (232)	--	--
1216	1231	16	sofie C_Det_V17 (232)	--	--
1232	1247	16	sofie C_Det_V18 (233)	--	--
1248	1263	16	sofie C_Det_V19 (234)	--	--
1264	1279	16	sofie C_Det_V20 (234)	--	--
1280	1295	16	sofie C_Det_V21 (235)	--	--
1296	1311	16	sofie C_Det_V22 (236)	--	--
1312	1327	16	sofie C_Det_V23 (236)	--	--
1328	1343	16	sofie C_Det_V24 (237)	--	--
1344	1359	16	sofie D_TIME_Det (280)	--	--
1360	1375	16	sofie D_Det_V01 (252)	--	--
1376	1391	16	sofie D_Det_V02 (253)	--	--
1392	1407	16	sofie D_Det_V03 (253)	--	--
1408	1423	16	sofie D_Det_V04 (254)	--	--
1424	1439	16	sofie D_Det_V05 (255)	--	--
1440	1455	16	sofie D_Det_V06 (255)	--	--
1456	1471	16	sofie D_Det_V07 (256)	--	--
1472	1487	16	sofie D_Det_V08 (257)	--	--
1488	1503	16	sofie D_Det_V09 (257)	--	--
1504	1519	16	sofie D_Det_V10 (258)	--	--
1520	1535	16	sofie D_Det_V11 (259)	--	--
1536	1551	16	sofie D_Det_V12 (259)	--	--
1552	1567	16	sofie D_Det_V13 (260)	--	--
1568	1583	16	sofie D_Det_V14 (261)	--	--
1584	1599	16	sofie D_Det_V15 (261)	--	--
1600	1615	16	sofie D_Det_V16 (262)	--	--
1616	1631	16	sofie D_Det_V17 (263)	--	--
1632	1647	16	sofie D_Det_V18 (263)	--	--
1648	1663	16	sofie D_Det_V19 (264)	--	--
1664	1679	16	sofie D_Det_V20 (265)	--	--
1680	1695	16	sofie D_Det_V21 (265)	--	--
1696	1711	16	sofie D_Det_V22 (266)	--	--
1712	1727	16	sofie D_Det_V23 (267)	--	--
1728	1743	16	sofie D_Det_V24 (267)	--	--
1744	1759	16	sofie E_TIME_Det (310)	--	--
1760	1775	16	sofie E_Det_V01 (282)	--	--
1776	1791	16	sofie E_Det_V02 (283)	--	--
1792	1807	16	sofie E_Det_V03 (284)	--	--
1808	1823	16	sofie E_Det_V04 (284)	--	--
1824	1839	16	sofie E_Det_V05 (285)	--	--
1840	1855	16	sofie E_Det_V06 (286)	--	--
1856	1871	16	sofie E_Det_V07 (286)	--	--
1872	1887	16	sofie E_Det_V08 (287)	--	--
1888	1903	16	sofie E_Det_V09 (288)	--	--
1904	1919	16	sofie E_Det_V10 (288)	--	--
1920	1935	16	sofie E_Det_V11 (289)	--	--

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
1936	1951	16	sofie E_Det_V12 (290)	--	--
1952	1967	16	sofie E_Det_V13 (290)	--	--
1968	1983	16	sofie E_Det_V14 (291)	--	--
1984	1999	16	sofie E_Det_V15 (292)	--	--
2000	2015	16	sofie E_Det_V16 (292)	--	--
2016	2031	16	sofie E_Det_V17 (293)	--	--
2032	2047	16	sofie E_Det_V18 (294)	--	--
2048	2063	16	sofie E_Det_V19 (294)	--	--
2064	2079	16	sofie E_Det_V20 (295)	--	--
2080	2095	16	sofie E_Det_V21 (296)	--	--
2096	2111	16	sofie E_Det_V22 (296)	--	--
2112	2127	16	sofie E_Det_V23 (297)	--	--
2128	2143	16	sofie E_Det_V24 (298)	--	--
2144	2159	16	sofie F_TIME_Det (340)	--	--
2160	2175	16	sofie F_Det_V01 (313)	--	--
2176	2191	16	sofie F_Det_V02 (313)	--	--
2192	2207	16	sofie F_Det_V03 (314)	--	--
2208	2223	16	sofie F_Det_V04 (315)	--	--
2224	2239	16	sofie F_Det_V05 (315)	--	--
2240	2255	16	sofie F_Det_V06 (316)	--	--
2256	2271	16	sofie F_Det_V07 (317)	--	--
2272	2287	16	sofie F_Det_V08 (317)	--	--
2288	2303	16	sofie F_Det_V09 (318)	--	--
2304	2319	16	sofie F_Det_V10 (319)	--	--
2320	2335	16	sofie F_Det_V11 (319)	--	--
2336	2351	16	sofie F_Det_V12 (320)	--	--
2352	2367	16	sofie F_Det_V13 (321)	--	--
2368	2383	16	sofie F_Det_V14 (321)	--	--
2384	2399	16	sofie F_Det_V15 (322)	--	--
2400	2415	16	sofie F_Det_V16 (323)	--	--
2416	2431	16	sofie F_Det_V17 (323)	--	--
2432	2447	16	sofie F_Det_V18 (324)	--	--
2448	2463	16	sofie F_Det_V19 (325)	--	--
2464	2479	16	sofie F_Det_V20 (325)	--	--
2480	2495	16	sofie F_Det_V21 (326)	--	--
2496	2511	16	sofie F_Det_V22 (327)	--	--
2512	2527	16	sofie F_Det_V23 (327)	--	--
2528	2543	16	sofie F_Det_V24 (328)	--	--
2544	2559	16	sofie G_TIME_Det (371)	--	--
2560	2575	16	sofie G_Det_V01 (343)	--	--
2576	2591	16	sofie G_Det_V02 (344)	--	--
2592	2607	16	sofie G_Det_V03 (344)	--	--
2608	2623	16	sofie G_Det_V04 (345)	--	--
2624	2639	16	sofie G_Det_V05 (346)	--	--
2640	2655	16	sofie G_Det_V06 (346)	--	--
2656	2671	16	sofie G_Det_V07 (347)	--	--
2672	2687	16	sofie G_Det_V08 (348)	--	--

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
2688	2703	16	sofie G_Det_V09 (348)	--	--
2704	2719	16	sofie G_Det_V10 (349)	--	--
2720	2735	16	sofie G_Det_V11 (350)	--	--
2736	2751	16	sofie G_Det_V12 (350)	--	--
2752	2767	16	sofie G_Det_V13 (351)	--	--
2768	2783	16	sofie G_Det_V14 (352)	--	--
2784	2799	16	sofie G_Det_V15 (352)	--	--
2800	2815	16	sofie G_Det_V16 (353)	--	--
2816	2831	16	sofie G_Det_V17 (354)	--	--
2832	2847	16	sofie G_Det_V18 (354)	--	--
2848	2863	16	sofie G_Det_V19 (355)	--	--
2864	2879	16	sofie G_Det_V20 (356)	--	--
2880	2895	16	sofie G_Det_V21 (356)	--	--
2896	2911	16	sofie G_Det_V22 (357)	--	--
2912	2927	16	sofie G_Det_V23 (358)	--	--
2928	2943	16	sofie G_Det_V24 (358)	--	--
2944	2959	16	sofie A.TIME.TkA (190)	--	--
2960	2975	16	sofie A.TkA.LwX (191)	--	--
2976	2991	16	sofie A.TkA.HiX (190)	--	--
2992	3007	16	sofie A.TkA.LwY (191)	--	--
3008	3023	16	sofie A.TkA.HiY (190)	--	--
3024	3039	16	sofie A.PnS.DME (177)	--	--
3040	3055	16	sofie A.PnS.DMA (177)	--	--
3056	3071	16	sofie A.TIME.PnS (189)	--	--
3072	3087	16	sofie A.SMA.AME (178)	--	--
3088	3103	16	sofie A.SMA.AMA (178)	--	--
3104	3119	16	sofie B.TIME.TkA (220)	--	--
3120	3135	16	sofie B.TkA.LwX (221)	--	--
3136	3151	16	sofie B.TkA.HiX (220)	--	--
3152	3167	16	sofie B.TkA.LwY (221)	--	--
3168	3183	16	sofie B.TkA.HiY (221)	--	--
3184	3199	16	sofie B.PnS.DME (208)	--	--
3200	3215	16	sofie B.PnS.DMA (207)	--	--
3216	3231	16	sofie B.TIME.PnS (220)	--	--
3232	3247	16	sofie B.SMA.AME (208)	--	--
3248	3263	16	sofie B.SMA.AMA (208)	--	--
3264	3279	16	sofie C.TIME.TkA (250)	--	--
3280	3295	16	sofie C.TkA.LwX (251)	--	--
3296	3311	16	sofie C.TkA.HiX (251)	--	--
3312	3327	16	sofie C.TkA.LwY (252)	--	--
3328	3343	16	sofie C.TkA.HiY (251)	--	--
3344	3359	16	sofie C.PnS.DME (238)	--	--
3360	3375	16	sofie C.PnS.DMA (238)	--	--
3376	3391	16	sofie C.TIME.PnS (250)	--	--
3392	3407	16	sofie C.SMA.AME (239)	--	--
3408	3423	16	sofie C.SMA.AMA (238)	--	--
3424	3439	16	sofie D.TIME.TkA (281)	--	--

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
3440	3455	16	sofie D.TkA.LwX (282)	–	–
3456	3471	16	sofie D.TkA.HiX (281)	–	–
3472	3487	16	sofie D.TkA.LwY (282)	–	–
3488	3503	16	sofie D.TkA.HiY (281)	–	–
3504	3519	16	sofie D.PnS.DME (268)	–	–
3520	3535	16	sofie D.PnS.DMA (268)	–	–
3536	3551	16	sofie D.TIME.PnS (280)	–	–
3552	3567	16	sofie D.SMA.AME (269)	–	–
3568	3583	16	sofie D.SMA.AMA (269)	–	–
3584	3599	16	sofie E.TIME.TkA (311)	–	–
3600	3615	16	sofie E.TkA.LwX (312)	–	–
3616	3631	16	sofie E.TkA.HiX (311)	–	–
3632	3647	16	sofie E.TkA.LwY (312)	–	–
3648	3663	16	sofie E.TkA.HiY (312)	–	–
3664	3679	16	sofie E.PnS.DME (299)	–	–
3680	3695	16	sofie E.PnS.DMA (298)	–	–
3696	3711	16	sofie E.TIME.PnS (311)	–	–
3712	3727	16	sofie E.SMA.AME (299)	–	–
3728	3743	16	sofie E.SMA.AMA (299)	–	–
3744	3759	16	sofie F.TIME.TkA (341)	–	–
3760	3775	16	sofie F.TkA.LwX (342)	–	–
3776	3791	16	sofie F.TkA.HiX (342)	–	–
3792	3807	16	sofie F.TkA.LwY (343)	–	–
3808	3823	16	sofie F.TkA.HiY (342)	–	–
3824	3839	16	sofie F.PnS.DME (329)	–	–
3840	3855	16	sofie F.PnS.DMA (329)	–	–
3856	3871	16	sofie F.TIME.PnS (341)	–	–
3872	3887	16	sofie F.SMA.AME (330)	–	–
3888	3903	16	sofie F.SMA.AMA (329)	–	–
3904	3919	16	sofie G.TIME.TkA (372)	–	–
3920	3935	16	sofie G.TkA.LwX (373)	–	–
3936	3951	16	sofie G.TkA.HiX (372)	–	–
3952	3967	16	sofie G.TkA.LwY (373)	–	–
3968	3983	16	sofie G.TkA.HiY (372)	–	–
3984	3999	16	sofie G.PnS.DME (359)	–	–
4000	4015	16	sofie G.PnS.DMA (359)	–	–
4016	4031	16	sofie G.TIME.PnS (371)	–	–
4032	4047	16	sofie G.SMA.AME (360)	–	–
4048	4063	16	sofie G.SMA.AMA (360)	–	–
4064	4079	16	sofie A.TIME.Pix (189)	–	–
4080	4095	16	sofie A.Sum.LX01 (185)	–	–
4096	4111	16	sofie A.Sum.LX02 (185)	–	–
4112	4127	16	sofie A.Sum.LX03 (185)	–	–
4128	4143	16	sofie A.Sum.LX04 (186)	–	–
4144	4159	16	sofie A.Sum.LX05 (186)	–	–
4160	4175	16	sofie A.Sum.LX06 (186)	–	–
4176	4191	16	sofie A.Sum.LX07 (187)	–	–

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
4192	4207	16	sofie A.Sum.HX01 (181)	–	–
4208	4223	16	sofie A.Sum.HX02 (181)	–	–
4224	4239	16	sofie A.Sum.HX03 (181)	–	–
4240	4255	16	sofie A.Sum.HX04 (182)	–	–
4256	4271	16	sofie A.Sum.HX05 (182)	–	–
4272	4287	16	sofie A.Sum.HX06 (182)	–	–
4288	4303	16	sofie A.Sum.HX07 (183)	–	–
4304	4319	16	sofie A.Sum.LY01 (187)	–	–
4320	4335	16	sofie A.Sum.LY02 (187)	–	–
4336	4351	16	sofie A.Sum.LY03 (188)	–	–
4352	4367	16	sofie A.Sum.LY04 (188)	–	–
4368	4383	16	sofie A.Sum.LY05 (188)	–	–
4384	4399	16	sofie A.Sum.HY01 (183)	–	–
4400	4415	16	sofie A.Sum.HY02 (183)	–	–
4416	4431	16	sofie A.Sum.HY03 (184)	–	–
4432	4447	16	sofie A.Sum.HY04 (184)	–	–
4448	4463	16	sofie A.Sum.HY05 (184)	–	–
4464	4479	16	sofie A.Sum.C01 (178)	–	–
4480	4495	16	sofie A.Sum.C02 (179)	–	–
4496	4511	16	sofie A.Sum.C03 (179)	–	–
4512	4527	16	sofie A.Sum.C04 (179)	–	–
4528	4543	16	sofie A.Sum.C05 (180)	–	–
4544	4559	16	sofie A.Sum.C06 (180)	–	–
4560	4575	16	sofie A.Sum.C07 (180)	–	–
4576	4591	16	sofie B.TIME.Pix (219)	–	–
4592	4607	16	sofie B.Sum.LX01 (215)	–	–
4608	4623	16	sofie B.Sum.LX02 (215)	–	–
4624	4639	16	sofie B.Sum.LX03 (216)	–	–
4640	4655	16	sofie B.Sum.LX04 (216)	–	–
4656	4671	16	sofie B.Sum.LX05 (216)	–	–
4672	4687	16	sofie B.Sum.LX06 (217)	–	–
4688	4703	16	sofie B.Sum.LX07 (217)	–	–
4704	4719	16	sofie B.Sum.HX01 (211)	–	–
4720	4735	16	sofie B.Sum.HX02 (211)	–	–
4736	4751	16	sofie B.Sum.HX03 (212)	–	–
4752	4767	16	sofie B.Sum.HX04 (212)	–	–
4768	4783	16	sofie B.Sum.HX05 (212)	–	–
4784	4799	16	sofie B.Sum.HX06 (213)	–	–
4800	4815	16	sofie B.Sum.HX07 (213)	–	–
4816	4831	16	sofie B.Sum.LY01 (217)	–	–
4832	4847	16	sofie B.Sum.LY02 (218)	–	–
4848	4863	16	sofie B.Sum.LY03 (218)	–	–
4864	4879	16	sofie B.Sum.LY04 (218)	–	–
4880	4895	16	sofie B.Sum.LY05 (219)	–	–
4896	4911	16	sofie B.Sum.HY01 (213)	–	–
4912	4927	16	sofie B.Sum.HY02 (214)	–	–
4928	4943	16	sofie B.Sum.HY03 (214)	–	–

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
4944	4959	16	sofie B.Sum_HY04 (214)	--	--
4960	4975	16	sofie B.Sum_HY05 (215)	--	--
4976	4991	16	sofie B.Sum_C01 (209)	--	--
4992	5007	16	sofie B.Sum_C02 (209)	--	--
5008	5023	16	sofie B.Sum_C03 (209)	--	--
5024	5039	16	sofie B.Sum_C04 (210)	--	--
5040	5055	16	sofie B.Sum_C05 (210)	--	--
5056	5071	16	sofie B.Sum_C06 (210)	--	--
5072	5087	16	sofie B.Sum_C07 (211)	--	--
5088	5103	16	sofie C.TIME_Pix (250)	--	--
5104	5119	16	sofie C.Sum_LX01 (245)	--	--
5120	5135	16	sofie C.Sum_LX02 (246)	--	--
5136	5151	16	sofie C.Sum_LX03 (246)	--	--
5152	5167	16	sofie C.Sum_LX04 (246)	--	--
5168	5183	16	sofie C.Sum_LX05 (247)	--	--
5184	5199	16	sofie C.Sum_LX06 (247)	--	--
5200	5215	16	sofie C.Sum_LX07 (247)	--	--
5216	5231	16	sofie C.Sum_HX01 (241)	--	--
5232	5247	16	sofie C.Sum_HX02 (242)	--	--
5248	5263	16	sofie C.Sum_HX03 (242)	--	--
5264	5279	16	sofie C.Sum_HX04 (242)	--	--
5280	5295	16	sofie C.Sum_HX05 (243)	--	--
5296	5311	16	sofie C.Sum_HX06 (243)	--	--
5312	5327	16	sofie C.Sum_HX07 (243)	--	--
5328	5343	16	sofie C.Sum_LY01 (248)	--	--
5344	5359	16	sofie C.Sum_LY02 (248)	--	--
5360	5375	16	sofie C.Sum_LY03 (248)	--	--
5376	5391	16	sofie C.Sum_LY04 (249)	--	--
5392	5407	16	sofie C.Sum_LY05 (249)	--	--
5408	5423	16	sofie C.Sum_HY01 (244)	--	--
5424	5439	16	sofie C.Sum_HY02 (244)	--	--
5440	5455	16	sofie C.Sum_HY03 (244)	--	--
5456	5471	16	sofie C.Sum_HY04 (245)	--	--
5472	5487	16	sofie C.Sum_HY05 (245)	--	--
5488	5503	16	sofie C.Sum_C01 (239)	--	--
5504	5519	16	sofie C.Sum_C02 (239)	--	--
5520	5535	16	sofie C.Sum_C03 (240)	--	--
5536	5551	16	sofie C.Sum_C04 (240)	--	--
5552	5567	16	sofie C.Sum_C05 (240)	--	--
5568	5583	16	sofie C.Sum_C06 (241)	--	--
5584	5599	16	sofie C.Sum_C07 (241)	--	--
5600	5615	16	sofie D.TIME_Pix (280)	--	--
5616	5631	16	sofie D.Sum_LX01 (276)	--	--
5632	5647	16	sofie D.Sum_LX02 (276)	--	--
5648	5663	16	sofie D.Sum_LX03 (276)	--	--
5664	5679	16	sofie D.Sum_LX04 (277)	--	--
5680	5695	16	sofie D.Sum_LX05 (277)	--	--

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
5696	5711	16	sofie D.Sum LX06 (277)	--	--
5712	5727	16	sofie D.Sum LX07 (278)	--	--
5728	5743	16	sofie D.Sum HX01 (272)	--	--
5744	5759	16	sofie D.Sum HX02 (272)	--	--
5760	5775	16	sofie D.Sum HX03 (272)	--	--
5776	5791	16	sofie D.Sum HX04 (273)	--	--
5792	5807	16	sofie D.Sum HX05 (273)	--	--
5808	5823	16	sofie D.Sum HX06 (273)	--	--
5824	5839	16	sofie D.Sum HX07 (274)	--	--
5840	5855	16	sofie D.Sum LY01 (278)	--	--
5856	5871	16	sofie D.Sum LY02 (278)	--	--
5872	5887	16	sofie D.Sum LY03 (279)	--	--
5888	5903	16	sofie D.Sum LY04 (279)	--	--
5904	5919	16	sofie D.Sum LY05 (279)	--	--
5920	5935	16	sofie D.Sum HY01 (274)	--	--
5936	5951	16	sofie D.Sum HY02 (274)	--	--
5952	5967	16	sofie D.Sum HY03 (275)	--	--
5968	5983	16	sofie D.Sum HY04 (275)	--	--
5984	5999	16	sofie D.Sum HY05 (275)	--	--
6000	6015	16	sofie D.Sum C01 (269)	--	--
6016	6031	16	sofie D.Sum C02 (270)	--	--
6032	6047	16	sofie D.Sum C03 (270)	--	--
6048	6063	16	sofie D.Sum C04 (270)	--	--
6064	6079	16	sofie D.Sum C05 (271)	--	--
6080	6095	16	sofie D.Sum C06 (271)	--	--
6096	6111	16	sofie D.Sum C07 (271)	--	--
6112	6127	16	sofie E.TIME Pix (310)	--	--
6128	6143	16	sofie E.Sum LX01 (306)	--	--
6144	6159	16	sofie E.Sum LX02 (306)	--	--
6160	6175	16	sofie E.Sum LX03 (307)	--	--
6176	6191	16	sofie E.Sum LX04 (307)	--	--
6192	6207	16	sofie E.Sum LX05 (307)	--	--
6208	6223	16	sofie E.Sum LX06 (308)	--	--
6224	6239	16	sofie E.Sum LX07 (308)	--	--
6240	6255	16	sofie E.Sum HX01 (302)	--	--
6256	6271	16	sofie E.Sum HX02 (302)	--	--
6272	6287	16	sofie E.Sum HX03 (303)	--	--
6288	6303	16	sofie E.Sum HX04 (303)	--	--
6304	6319	16	sofie E.Sum HX05 (303)	--	--
6320	6335	16	sofie E.Sum HX06 (304)	--	--
6336	6351	16	sofie E.Sum HX07 (304)	--	--
6352	6367	16	sofie E.Sum LY01 (308)	--	--
6368	6383	16	sofie E.Sum LY02 (309)	--	--
6384	6399	16	sofie E.Sum LY03 (309)	--	--
6400	6415	16	sofie E.Sum LY04 (309)	--	--
6416	6431	16	sofie E.Sum LY05 (310)	--	--
6432	6447	16	sofie E.Sum HY01 (304)	--	--

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
6448	6463	16	sofie E.Sum_HY02 (305)	–	–
6464	6479	16	sofie E.Sum_HY03 (305)	–	–
6480	6495	16	sofie E.Sum_HY04 (305)	–	–
6496	6511	16	sofie E.Sum_HY05 (306)	–	–
6512	6527	16	sofie E.Sum_C01 (300)	–	–
6528	6543	16	sofie E.Sum_C02 (300)	–	–
6544	6559	16	sofie E.Sum_C03 (300)	–	–
6560	6575	16	sofie E.Sum_C04 (301)	–	–
6576	6591	16	sofie E.Sum_C05 (301)	–	–
6592	6607	16	sofie E.Sum_C06 (301)	–	–
6608	6623	16	sofie E.Sum_C07 (302)	–	–
6624	6639	16	sofie F.TIME_Pix (341)	–	–
6640	6655	16	sofie F.Sum_LX01 (336)	–	–
6656	6671	16	sofie F.Sum_LX02 (337)	–	–
6672	6687	16	sofie F.Sum_LX03 (337)	–	–
6688	6703	16	sofie F.Sum_LX04 (337)	–	–
6704	6719	16	sofie F.Sum_LX05 (338)	–	–
6720	6735	16	sofie F.Sum_LX06 (338)	–	–
6736	6751	16	sofie F.Sum_LX07 (338)	–	–
6752	6767	16	sofie F.Sum_HX01 (332)	–	–
6768	6783	16	sofie F.Sum_HX02 (333)	–	–
6784	6799	16	sofie F.Sum_HX03 (333)	–	–
6800	6815	16	sofie F.Sum_HX04 (333)	–	–
6816	6831	16	sofie F.Sum_HX05 (334)	–	–
6832	6847	16	sofie F.Sum_HX06 (334)	–	–
6848	6863	16	sofie F.Sum_HX07 (334)	–	–
6864	6879	16	sofie F.Sum_LY01 (339)	–	–
6880	6895	16	sofie F.Sum_LY02 (339)	–	–
6896	6911	16	sofie F.Sum_LY03 (339)	–	–
6912	6927	16	sofie F.Sum_LY04 (340)	–	–
6928	6943	16	sofie F.Sum_LY05 (340)	–	–
6944	6959	16	sofie F.Sum_HY01 (335)	–	–
6960	6975	16	sofie F.Sum_HY02 (335)	–	–
6976	6991	16	sofie F.Sum_HY03 (335)	–	–
6992	7007	16	sofie F.Sum_HY04 (336)	–	–
7008	7023	16	sofie F.Sum_HY05 (336)	–	–
7024	7039	16	sofie F.Sum_C01 (330)	–	–
7040	7055	16	sofie F.Sum_C02 (330)	–	–
7056	7071	16	sofie F.Sum_C03 (331)	–	–
7072	7087	16	sofie F.Sum_C04 (331)	–	–
7088	7103	16	sofie F.Sum_C05 (331)	–	–
7104	7119	16	sofie F.Sum_C06 (332)	–	–
7120	7135	16	sofie F.Sum_C07 (332)	–	–
7136	7151	16	sofie G.TIME_Pix (371)	–	–
7152	7167	16	sofie G.Sum_LX01 (367)	–	–
7168	7183	16	sofie G.Sum_LX02 (367)	–	–
7184	7199	16	sofie G.Sum_LX03 (367)	–	–

Packet **sofie sci** Format, cont'd

start bit	stop bit	size bits	field		
7200	7215	16	sofie G_Sum_LX04 (368)	–	–
7216	7231	16	sofie G_Sum_LX05 (368)	–	–
7232	7247	16	sofie G_Sum_LX06 (368)	–	–
7248	7263	16	sofie G_Sum_LX07 (369)	–	–
7264	7279	16	sofie G_Sum_HX01 (363)	–	–
7280	7295	16	sofie G_Sum_HX02 (363)	–	–
7296	7311	16	sofie G_Sum_HX03 (363)	–	–
7312	7327	16	sofie G_Sum_HX04 (364)	–	–
7328	7343	16	sofie G_Sum_HX05 (364)	–	–
7344	7359	16	sofie G_Sum_HX06 (364)	–	–
7360	7375	16	sofie G_Sum_HX07 (365)	–	–
7376	7391	16	sofie G_Sum_LY01 (369)	–	–
7392	7407	16	sofie G_Sum_LY02 (369)	–	–
7408	7423	16	sofie G_Sum_LY03 (370)	–	–
7424	7439	16	sofie G_Sum_LY04 (370)	–	–
7440	7455	16	sofie G_Sum_LY05 (370)	–	–
7456	7471	16	sofie G_Sum_HY01 (365)	–	–
7472	7487	16	sofie G_Sum_HY02 (365)	–	–
7488	7503	16	sofie G_Sum_HY03 (366)	–	–
7504	7519	16	sofie G_Sum_HY04 (366)	–	–
7520	7535	16	sofie G_Sum_HY05 (366)	–	–
7536	7551	16	sofie G_Sum_C01 (360)	–	–
7552	7567	16	sofie G_Sum_C02 (361)	–	–
7568	7583	16	sofie G_Sum_C03 (361)	–	–
7584	7599	16	sofie G_Sum_C04 (361)	–	–
7600	7615	16	sofie G_Sum_C05 (362)	–	–
7616	7631	16	sofie G_Sum_C06 (362)	–	–
7632	7647	16	sofie G_Sum_C07 (362)	–	–
7648	7663	16	sofie checksum (387)	–	–
7664	7679	16	sofie unused (515)	–	–

Packet size = 7680 bits (960 bytes) .

F.5 sofie system_data

Packet Source Application Identifier

0x182 (386)

OASIS Stream Name

sofie386

Description

sofie system data packet

Discussion

SOFIE system data packet. Default Packet Production Status: Packets produced asynchronously on command.

Format

Packet **sofie system_data** Format

start bit	stop bit	size bits	field	control	method
0	15	16	sofie p386pid (421)	–	–
16	17	2	sofie p386flg (420)	–	–
18	31	14	sofie p386sct (422)	–	–
32	47	16	sofie p386pl (422)	–	–
48	63	16	sofie p386hws (420)	–	–
64	79	16	sofie p386lws (421)	–	–
80	95	16	sofie p386hwss (420)	–	–
96	111	16	sofie p386lwss (421)	–	–
112	127	16	sofie ssb_state_table0 (449)	–	–
128	143	16	sofie ssb_state_table1 (449)	–	–
144	159	16	sofie ssb_state_table2 (450)	–	–
160	175	16	sofie ssb_state_table3 (450)	–	–
176	191	16	sofie ssb_state_table4 (450)	–	–
192	207	16	sofie cmnd_response (390)	–	–
208	223	16	sofie lost_messages (413)	–	–
224	225	2	sofie cdh_taskm_stat_9 (386)	–	–
226	227	2	sofie cdh_taskm_stat_8 (386)	–	–
228	231	4	sofie cdh_taskm_stat_7 (386)	–	–
232	235	4	sofie cdh_taskm_stat_6 (385)	–	–
236	239	4	sofie cdh_taskm_stat_5 (385)	–	–
240	241	2	sofie cdh_taskm_stat_4 (385)	–	–
242	245	4	sofie cdh_taskm_stat_3 (384)	–	–
246	249	4	sofie cdh_taskm_stat_2 (384)	–	–
250	255	6	sofie cdh_taskm_stat_1 (383)	–	–
256	257	2	sofie ssb_taskm_stat_9 (454)	–	–
258	259	2	sofie ssb_taskm_stat_8 (453)	–	–
260	263	4	sofie ssb_taskm_stat_7 (453)	–	–
264	267	4	sofie ssb_taskm_stat_6 (453)	–	–
268	271	4	sofie ssb_taskm_stat_5 (452)	–	–
272	273	2	sofie ssb_taskm_stat_4 (452)	–	–
274	277	4	sofie ssb_taskm_stat_3 (451)	–	–

Packet **sofie system_data** Format, cont'd

start bit	stop bit	size bits	field		
278	281	4	sofie ssb_taskm_stat_2 (451)	-	-
282	287	6	sofie ssb_taskm_stat_1 (451)	-	-
288	303	16	sofie cmnd_opcode (389)	-	-
304	319	16	sofie cmnds_accepted (390)	-	-
320	335	16	sofie cmnds_rejected (391)	-	-
336	351	16	sofie reserved7 (443)	-	-
352	367	16	sofie reserved8 (444)	-	-
368	383	16	sofie atten_setting_1 (374)	-	-
384	399	16	sofie atten_setting_2 (376)	-	-
400	415	16	sofie atten_setting_3 (377)	-	-
416	431	16	sofie atten_setting_4 (377)	-	-
432	447	16	sofie atten_setting_5 (377)	-	-
448	463	16	sofie atten_setting_6 (378)	-	-
464	479	16	sofie atten_setting_7 (378)	-	-
480	495	16	sofie atten_setting_8 (378)	-	-
496	511	16	sofie atten_setting_9 (379)	-	-
512	527	16	sofie atten_setting_10 (374)	-	-
528	543	16	sofie atten_setting_11 (374)	-	-
544	559	16	sofie atten_setting_12 (375)	-	-
560	575	16	sofie atten_setting_13 (375)	-	-
576	591	16	sofie atten_setting_14 (375)	-	-
592	607	16	sofie atten_setting_15 (376)	-	-
608	623	16	sofie atten_setting_16 (376)	-	-
624	655	32	sofie sys_critical_err (472)	-	-
656	687	32	sofie cdh_critical_err (382)	-	-
688	719	32	sofie cdh_I.T_err (380)	-	-
720	751	32	sofie m1553_cmnd_err (413)	-	-
752	783	32	sofie cmnd_preproc_err (389)	-	-
784	815	32	sofie cdh_ST_Diag_err (380)	-	-
816	847	32	sofie codeupdate_err (391)	-	-
848	879	32	sofie cdh_EH_FR_err (379)	-	-
880	911	32	sofie m1553_data_err (414)	-	-
912	943	32	sofie cdh_cmndexec_err (381)	-	-
944	975	32	sofie tec_ctrl_err (473)	-	-
976	1007	32	sofie det_ctrl_err (398)	-	-
1008	1039	32	sofie chop_ctrl_err (387)	-	-
1040	1071	32	sofie timed_cmnd_err (513)	-	-
1072	1103	32	sofie automat_proc_err (379)	-	-
1104	1135	32	sofie cdh_data_acq_err (382)	-	-
1136	1167	32	sofie eng_data_err (411)	-	-
1168	1199	32	sofie sci_data_err (444)	-	-
1200	1231	32	sofie ssb_comm_err (449)	-	-
1232	1263	32	sofie cdh_queue_err (383)	-	-
1264	1295	32	sofie reserved9 (444)	-	-
1296	1327	32	sofie reserved10 (441)	-	-
1328	1359	32	sofie reserved11 (441)	-	-
1360	1391	32	sofie reserved12 (441)	-	-

Packet **sofie system_data** Format, cont'd

start bit	stop bit	size bits	field		
1392	1423	32	sofie ss_critical_err (447)	–	–
1424	1455	32	sofie ss_I_T_err (446)	–	–
1456	1487	32	sofie cdh_comm_err (381)	–	–
1488	1519	32	sofie ss_data_acq_err (448)	–	–
1520	1551	32	sofie ss_ST_Diag_err (446)	–	–
1552	1583	32	sofie ss_EH_FR_err (445)	–	–
1584	1615	32	sofie ss_cmndexec_err (447)	–	–
1616	1647	32	sofie point_stabil_err (431)	–	–
1648	1679	32	sofie steermirror_err (454)	–	–
1680	1711	32	sofie suntrack_err (455)	–	–
1712	1743	32	sofie ss_queue_err (448)	–	–
1744	1775	32	sofie reserved13 (442)	–	–
1776	1807	32	sofie reserved14 (442)	–	–
1808	1839	32	sofie reserved15 (442)	–	–
1840	1871	32	sofie reserved16 (443)	–	–
1872	1903	32	sofie reserved17 (443)	–	–
1904	1919	16	sofie sync_ctrl_reg (455)	–	–
1920	1931	12	sofie sync_pulse_width1 (464)	–	–
1932	1935	4	sofie sync_pulse_width2 (464)	–	–
1936	1951	16	sofie sync_rise_ps_1 (464)	–	–
1952	1967	16	sofie sync_rise_ps_2 (468)	–	–
1968	1983	16	sofie sync_rise_ps_3 (469)	–	–
1984	1999	16	sofie sync_rise_ps_4 (469)	–	–
2000	2015	16	sofie sync_rise_ps_5 (470)	–	–
2016	2031	16	sofie sync_rise_ps_6 (470)	–	–
2032	2047	16	sofie sync_rise_ps_7 (471)	–	–
2048	2063	16	sofie sync_rise_ps_8 (471)	–	–
2064	2079	16	sofie sync_rise_ps_9 (472)	–	–
2080	2095	16	sofie sync_rise_ps_10 (465)	–	–
2096	2111	16	sofie sync_rise_ps_11 (465)	–	–
2112	2127	16	sofie sync_rise_ps_12 (466)	–	–
2128	2143	16	sofie sync_rise_ps_13 (466)	–	–
2144	2159	16	sofie sync_rise_ps_14 (467)	–	–
2160	2175	16	sofie sync_rise_ps_15 (467)	–	–
2176	2191	16	sofie sync_rise_ps_16 (468)	–	–
2192	2207	16	sofie sync_fall_ps_1 (456)	–	–
2208	2223	16	sofie sync_fall_ps_2 (460)	–	–
2224	2239	16	sofie sync_fall_ps_3 (460)	–	–
2240	2255	16	sofie sync_fall_ps_4 (461)	–	–
2256	2271	16	sofie sync_fall_ps_5 (461)	–	–
2272	2287	16	sofie sync_fall_ps_6 (462)	–	–
2288	2303	16	sofie sync_fall_ps_7 (462)	–	–
2304	2319	16	sofie sync_fall_ps_8 (463)	–	–
2320	2335	16	sofie sync_fall_ps_9 (463)	–	–
2336	2351	16	sofie sync_fall_ps_10 (456)	–	–
2352	2367	16	sofie sync_fall_ps_11 (457)	–	–
2368	2383	16	sofie sync_fall_ps_12 (457)	–	–

Packet **sofie system_data** Format, cont'd

start bit	stop bit	size bits	field		
2384	2399	16	sofie sync_fall_ps_13 (458)	–	–
2400	2415	16	sofie sync_fall_ps_14 (458)	–	–
2416	2431	16	sofie sync_fall_ps_15 (459)	–	–
2432	2447	16	sofie sync_fall_ps_16 (459)	–	–
2448	5935	3488	sofie freeformspace (412)	–	–

Packet size = 5936 bits (742 bytes) .

F.6 sofie test_dump

Packet Source Application Identifier

0x185 (389)

OASIS Stream Name

sofie389

Description

sofie test dump packet

Discussion

SOFIE test dump packet. Default Packet Production Status: Packets produced asynchronously on command.

Format

Packet **sofie test_dump** Format

start bit	stop bit	size bits	field	control	method
0	15	16	sofie p389pid (429)	–	–
16	17	2	sofie p389flg (428)	–	–
18	31	14	sofie p389sct (430)	–	–
32	47	16	sofie p389pl (430)	–	–
48	63	16	sofie p389hws (428)	–	–
64	79	16	sofie p389lws (429)	–	–
80	95	16	sofie p389hwss (428)	–	–
96	111	16	sofie p389lwss (429)	–	–
112	127	16	sofie type_identifier (514)	–	–
128	143	16	sofie OD_address (373)	–	–
144	159	16	sofie start_address (454)	–	–
160	175	16	sofie length (413)	–	–
176	7679	7504	sofie data_space (398)	–	–

Packet size = 7680 bits (960 bytes) .

G

Telemetry Packet Summary

Telemetry Packet Summary

pkt no.	apid (hex)	packet
1	0x180 (384)	sofie hk (525)
2	0x181 (385)	sofie sci (529)
3	0x182 (386)	sofie system_data (540)
4	0x183 (387)	sofie event_data (524)
5	0x184 (388)	sofie mem_dump (528)
6	0x185 (389)	sofie test_dump (544)

G. TELEMETRY PACKET SUMMARY

H

Glossary

ACS *Attitude Control Subsystem* Spacecraft subsystem responsible for spacecraft and instrument pointing.

ADC *analog/digital converter*

Aeronomy of Ice in the Mesosphere NASA mission to study the formation, morphology, and life cycle of polar mesospheric clouds (PMCs). These clouds are also called noctilucent due to their tendency to 'glow' during the polar winter months. These clouds are so high in the atmosphere that their under sides (sides facing the earth) are illuminated by sunshine passing across the pole through the atmosphere from the daylit side of the Earth.

B *byte* See byte

b *bit* See bit.

bit Basic unit of information storage.

BOS *bright object sensor* Hardware for sensing presence of bright objects (such as the sun).

byte 8 bits of storage. CCSDS uses the term *octet* instead.

CCSDS *Consultative Committee for Space Data Systems* An **international organization** of space agencies interested in mutually developing standard data handling techniques.

CDE *Cosmic Dust Experiment* One of the instruments comprising the AIM observatory, the CDE instrument helps scientists determine the amount of particles entering the atmosphere. This in turn helps them determine the impact of cosmic dust on PMC formation.

C&DH *command and data handling* Spacecraft subsystem that receives and processes commands, and produces telemetry. Typically the CDH also contains the flight computer.

CIPS *Cloud Imaging and Particle Size* One of the instruments comprising the AIM observatory, the CIPS instrument uses six CCDs to capture greyscale images of PMCs. These images will help scientists determine how these clouds are created, how they change over time, and what constitutes them.

CM *configuration management* Process of controlling access, identifying and archiving designated releases of software and documentation. CM is complementary to a version control system. See CVS.

command An instruction from a user (or script) to a spacecraft system to perform a specific action.

FSW *flight software* Embedded software that controls flight hardware.

glossary This is it.

H. GLOSSARY

high level command An instrument command that implements functionality of more than one low level command. High level commands are more efficient than low level commands for specifying complex instrument behavior.

HVPS *high voltage power supply* Device designed to provide unusually high voltages to electronics. Such devices are not only a safety hazard, but also can be hazardous to other hardware, should they arc, which is only a danger at low ambient pressures.

I/O *input output*

KB *kilobyte* $2^{10} = 1024$ bytes.

Kb *kilobit* $2^{10} = 1024$ bits.

LASP *Laboratory for Atmospheric and Space Physics* Institute at the [University of Colorado, Boulder](#), researching atmospheric, space and planetary physics.

low level command An instrument command that implements a single basic hardware or software function.

MB *megabyte* $2^{20} = 1,048,576$ bytes.

Mb *megabit* $2^{20} = 1,048,576$ bits.

ms *milliseconds*

MIL-STD-1553 Military standard for flight serial data bus.

octet CCSDS term for an 8-bit unit of storage. See byte.

PDF *portable document format* Binary document format with self contained fonts that can be viewed or printed from most any platform via [Adobe Acrobat](#) and other PDF viewers. Advanced PDF viewers can navigate hyperlinks to other locations within and external to the document.

POR *power on reset* Hardware reset due to power cycle (transition from off to on). Hardware and software return to their POR states after a POR.

SSI *Standard Serial Interface* Interface electronics used for loading, monitoring, and debugging FSW.

TC *telecommand* CCSDS term for command. See CCSDS.

telemetry Data produced by a spacecraft application.

UT69R See UT69R000.

UT69R000 A radiation-hardened 16-bit RISC microcontroller created by UTMC. The 69R000 is the microcontroller host for FSW on all AIM instruments.

End of glossary.