	Table 1: CAPS HS	SK Data F	ile Content	s and Structure
Column Name	Туре	Length (bytes)	Range	Description
B cycle number	Unsigned Integer			B cycle number from the start of day, a
				value of 65535 indicates no B-cycle
		2	[1,338]	data is available
A cycle number	Unsigned Integer			A cycle number from the start of
		_		day, a value of 65535 indicates no A
mı		2	[1,2700]	-cycle information was available
Time	Float		r 7 1-10 <sup>7</sup>	Time when housekeeping was collected,
		8	$\begin{bmatrix} -7.1 \times 10^7 - 1.5 \times 10^9 \end{bmatrix}$	seconds from J2000 (barycentric dynamic time)
SCLK	Unsigned Integer	О	1.3x10 ]	Time when housekeeping was collected,
SCLK	Offsighed integer	4	$[0,3.0x10^9]$	spacecraft clock
HK Quality	Unsigned Integer	•	[0,0,0,110]	Information regarding the quality of the
				housekeeping product and the source of
				the record:
				0: full record from Engineering stream
				1: 1 <sup>st</sup> half only valid (science stream)
		_		2: 2 <sup>nd</sup> half only valid (science stream)
		2	[0,3]	3: full record from Science stream
SYS_M5_2V_MN	Float	4	[-6.5,0.0]	-5.2 Voltage Supply Monitor, converted
				with the equation V = VMON * - 0.02553 (Volts). VMON is the value in
				the housekeeping stream: word 7, bits
				15-8.
SYS_LVPS_IMN	Float	4	[0,1000]	Low Voltage Power Supply Current
				Monitor, converted with the equation
				I = IMON * 3.922 (mA). IMON is the
				value in word 7, bits 7-0.
SYS_P8V_MN	Float	4	[0, 9.76]	+8 Voltage Supply Monitor, converted
				with the equation $V = VMON * 0.03827$
				(Volts). VMON is the value in word 8,
CVC MOV MN	Float	4	F 10 0 0 01	bits 15-8.
SYS_M8V_MN	Float	4	[-10.0,0.0]	-8 Voltage Supply Monitor, converted with the equation V = VMON * -
				0.03922 (Volts). VMON is the value in
				word 8, bits 7-0 of HK.
SYS_P5V_MN	Float	4	[0,6.0]	+5 Voltage Supply Monitor, converted
			[-,]	with the equation $V = VMON * 0.02336$
				(Volts). VMON is the value in word 9,
				bits 15-8 of HK.
SYS_P5V_AMN	Float	4	[0,6.0]	+5 Analog Voltage Supply Monitor,
				converted with the equation $V = VMON$
				* 0.02336 (Volts). VMON is the value
CVC D15V MN	T71 4	4	[0 0 17 7]	in word 9, bits 7-0 of HK.
SYS_P15V_MN	Float	4	[0.0,17.7]	+15 Voltage Supply Monitor, converted

1999 177 177 177 177 177 177 177 177 177	
with the equation $V = VMON$	l * 0.06956
(Volts). VMON is the value in	
bits 15-8 of HK.	
SYS_M15V_MN Float 4 [-18.7,0.0] -15 Voltage Supply Monitor,	
with the equation V = VMON	
0.07323 (Volts). VMON is the	ne value in
word 10, bits 7-0 of HK.	
SYS_LVPS_TMN Float 4 [-40.0, Low Voltage Power Supply	
100.0] Temperature Monitor, conver	
the equation: $T = -47.900539$	94 +
0.6271286011 * TMON	-
0.001936307643 * TMON^2 1.115957616E-6 * TMON^3	-
2.579906422E-8 * TMON^4	(deg C)
Where TMON is the value in	
bits 15-8 of HK.	word 11,
	`
SPARE_11 Unsigned Integer 2 0 Spare bits at word 11, bits 7-0	
ELS_P15V_PWR Unsigned Integer ELS +15V High voltage power of the property of t	
1 [0,1] 15 of the HK stream.	oru 12, ori
ELS_SYNC Unsigned Integer ELS Synchronized status bit:	0 - OK 1
ELS_STIVE Onsigned integer   ELS Synchronized status of the ERROR. Found at word 12.	
1 [0,1] the HK stream.	, 010 14 01
ELS_SUM_AVG Unsigned Integer ELS Summing/Averaging sta	tus bit:
0 = Averaging,  1 = Summing	
1 [0,1] word 12, bit 13 of HK.	
SPARE4 Unsigned Integer 1 0 Spare bits for padding only	
ELS_DTM_PER Float [0.125, ELS Deadtime Period bit.	
4 0.25] Found at word 12, bit 12 of H	
ELS_DTM_CTRL Unsigned Integer ELS Deadtime Algorithm Co.	
= Disable, 1 = Enable. Found	at word
1 [0,1] 12, bit 11 of the HK stream.	
ELS_GRD_CTRL Unsigned Integer ELS Grid Control status: 0 =	
= Enable. Found at word 12,	bit 10 of
1 [0,1] the HK stream.	4
ELS_SWP_LEN Unsigned Integer ELS Sweep Length: 1 or 32 s	•
Found at word 12, bit 9 of the 1 [1,64] stream.	ПN
ELS_SWP_CTRLUnsigned Integer1[1,64] stream.ELS Sweep Control: 0 = Disa	hle 1 –
ELS_SWP_CTRL Unsigned integer ELS Sweep Control: 0 = Disa Enable. Found at word 12, bi	
1 [0,1] HK stream.	it o or the
ELS_SHV_CTRL Unsigned Integer ELS Sweep High Voltage Co	ntrol: 0 =
Disable, 1 = Enable. Found a	
1 [0,1] bit 7 of the HK stream.	014 12,
ELS_PSET_ADJ Unsigned Integer ELS Preset Adjust. Found at	word 12.
1 [0, 31] bits 6-2 of the HK stream.	·
ELS_DE_CTRL Unsigned Integer 1 [16, 36] ELS delta E/E control. %. For	ound at

(μA). IMON is the value at word 15, bits 15-8 of the HK stream.    ELS_MCP_TMN	Table 1: CAPS HSK Data File Contents and Structure				
ELS_STATE_MN Unsigned Integer    ELS_High Voltage State Monitor: 0 = Both SAFE, 1 = Sweep ARM, 2 = MCP_ARM, 3 = Both ARM, 5 = Bo					
Both SAFE, 1 = Sweep ARM, 2 = MCP ARM, 3 = Both ARM. Found at word 13, bits 15-14 of the HK stream.  ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_CTRL Unsigned Integer  ELS_MCP_CTRL Unsigned Integer  ELS_STM_MODE Unsigned Integer  ELS_STM_MODE Unsigned Integer  ELS_STM_CTRL Unsigned Integer  ELS_MCP_High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  ELS_MCP_High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  ELS_MCP_Woltage Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14, bits 15-8 of the HK stream.  ELS_MCP_UndN * 19.61 (Volts). VMON is the value at word 14, its equation: V = VMON * 0.196078 (µA). IMON is the value at word 15, bits 7-0 of HK stream.  ELS_MCP_TMN Float  ELS_MCP_UndN * 1 = IMON * 0.196078 (µA). IMON is the value at word 15, bits 7-0 of HK stream.  ELS_MCP_UndN * 1 = Stre					word 12, bits 1-0 of the HK stream.
ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_CTRL Unsigned Integer  ELS_MCP_CTRL Unsigned Integer  ELS_STM_MODE Unsigned Integer  ELS_STM_CTRL Unsigned Integer  I 0 Spare bits for padding only  ELS_MCP_High Voltage Control. Units are mv. Found at word 13, bits 5 of the HK stream.  ELS_MCP_High Voltage Control. Units are mv. Found at word 13, bits 4-2 of the HK stream.  ELS_MCP_Unsigned Integer  I 0 Spare bits at word 13, bits 1-0 of HK ELS_P15V_MN  Float  ELS_HIS_VINON is the value at word 14, [0.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_UndoN * 0.08994 (Volts). VMON is the value at word 14, [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_UndoN * 19.61 (Volts). VMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN Float  ELS_MCP_TMN Fl	ELS_STATE_MN	Unsigned Integer			ELS High Voltage State Monitor: 0 =
ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_ADJ Float  ELS_MCP_CTRL Unsigned Integer  ELS_MCP_CTRL Unsigned Integer  ELS_STM_MODE Unsigned Integer  ELS_STM_CTRL Unsigned Integer  I 0 Spare bits for padding only  ELS_MCP_High Voltage Control. Units are mv. Found at word 13, bits 5 of the HK stream.  ELS_MCP_High Voltage Control. Units are mv. Found at word 13, bits 4-2 of the HK stream.  ELS_MCP_Unsigned Integer  I 0 Spare bits at word 13, bits 1-0 of HK ELS_P15V_MN  Float  ELS_HIS_VINON is the value at word 14, [0.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_UndoN * 0.08994 (Volts). VMON is the value at word 14, [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_UndoN * 19.61 (Volts). VMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN Float  ELS_MCP_TMN Fl					Both SAFE, $1 = \text{Sweep ARM}$ , $2 = \text{MCP}$
ELS_MCP_ADJ					
ELS_MCP_ADJ Float ELS_High Voltage Adjust, converted with the equation: VDAC = DAC * 58.73 (Volts), where DAC is the value at word 13, bits 13-8 of the HK stream.  ELS_MCP_CTRL Unsigned Integer Disable, 1 = Enable. Found at word 13, bit 7 of the HK stream.  ELS_STM_MODE Unsigned Integer ELS_STM_MODE Unsigned Integer ELS_STM_Lord Unsigned Integer ELS_STM_CTRL Unsigned Integer ELS_STM_CTRL Unsigned Integer ELS_STM_CTRL Unsigned Integer ELS_STM_ADJ Float ELS_STM_Bits for padding only ELS_MCP High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits for padding only ELS_MCP High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK ELS_P15V_MN Float ELS_HIGH Voltage Spare bits at word 13, bits 1-0 of HK ELS_HIGH Voltage Spare bits at word 14, bits 1-0 of HK ELS_HIGH Voltage Spare bits at word 14, bits 1-0 of HK ELS_MCP_MN Float ELS_MCP_Voltage Monitor, converted with the equation: V = VMON * 19.61 (Voltage). VMON is the value at word 14, [0.0, 5000] bits 15-8 of the HK stream.  ELS_MCP_IMN Float ELS_MCP_IMN Float ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (voltage). The voltage Monitor, converted with the equation: I = IMON * 0.196078 (voltage). The voltage Monitor, converted with the equation: I = IMON * 0.196078 (voltage). The voltage Monitor, converted with the equation: I = S2.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON*2 + 3.0067853E.5 * TMON*3 - 3.6325428E.8 * TMON*3 + 3.6325428E.8 * TMON*4 (deg C). TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS_TRA			1	[0, 3]	· ·
with the equation: VDAC = DAC * 58.73 (Volts), where DAC is the value   [0.0,3700] at word 13, bits 13-8 of the HK stream.	ELS MCP ADJ	Float			
ELS_MCP_CTRL Unsigned Integer  ELS_MCP_CTRL Unsigned Integer  ELS_MCP_CTRL Unsigned Integer  ELS_STM_MODE Unsigned Integer  ELS_STM_MODE Unsigned Integer  ELS_STM_CTRL Unsigned Integer  ELS_STM_ADJ Float  ELS_STM_ADJ Float  ELS_STM_ADJ Float  ELS_STM_ADJ Float  ELS_MCP_High Voltage Control: 0 = Disable, 1 = Enable. Found at word 13, bit 5 of the HK stream.  SPARE_13 Unsigned Integer 1 0 Spare bits for padding only  ELS_MCP_High Voltage Control. Units [14.8, are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK ELS_P15V_MN Float  ELS_MCP_MN Float  ELS_MCP_MN Float  ELS_MCP_MN Float  ELS_MCP_MN Float  ELS_MCP_IMN					
ELS_MCP_CTRL  Unsigned Integer  ELS_MCP_High Voltage Control: 0 = Disable, 1 = Enable. Found at word 13, bit 6 of the HK stream.  ELS_STM_MODE  Unsigned Integer  ELS_STM_CTRL  Unsigned Integer  ELS_STM_CTRL  Unsigned Integer  ELS_STM_ADJ  Float  SPARE5  Unsigned Integer  Unsigned Integer  ELS_STM_ADJ  Float  ELS_STM_ADJ  Float  SPARE 13  Unsigned Integer  Unsigned Integer  ELS_P15V_MN  Float  ELS_P15V_MN  Float  ELS_MCP_MN  Float  ELS_MCP_MN  Float  ELS_MCP_MN  Float  ELS_MCP_MN  Float  ELS_MCP_MN  Float  ELS_MCP_IMN  Float  ELS_MCP_IMN  Float  ELS_MCP_TMN  F					_
ELS_MCP_CTRL   Unsigned Integer   1   [0,1]   bit 7 of the HK stream.			4	[0.0,3700]	
Disable, 1 = Enable. Found at word 13, bit 7 of the HK stream.	ELS MCP CTRL	Unsigned Integer			
ELS_STM_MODE Unsigned Integer    Comparison of the HK stream					
ELS_STM_MODE Unsigned Integer  ELS_STM_CTRL Unsigned Integer  ELS_STM_CTRL Unsigned Integer  ELS_STM_CTRL Unsigned Integer  SPARE5 Unsigned Integer 1 0 Spare bits for padding only  ELS_STM_ADJ Float  ELS_MCP_High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK  ELS_P15V_MN Float  ELS_MCP_MN Float  ELS_MCP_MN Float  ELS_MCP_IMN Float  ELS_MCP_IMN Float  ELS_MCP_IMN Float  ELS_MCP_TMN Float			1	[0,1]	
ELS_STM_CTRL Unsigned Integer   ELS_Stimulation Control: 0 = Disable, 1   ELS_Stimulation Control: 0 = Disable, 1   Enable. Found at word 13, bit 5 of the HK stream.  SPARE5 Unsigned Integer 1 0 Spare bits for padding only   ELS_STM_ADJ   Float   ELS_MCP_High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK   ELS_P15V_MN   Float   ELS_H15 Volt Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14,   [0.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_MN Float   ELS_MCP_Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14,   [0.0, 50.0] bits 7-0 of HK stream.  ELS_MCP_IMN Float   ELS_MCP_Under Monitor, converted with the equation: I = IMON * 0.196078 (µA). IMON is the value at word 15,   [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_TMN Float   ELS_MCP_Under Monitor, converted with the equation: I = IMON * 0.196078 (µA). IMON is the value at word 15,   [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_TMN Float   ELS_MCP_Under Monitor, converted with the equation: I = IMON * 0.196078 (µA). IMON is the value at word 15,   [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_TMN Float   ELS_MCP_TMN   ELS_MCP_T	ELS STM MODE	Unsigned Integer			ELS Stimulation Mode: 0 = Constant, 1
ELS_STM_CTRL  Unsigned Integer    1					•
ELS_STM_CTRL Unsigned Integer   ELS Stimulation Control: 0 = Disable, 1   Enable. Found at word 13, bit 5 of the HK stream.  SPARE5 Unsigned Integer 1 0 Spare bits for padding only   ELS_STM_ADJ   Float   ELS MCP High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK   ELS_P15V_MN   Float   ELS_H15 Volt Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14,   [0.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_MN   Float   ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14,   [0.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN   Float   ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (µA). IMON is the value at word 15,   [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_TMN   Float   ELS_MCP Temperature Monitor, converted with the equation: T = 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).   [-40.0, 100.0] fit HK stream.  ELS_TRAFFIC   Unsigned Integer   ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			1	[0,1]	
Enable   Found at word 13, bit 5 of the	ELS STM CTRL	Unsigned Integer		£ / 3	
SPARE5 Unsigned Integer 1 0 Spare bits for padding only  ELS_STM_ADJ Float ELS_MCP High Voltage Control. Units are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK  ELS_P15V_MN Float ELS_+15 Volt Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14, bits 15-8 of the HK stream.  ELS_MCP_MN Float ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, [0.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN Float ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN Float ELS_MCP Temperature Monitor, converted with the equation: I = S2.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C). [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS_TRAFFIC Unsigned Integer ELS_TRAFFIC Unsigned Integer					
SPARE5 Unsigned Integer 1 0 Spare bits for padding only  ELS_STM_ADJ Float [14.8, are mV. Found at word 13, bits 4-2 of the HK stream.  SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK  ELS_P15V_MN Float ELS_H15 Volt Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14, bits 1-8 of the HK stream.  ELS_MCP_MN Float ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, bits 7-0 of HK stream.  ELS_MCP_IMN Float ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (µA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN Float ELS_MCP_TMN Float ELS_MCP Temperature Monitor, converted with the equation: T = 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C). IMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			1	[0,1]	
ELS_STM_ADJ Float    SPARE_13	SPARE5	Unsigned Integer			Spare bits for padding only
SPARE_13   Unsigned Integer   2   0   Spare bits at word 13, bits 4-2 of the HK stream.		<u> </u>			
SPARE_13				Г14.8.	
SPARE_13 Unsigned Integer 2 0 Spare bits at word 13, bits 1-0 of HK  ELS_P15V_MN Float ELS +15 Volt Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14, [0.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_MN Float ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, [0.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN Float ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_TMN Float ELS_MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C). TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			4		
ELS_P15V_MN  Float  ELS_H15 Volt Monitor, converted with the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14, jo.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_MN  Float  ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, jo.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN  Float  ELS_MCP_Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN  Float  ELS_MCP_TMN  ELS_MCP_TMN  Float  ELS_MCP_TMN  Float  ELS_MCP_TMN  ELS_MCP_TMN  Float  Flo	SPARE 13	Unsigned Integer			Spare bits at word 13, bits 1-0 of HK
the equation: V = VMON * 0.08994 (Volts). VMON is the value at word 14, [0.0, 23.0] bits 15-8 of the HK stream.  ELS_MCP_MN Float  ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, [0.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN Float  ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, [0.0, 50.0] bits 15-8 of the HK stream.  ELS_MCP_TMN Float  ELS_MCP_TMN Float  ELS_MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C). TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer  ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					
Color   VMON is the value at word 14,   [0.0, 23.0]   bits 15-8 of the HK stream.					
ELS_MCP_MN  Float  ELS_MCP_Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, [0.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN  Float  ELS_MCP_Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN  Float  ELS_MCP_TMN  Float  ELS_MCP_TMN  Float  ELS_MCP_TEMPERATURE Monitor, converted with the equation: T = 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).  TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC  Unsigned Integer  ELS_TRAFFIC Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					•
ELS_MCP_MN  Float  ELS_MCP Voltage Monitor, converted with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, bits 7-0 of HK stream.  ELS_MCP_IMN  Float  ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN  Float  ELS_MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).  [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC  Unsigned Integer  ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			4	[0.0, 23.0]	
with the equation: V = VMON * 19.61 (Volts). VMON is the value at word 14, [0.0,5000] bits 7-0 of HK stream.  ELS_MCP_IMN  Float  ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN  Float  ELS_MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C). [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC  Unsigned Integer  With the equation: V = VMON * 19.61 (Volts). VMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC  Unsigned Integer  ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is	ELS_MCP_MN	Float			ELS MCP Voltage Monitor, converted
Countries of the value at word 14,   (0.0,5000]   (volts). VMON is the value at word 14,   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0.0,5000]   (0					with the equation: $V = VMON * 19.61$
LS_MCP_IMN   Float   ELS MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15,   Unsigned Integer   ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					
ELS_MCP_IMN  Float  ELS_MCP Current Monitor, converted with the equation: I = IMON * 0.196078 (μA). IMON is the value at word 15, bits 15-8 of the HK stream.  ELS_MCP_TMN  Float  ELS_MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).  [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC  Unsigned Integer  ELS_TRAFFIC Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			4	[0.0,5000]	
$(\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the HK stream.} \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the HK stream.} \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the equation: } I = IMON * 0.196078 \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON \text{ is the value at word } 15, \\ (\mu A).  IMON  is the value at$	ELS_MCP_IMN	Float			
ELS_MCP_TMN   Float   ELS MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON					
ELS_MCP_TMN   Float   ELS MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON					_
ELS_MCP_TMN         Float         ELS MCP Temperature Monitor, converted with the equation: T =- 52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).           [-40.0,         TMON is the value at word 15, bits 7-0 of the HK stream.           ELS_TRAFFIC         Unsigned Integer           ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			4	[0.0, 50.0]	
converted with the equation: T =-   52.67739487 + 0.9737095833 * TMON     - 0.007247802336 * TMON^2 +     3.0067853E-5 * TMON^3 -     3.6325428E-8 * TMON^4 (deg C).     TMON is the value at word 15, bits 7-0     of the HK stream.     ELS_TRAFFIC   Unsigned Integer   ELS Traffic Control: 0 = Disable, 1 =     Enable. When Enabled, no ELS data is	ELS MCP TMN	Float		, ,	
52.67739487 + 0.9737095833 * TMON - 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).  [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					•
- 0.007247802336 * TMON^2 + 3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).  [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer  ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					
3.0067853E-5 * TMON^3 - 3.6325428E-8 * TMON^4 (deg C).  [-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					
3.6325428E-8 * TMON^4 (deg C). TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS_Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					
[-40.0, TMON is the value at word 15, bits 7-0 of the HK stream.  ELS_TRAFFIC Unsigned Integer ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is					
ELS_TRAFFIC Unsigned Integer ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is				[-40.0,	
ELS_TRAFFIC Unsigned Integer ELS Traffic Control: 0 = Disable, 1 = Enable. When Enabled, no ELS data is			4		
Enable. When Enabled, no ELS data is	ELS_TRAFFIC	Unsigned Integer		,	
	_				-
put on the bus. Found at word 10, bit 13					put on the bus. Found at word 16, bit 15
1 [0,1] of the HK stream.			1	[0,1]	

	Table 1: CAPS HS	K Data F	ile Content.	s and Structure
ELC MODE	II			ELCOnsectional Made O. Made A. 1
ELS_MODE	Unsigned Integer			ELS Operational Mode. 0 = Mode A, 1
				= Mode B, 2 = Mode C0, 3 = Mode C1,
		1	FO 51	4 = Mode D, 5 = Mode E. Found at
ELG GILID LOI	<b>T</b>	1	[0,5]	word 16, bits 14-12 of HK.
ELS_SWP_MN	Float			ELS Sweep High Voltage Monitor
				(peak), converted with: V = VMON *
			[-0.1,	1.221 (Volts). VMON is found at word
		4	5000.0]	16, bits 11-0 of the HK stream.
ELS_MN	Unsigned Integer			ELS Monitor value error status: $0 = OK$ ,
				1 = Error. Found at word 17, bit 15 of
		1	[0,1]	the HK stream.
ELS_MN_ADDR	Unsigned Integer			ELS Monitor Address: $0 = +15V$ , $1 =$
				Sweep HV, $2 = MCP HV$ , $3 = MCP$
				Current, $4 = MCP$ Temperature, $5 = HV$
				Safe/Arm, $6 = \text{Not Used}$ , $7 = \text{Stim}$
				Amplitude. Found at word 17, bits 14-
		1	[0,7]	12 of the HK stream.
ELS_SWP_MN1	Float			ELS Sweep High Voltage Monitor 1
				(trickle), converted with $V = VMON *$
			[-0.1,	1.221 (Volts). Where VMON is found
		4	5000.0]	at word 17, bits 11-0 of the HK stream.
ELS_SWSTAT	Unsigned Integer			ELS Software Status: TBD
				configuration. Found at word 18, bits
		1	[0,15]	15-12 of the HK stream.
SPARE0	Unsigned Integer	1	0	Added for padding only
ELS_SWP_MN2	Float			ELS Sweep High Voltage Monitor 2
				(trickle), converted with V = VMON *
			[-0.1,	1.221 (Volts). Where VMON is found
		4	5000.0]	at word 18, bits 11-0 of the HK stream.
IBS_ESA_DAC	Float			IBS ESA Sweep High Voltage DAC
				value (peak), where the conversion is
			Off:	based upon the value of the variable,
			[0.0,0.0]	IBS_ESA_DRNG:
			Low:	Value: Conversion
			[-1.85,0.0]	OFF $V = DAC^*-0.000451880 (V)$
			Medium:	LOW $V = DAC^*-0.000451880 (V)$
			[-69.9,0.0]	MEDIUM V=DAC*-0.016938349 (V)
			High:	HIGH $V = DAC*0.634920635 (V)$ .
		4	[-2600,0.0]	DAC is found at word 19, bits 15-4.
IBS_ESA_DRNG	Unsigned Integer			IBS ESA Sweep High Voltage DAC
				range (peak). $0 = OFF$ , $1 = LOW$ , $2 =$
				MEDIUM, $3 = HIGH$ . Found at word
		1	[0,3]	19, bits 3-2 of the HK stream.
IBS_HV_STATE	Unsigned Integer			IBS High Voltage State: 0 = Safe, 1 =
		1	[0,1]	Arm. Found at word 19, bit 1.
IBS_HV_POWER	Unsigned Integer			IBS High Voltage Power. 0 = OFF, 1 =
		1	[0,1]	On. Found at word 19, bit 0.

	Table 1: CAPS HS	SK Data F	ile Content	s and Structure
SPARE1	Unsigned Integer	1	0	Adding for padding only
IBS_CEM_DAC	Float			IBS CEM High Voltage DAC value,
				converted with: V = DAC *
			[-4000.0,	(-15.68627451) (Volts). DAC is found
		4	0.0]	at word 20, bits 15-8 of the HK stream.
IBS STM CHNL	Unsigned Integer			IBS Stimulator Channel Mask:
				Bit $5 = \text{Channel } 1: 0 = \text{Off}, 1 = \text{On}$
				Bit 6 = Channel 2: 0=Off, 1=On
				Bit $7 = \text{Channel } 3: 0 = \text{Off}, 1 = \text{On}.$
		1	[0,7]	Found at word 20, bits 7-5 of HK.
IBS_STM_CTRL	Unsigned Integer		[0,7]	IBS Stimulator Control. 0 = Disable, 1 =
125_5111_61142	Charginea integer	1	[0,1]	Enable. Found at word 20, bit 4.
IBS_SIM_FREQ	Float	-	[0,1]	IBS Stimulator Frequency. Units are
IDS_SIM_I REQ	Tiout		[0,	kHz. $0 = \text{No Stim}$ . Found at word 20,
		4	524.288]	bits 3-0 of HK.
SPARE6	Unsigned Integer	1	0	Spare bits for padding only.
IBS_ESA_MRNG	Unsigned Integer	1	U	IBS ESA Sweep High Voltage Monitor
IDS_ESA_WIKING	Unsigned integer			1 0
				range (peak). 0 = OFF, 1 = LOW, 2 =
		1	FO 21	MEDIUM, 3 = HIGH. Found at word
IDG EGA NOI	T71	1	[0,3]	21, bits 3-2 of HK.
IBS_ESA_MN	Float			IBS ESA Sweep High Voltage Monitor
				(peak), the conversion is based on the
			Off:	value of the variable IBS_ESA_MRNG:
			[-1.9,0.0]	Value Conversion
			Low:	OFF $V = VMON*-0.0004744 (Volts)$
			[-1.9,0.0]	LOW $V = VMON*-0.0004744 (Volts)$
			Medium:	MEDIUM $V = VMON*-0.0177850 (V)$
				HIGH $V = VMON*-0.0004744$ (Volts)
			High:	DAC is found at word 21, bits 15-4 of
		4	[-2730,0.0]	the HK stream"
IBS_TRAFFIC	Unsigned Integer			IBS Traffic Control: 0 = Disable, 1 =
				Enable. If Enabled, then no IBS data is
				put on the bus. Found at word 21, bit 1
		1	[0,1]	of the HK stream"
IBS_HV_CTRL	Unsigned Integer			IBS High Voltage Control: 0 = Disable,
				1 = Enable. Found at word 21, bit 0 of
		1	[0,1]	the HK stream.
IBS_CEM_MN	Float			IBS CEM High Voltage Monitor,
				converted with: V = DAC * (-
			[-4200.0,	16.470588) (Volts). DAC is found at
		4	0.0]	word 22, bits 15-8 of the HK stream
IBS_TMN	Float			IBS Temperature Monitor, converted
,				with : T = -47.93090439 +
				0.6965667605 * TMON -
				0.002877314575 * TMON^2 +
			[-40.0,	4.231294952E-6 * TMON^3 +
		4	100.0]	1.539952699E-8 * TMON^4 (deg C).
	1	+	100.0]	1.337732077E-0 11VIOIN 4 (deg C).

	Table 1: CAPS HS	K Data I	File Content	s and Structure
			T	TMON is found at word 22, bits 7-0 of
				the HK stream.
IBS_SWP_TBL	Unsigned Integer			IBS Sweep Table ID Number. Found at
		2	[0,15]	word 23, bits 15-12.
IBS SWSTAT	Unsigned Integer		[0,10]	IBS Software Status. TBD
125_5 \\ 51111	onsigned integer			configuration. Found at word 23, bits
		2	[0,4095]	11-0 of the HK stream.
IBS_ESA_MN1	Float			IBS ESA Sweep High Voltage Monitor
				#1 (trickle), conversion is based upon
				the value of the variable,
			Off:	IBS_ESA_RNG1:
			[-1.9,0.0]	Value Conversion
			Low:	OFF V=VMON*-0.0004744 (Volts)
			[-1.9,0.0]	LOW V=VMON*-0.0004744 (Volts)
			Medium:	MEDIUM V=VMON*-0.0177850 (V)
			[-72.8,0.0]	HIGH V=VMON*-0.6667000 (V).
			High:	VMON is found at word 24, bits 15-4 of
		4	[-2730,0.0]	the HK stream.
IBS_ESA_RNG1	Unsigned Integer			IBS ESA Sweep High Voltage Monitor
				#1 range (trickle). $0 = Off$ , $1 = Low$ , 2
				= Medium, 3 = High. Found at word
		1	[0,3]	24, bits 3-2 of HK.
IBS_DTM_CTRL	Unsigned Integer			IBS Deadtime Algorithm Control. 0 =
				Disable, $1 = \text{Enable}$ . Found at word 24,
		1	[0,1]	bit 1 of the HK stream.
SPARE_24	Unsigned Integer	2	0	Spare bit at word 24, bit 0
IBS_ESA_MN2	Float			IBS ESA Sweep High Voltage Monitor
				#2 (trickle), conversion is based upon
				the value of the variable,
			Off:	IBS_ESA_RNG2:
			[-1.9,0.0]	Value Conversion
			Low:	OFF V=VMON*-0.0004744 (Volts)
				LOW V=VMON*-0.0004744 (V)
			Medium:	MEDIUM V=VMON*-0.0177850 (V)
			[-72.8,0.0]	` '
			High:	VMON is found at word 25, bits 15-4 of
		4	[-2730,0.0]	the HK stream.
IBS_ESA_RNG2	Unsigned Integer			IBS ESA Sweep High Voltage Monitor
				#2 range (trickle). $0 = Off$ , $1 = Low$ , 2
				= Medium, 3 = High. Found at word
		1	[0,3]	25, bits 3-2 of HK.
IBS_SWP_SKIP	Unsigned Integer			IBS ESA Sweep table index skip.
		1	[0,3]	Found at word 25, bits 1-0 of HK.
IBS_SWP_INDX	Unsigned Integer			IBS ESA Sweep table index number.
				The table can be found in the TBD
		_		document. Found at word 26, bits 15-0
		2	[0,600]	of the HK stream.

	Table 1: CAPS HS	K Data F	ile Content	s and Structure
IMS_SWSTAT	Unsigned Integer			IMS Software Status. TBD
				configuration. Found at word 27, bits
		2	[0,16383]	15-2 of the HK stream.
IMS_TRAFFIC	Unsigned Integer			IMS traffic control. 0 = Disable, 1 =
				Enable. If Enabled, then no IMS data is
				put on the bus. Found at word 27, bit 1
		1	[0,1]	of the HK stream.
SPARE_27	Unsigned Integer	1	0	Spare bits at word 27, bit 0 of HK.
SPARE_28	Unsigned Integer	2	0	Spare bit at word 28, bit 15 of HK.
CP1_RCVD_CNT	Unsigned Integer			CPU1 Received Command Count.
		2	[0,4047]	Found at word 28, bits 14-4 of HK.
HVU1_PWR2	Unsigned Integer			HVU1 Power Switch 2. $0 = Off$ , $1 = On$ .
		1	[0,1]	Found at word 28, bit 3 of HK.
HVU1_PWR1	Unsigned Integer			HVU1 Power Switch 1. $0 = Off$ , $1 = On$ .
		1	[0,1]	Found at word 28, bit 2 of HK.
HVU1_CTRL	Unsigned Integer			HVU1 Control. $0 = Disable$ , $1 = Enable$ .
				Found at word 28, bit 1 of the HK
		1	[0,1]	stream.
HVU1_STATE	Unsigned Integer			HVU1 State. $0 = Safe$ , $1 = Arm$ . Found
		1	[0,1]	at word 28, bit 0 of HK.
HVU1_RET_DAC	Float			HVU1 Retarding High Voltage DAC,
				converted with: $V = DAC * 0.0627451$
				(kVolts). DAC is found at word 29, bits
		4	[0, 16.0]	15-8 of the HK stream
HVU1_ACC_DAC	Float			HVU1 Accelerating High Voltage DAC,
				converted with: V = DAC *
				-0.0627451 (kVolts). DAC is found at
**************************************		4	[-16.0, 0.0]	word 29, bits 7-0 of the HK stream
HVU1_RET_MN	Float			HVU1 Retarding High Voltage Monitor,
				converted with: V = VMON *
		à	50.0.01.03	0.0829435 (kVolts). VMON is found at
		4	[0.0, 21.0]	word 30, bits 15-8 of HK.
HVU1_ACC_MN	Float			HVU1 Accelerating High Voltage
				Monitor, converted with: V = VMON *
		4	F 21 0 0 0	-0.0829435 (kVolts). VMON is found
IIVIIO ECA TRI ID	TI	4	[-21.0, 0.0]	at word 30, bits 7-0 of HK.
HVU2_ESA_TBL_ID	Unsigned Integer			HVU2 ESA Sweep Table ID. TBD
		1	TBD	Configuration. Found at word 31, bits
CDADE 21	Ungionad Integra	<u>1</u> 1	-	15-8 of the HK stream
SPARE_31	Unsigned Integer	1	0	Spare bits at word 31, bits 7-4 of HK HVU2 Sweep Control. 0 = Disable, 1 =
HVU2_SWP_CTR	Unsigned Integer			Enable. Found at word 31, bit 3 of the
		1	[0.1]	HK stream.
HVU2_PWR	Unsigned Integer	1	[0,1]	HVU2 Power: $0 = OFF$ , $1 = On$ . Found
IIVUZ_FWK	onsigned integer	1	[0,1]	at word 31, bit 2 of HK.
HVU2_CTRL	Unsigned Integer	1	[0,1]	HVU2 Control. 0 = Disable, 1 =
11 V U 2_C I KL	onsigned integer	1	[0,1]	Enable. Found at word 31, bit 1 of the
		1	[0,1]	Enable. Found at word 31, bit 1 of the

	Table 1: CAPS HS	SK Data F	File Content	s and Structure
				HK stream.
HVU2_STATE	Unsigned Integer			HVU2 State: $0 = \text{Safe}$ , $1 = \text{Arm}$ . Found
		1	[0,1]	at word 31, bit 0 of HK.
HVU2_ST_DAC	Float			HVU2 ST MCP DAC, converted with V
			[-3600.0,	= DAC * -14.1176 (Volts). DAC is
		4	0.0]	found at word 32, bits 15-8 of HK.
HVU2_LEF_DAC	Float			HVU2 LEF MCP DAC, converted with
			[-2400.0,	V = DAC * -9.4118 (Volts). DAC is
		4	0.0]	found at word 32, bits 7-0 of HK.
SPARE_33	Unsigned Integer	1	0	Spare bits at word 33, bits 15-14.
HVU2_ESA_DRG	Unsigned Integer			HVU2 ESA Sweep High Voltage DAC
				range (peak): $0 = Off$ , $1 = Low$ , $2 =$
				Medium, $3 = \text{High.}$ Found at word 33,
		1	[0,3]	bits 13-12 of the HK stream
HVU2_ESA_DAC	Float			HVU2 ESA Sweep High Voltage DAC
				value (peak), where the conversion is
			Off:	based upon the value of the variable
			[0.0,0.0]	HVU2_ESA_DRG:
			Low:	Value Conversion (Volts)
			[-5.1,0.0]	OFF $V = DAC * -0.00125033$
				LOW $V = DAC * -0.00125033$
			[-194.8,0.0	MEDIUM $V = DAC * -0.04758171$
			High:	HIGH $V = DAC * -1.81074500$
			[-7415.0,	DAC is found at word 33, bits 11-0 of
		4	0.0]	the HK stream.
HVU2_ST_MN	Float			HVU2 ST MCP Monitor, converted
				with the equation: $V = DAC * -$
			[-3780.0,	14.82353 (Volts). DAC is found at
		4	0.0]	word 34, bits 15-8 of the HK stream
HVU2_LEF_MN	Float			HVU2 LEF MCP Monitor, converted
				with the equation: $V = DAC * -9.88235$
			[-2520.0,	(Volts). DAC is found at word 34, bits
		4	0.0]	7-0 of the HK stream.
SPARE_35	Unsigned Integer	1	0	Spare bits at word 35, bits 15-14
HVU2_ESA_MRG	Unsigned Integer	-		HVU2 ESA Sweep High Voltage
				Monitor range (peak): $0 = Off$ , $1 = Low$ ,
				2 = Medium, $3 = High$ . Found at word
		1	[0,3]	35, bits 13-12 of the HK stream
HVU2_ESA_MN	Float		Off:	HVU2 ESA Sweep High Voltage
			[-5.38,0.0]	Monitor value (peak), where the
			Low:	conversion is based upon the value of
			[-5.38,0.0]	the variable HVU2_ESA_MRG:
			Medium:	Value Conversion (Volts)
			[-204.6,0.0	OFF $V = VMON * -0.0013128$
			High:	LOW $V = VMON * -0.0013128$
			[-7786.0,	MEDIUM V=VMON * -0.0499677
		4	0.0]	HIGH $V = VMON * -1.9012821$

	Table 1: CAPS HS	K Data F	ile Content	s and Structure
				DAC is found at word 35, bits 11-0 of
				the HK stream.
SPARE_36	Unsigned Integer	1	0	Spare bits at word 36, bits 15-14
HVU2_ESA_RG1	Unsigned Integer			HVU2 ESA Step High Voltage Monitor
				#1 range (trickle): $0 = Off$ , $1 = Low$ , $2 =$
				Medium, $3 = \text{High}$ . Found at word 36,
		1	[0,3]	bits 13-12 of HK.
HVU2_ESA_MN1	Float			HVU2 ESA Step High Voltage Monitor
				#1 value (trickle), where the conversion
			Off:	is based upon the value of the variable
				HVU2_ESA_RG1:
			Low:	Value Conversion (Volts)
				OFF $V = VMON * -0.0013128$
				LOW $V = VMON * -0.0013128$
				MEDIUM V=VMON * -0.0499677
			High:	HIGH V = VMON * -1.9012821
		4	_	VMON is found at word 36, bits 11-0 of
CDADE 27	TT 1 1 T 4	4	0.0]	the HK stream.
SPARE_37	Unsigned Integer	1	0	Spare bits at word 37, bits 15-14
HVU2_ESA_RG2	Unsigned Integer			HVU2 ESA Step High Voltage Monitor
				#2 range (trickle): 0 = Off, 1 = Low, 2 =
		1	[0.2]	Medium, 3 = High. Found at word 37, bits 13-12 of HK.
HVU2_ESA_MN2	Float	1	[0,3]	HVU2 ESA Step High Voltage Monitor
IIVUZ_ESA_MINZ	Tioat			#2 value (trickle), where the conversion
			Off:	is based upon the value of the variable
				HVU2_ESA_RG2:
			Low:	Value Conversion (Volts)
				OFF V = VMON * -0.0013128
				LOW $V = VMON * -0.0013128$
				MEDIUM V=VMON * -0.0499677
			-	-
			[-7786.0,	VMON is found at word 37, bits 11-0 of
		4	0.0]	the HK stream.
HVU2_TMN	Float			HVU2 Temperature Monitor, converted
				with: $T = -47.93090439$
				+ 0.6965667605 * TMON
				- 0.002877314575 * TMON^2
				+ 4.231294952E-6 * TMON^3
				+ 1.539952699E-8 * TMON^4 (deg C).
			[-35.0,	TMON is found at word 38, bits 15-8 of
		4	55.0]	the HK stream.
CP1_RJCT_CNT	Unsigned Integer			CPU1 Rejected Command Count.
A-15		1	[0,255]	Found at word 38, bits 7-0 of HK.
SPARE_39	Unsigned Integer	1	0	Spare bits at word 39, bits 15-11
TDC_LOGICAL	Unsigned Integer	_		TDC Logical/Single Select. 0 = ES14, 1
		1	[0,1]	= TIMEOUTS. Found at word 39, bit

	Table 1: CAPS HS	K Data Fi	ile Content	s and Structure
				10 of the HK stream.
TDC_BIT_STAT	Unsigned Integer			TDC Built-In-Test State. 0 = Off, 1 =
IDC_DII_SIAI	Onsigned integer	1	[0,1]	On. Found at word 39, bit 9 of HK.
TDC_THRS_ADJ	Unsigned Integer	1	[0,1]	TDC Threshold Adjust. 0 = Disable, 1
IDC_IIIKS_ADJ	Unsigned integer	1	[0,1]	= Enable. Found at word 39, bit 8.
TDC_ID_CFD	Unsigned Integer	1	[0,1]	TDC ID CFD. $0 = \text{No Coincidence}, 1 =$
TDC_ID_CI D	Charghed integer			Coincidence. Found at word 39, bit 7 of
		1	[0,1]	the HK stream.
TDC_SNG_MODE	Unsigned Integer		[0,1]	TDC Single Mode. $0 = No$
150_51(0_111051				Coincidence, 1 = Coincidence. Found
		1	[0,1]	at word 39, bit 6 of the HK stream.
TDC_ENG_SNGS	Unsigned Integer		[*,-]	TDC Engineering Singles ID. 0 = Start
				CFD/Stop CFD, 1 = Acquisition
				Error/Deadtimes, 2 = Single
				TOFs/Double TOFs, 3 = Data
				Strobes/Resets. Found at word 39, bit
		1	[0,3]	5-4 of the HK stream
TDC_SAM_FIFO	Unsigned Integer			TDC SAM FIFO State. $0 = Disable$ , $1 =$
		1	[0,1]	Enable. Found at word 39, bit 3
TDC_NUM_HITS	Unsigned Integer			TDC Number of Hits. $0 = 1$ Hit, $1 = 2$
		1	[0,1]	Hits. Found at word 39, bit 2
TDC_PARA_DTM	Unsigned Integer			TDC Paralyzable Deadtime. 0 =
				Disable, $1 = \text{Enable}$ . Found at word 39,
		1	[0,1]	bit 1 of the HK stream
TDC_RESET	Unsigned Integer			TDC Reset. $0 = Off$ , $1 = On$ . Found at
		1	[0,1]	word 39, bit 0 of the HK stream
TDC_DTM_ADJ	Float			TDC Deadtime Adjust. Units are ns.
				Found at word 40, bits 15-14 of the HK
		4	[2.2,8.0]	stream.
TDC_VERN_ADJ	Unsigned Integer		50 00 507	TDC Vernier Adjust. Units are ps.
GD 1 DT 10		2	[0, 2250]	Found at word 40, bits 13-12 of HK.
SPARE_40	Unsigned Integer	1	0	Spare bits at word 40, bits 11-9
FEE_STOP_BIT_HR	Unsigned Integer			FEE Stop Bit High Resolution. 0 =
		1	FO 13	Disable, 1 = Enable. Found at word 40,
EEE CTADTO	TI	1	[0,1]	bit 8 of the HK stream
FEE_START8	Unsigned Integer	1	fO 13	FEE Start 8: 0 = Disable, 1 = Enable.
EEE CTADT7	I In airm and Indanan	1	[0,1]	Found at word 40, bit 7. FEE Start 7: 0 = Disable, 1 = Enable.
FEE_START7	Unsigned Integer	1	[0.1]	· · · · · · · · · · · · · · · · · · ·
EEE STADT6	Ungigned Integer	1	[0,1]	Found at word 40, bit 6. FEE Start 6: 0 = Disable, 1 = Enable.
FEE_START6	Unsigned Integer	1	[0.1]	Found at word 40, bit 5.
FEE_START5	Unsigned Integer	1	[0,1]	FEE Start 5: 0 = Disable, 1 = Enable.
TEE_STARTS	onsigned integer	1	[0,1]	Found at word 40, bit 4.
FEE_START4	Unsigned Integer	1	[0,1]	FEE Start 4: 0 = Disable, 1 = Enable.
TEE_START4	onsigned integer	1	[0,1]	Found at word 40, bit 3.
FEE_START3	Unsigned Integer	1	[0,1]	FEE Start 3: 0 = Disable, 1 = Enable.
TLL_STARTS	onsigned integer	1	[0,1]	Found at word 40, bit 2.
	1	1	[0,1]	p ound at word 70, off 2.

	Table 1: CAPS HS	K Data F	ile Content.	s and Structure
FEE_START2	Unsigned Integer			FEE Start 2: $0 = Disable$ , $1 = Enable$ .
		1	[0,1]	Found at word 40, bit 1.
FEE_START1	Unsigned Integer			FEE Start 1: $0 = Disable$ , $1 = Enable$ .
		1	[0,1]	Found at word 40, bit 0.
FEE_STOP_BIT_MR	Unsigned Integer			FEE Stop Bit Medium Resolution. 0 =
				Disable, $1 = \text{Enable}$ . Found at word 41,
		1	[0,1]	bit 15 of the HK stream
FEE_STRT_BIT	Unsigned Integer			FEE Start Built-in-Test. 0 = Disable, 1 =
				Enable. Found at word 41, bit 14 of the
		1	[0,1]	HK stream
FEE_MDRESTOP	Unsigned Integer			FEE Medium Resolution Stop. 0 =
				Disable, $1 = \text{Enable}$ . Found at word 41,
		1	[0,1]	bit 13 of the HK stream
FEE_HIRESTOP	Unsigned Integer			FEE High Resolution Stop. 0 = Disable,
				1 = Enable. Found at word 41, bit 12 of
		1	[0,1]	the HK stream
FEE_BIT_FREQ	Float			FEE Built-In-Test Stimulation
			[62.5,	Frequency. Units are kHz. Found at
		4	1000]	word 41, bits 11-8 of HK
FEE_STOP_THR	Float			FEE Stop Threshold. Operating
				Threshold Multiplier. Found at word
		4	[0.0, 1.875]	41, bits 7-4 of the HK stream
FEE_START_TH	Float			FEE Start Threshold. Operating
				Threshold Multiplier. Found at word
		4	[0.0, 1.875]	41, bits 3-0 of the HK stream
FEE_BITSTOP2	Unsigned Integer			FEE Built-In-Test Stop 2 Delay. Units
				are ns. 1688 ns, 1813 ns, and 1938 ns
		_		are all Timeouts. Found at word 42, bits
		2	[62, 1938]	15-12 of the HK stream
FEE_BITSTOP1	Unsigned Integer			FEE Built-In-Test Stop 1 Delay. Units
		_		are ns. Found at word 42, bits 11-8 of
		2		the HK stream
SPARE7	Unsigned Integer	1	0	Spare bits for padding only.
SAM_SECTR_BL	Unsigned Integer			SAM sector anode blank:
				$0: 0 = S \ 0 \ OFF, \ 1 = S \ 0 \ ON$
				$1: 0 = S \ 1 \ OFF, \ 1 = S \ 1 \ ON$
				$2: 0 = S \ 2 \text{ OFF}, \ 1 = S \ 2 \text{ ON}$
				$3: 0 = S \ 3 \ OFF, \ 1 = S \ 3 \ ON$
				4: 0 = S 4 OFF, 1 = S 4 ON
				5: 0 = S 5 OFF, 1 = S 5 ON
				6: 0 = S 6 OFF, 1 = S 6 ON
			50 25	$7: 0 = S \ 7 \ OFF, \ 1 = S \ 7 \ ON$
~	**	1	[0,255]	Found at word 42, bits 7-0 of HK.
SAM_ION_IDX	Unsigned Integer		F0 1	SAM ION Index. Found at word 43,
		1	[0,15]	bits 15-12 of the HK stream
SAM_MLUT_IDX	Unsigned Integer		FO 45	SAM Mass Look Up Table Index.
		1	[0,1]	Found at word 43, bit 11 of HK

	Table 1: CAPS HSI	K Data Fi	ile Content.	s and Structure
SAM_DP_SELCT	Unsigned Integer			SAM Data Product Select. 0 = None, 1
				= MOL, $2 =$ LEF, $3 =$ Both. Found at
		1	[0,3]	word 43, bits 10-9 of HK.
SAM_HEALTH	Unsigned Integer			SAM Health. $0 = OK$ , $1 = Error$ .
		1	[0,1]	Found at word 43, bit 8 of HK
SAM_WATCHDOG	Unsigned Integer			SAM Watchdog. 0 = Disable, 1 =
		1	[0,1]	Enable. Found at word 43, bit 7.
SAM_SELF_TST	Unsigned Integer			SAM Self Test. $0 = OK$ , $1 = Error$ .
		1	[0,1]	Found at word 43, bit 6 of HK.
SAM_FIFO	Unsigned Integer			SAM First-In-First-Out. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 43, bit 5
SAM_TOF	Unsigned Integer			SAM Time-of-Flight. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 43, bit 4
SAM_EVNT_ACC	Unsigned Integer			SAM Event Accumulator. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 43, bit 3
SAM_TOF_ACC	Unsigned Integer			SAM Time-of-Flight Accumulator. 0 =
		1	[0,1]	OK, $1 = \text{Error.}$ Found at word 43, bit 2
SAM_OPSTATE	Unsigned Integer			SAM Operating State. $0 = \text{Reset}, 1 =$
		1	[0,1]	Run. Found at word 43, bit 1 of HK
SAM_PWR	Unsigned Integer			SAM Power. $0 = Off$ , $1 = On$ . Found at
		1	[0,1]	word 43, bit 0 of HK
SPARE_45	Unsigned Integer	2	[0,1]	Spare bits at word 45, bits 15-12
SAM_GRP_TBL	Unsigned Integer			SAM Group Table Number. Found at
		2	[0,65535]	word 44, bits 15-0 of HK.
SAM_TOF_BKUP	Unsigned Integer			SAM Time-of-Flight Backup. 0 =
				Disable, 1 = Enable. Found at word 45,
		1	[0,1]	bit 11 of the HK stream
SAM_FIFO_BKUP	Unsigned Integer			SAM FIFO Backup. 0 = Disable, 1 =
				Enable. Found at word 45, bit 10 of the
		1	[0,1]	HK stream
SAM_EV_BKUP	Unsigned Integer			SAM Event Backup. 0 = Disable, 1 =
		1	[0,1]	Enable. Found at word 45, bit 9
SAM_TOF_CMPR	Unsigned Integer			SAM Time-of-Flight Compress Mode. 0
		1	[0,1]	= Off, 1 = On. Found at word 45, bit 8.
SAM_TEST	Unsigned Integer			SAM Test Mode. 0 = Self Test, 1 =
				Normal Operations. Found at word 45,
		1	[0,1]	bit 7 of the HK stream
SAM_EV1_2	Unsigned Integer			SAM Dual Stop Event Accumulation
				Mode. $0 = 1$ st Event, $1 = B$ oth Events.
		1	[0,1]	Found at word 45, bit 6
SAM_CFG_IDX	Unsigned Integer			SAM Configuration Index. $0 = Off, 1$
		1	[0,1]	= On. Found at word 45, bit 5
SAM_BKGD_CMP	Unsigned Integer			SAM Background Compensation. 0 =
				Disable, 1 = Enable. Found at word 45,
		1	[0,1]	bit 4
SAM_DTM_CTRL	Unsigned Integer			SAM Deadtime Algorithm Control. 0 =
		1	[0,1]	Disable, 1 = Enable. Found at word 45,

SAM_HDWR_BIN   Unsigned Integer   1   [0,1]   SAM Hardware Binning, 0 = Off, 1 = On. Found at word 45, bit 2   SAM_HDWR_LUT   Unsigned Integer   1   [0,3]   SAM Hardware Look Up Table, Found at word 45, bit 15   SAM_HARDWARE LOOK Up Table, Found at word 45, bit 15   ACT_EXEC   Unsigned Integer   1   O Spare bits at word 45, bit 15   Actuator Execution, 0 = Stop, 1 = Start. Found at word 46, bit 14   Actuator Execution, 0 = Stop, 1 = Start. Found at word 46, bit 15   Actuator Execution, 0 = Stop, 1 = Start. Found at word 46, bit 14   Actuator Wobble Compensation, 0 = Disable, 1 = Enable. Found at word 46, bit 14   Actuator Wobble Compensation, 0 = Disable, 1 = Enable. Found at word 46, bit 12   Actuator Wobble Compensation, 0 = Disable, 1 = Enable. Found at word 46, bit 13   Actuator Operating Mode, 0 = FOV, 1 = Park, 2 = RAM, 3 = Slew, 4 = TBD, 5 = TBD, 6 = TBD, 7 = TBD, 8 = TBD, 9 = TBD, 10 = TBD, 11 = TBD, 12 = TBD, 13 = TBD, 14 = Search, 15 = Maint. Found at word 47, bits 15-12 of HK. Actuator Field-of-View Position 1   (degrees). Position = MON - 104, where MON is found at word 46, bits 11-0. CAPS actuates from ACT_FOV_POS1   ACT_FOV_POS2   Actuator Field-of-View Position 2   (degrees). Position = MON - 104, where MON is found at word 47, bits 15-10. CAPS actuates from ACT_FOV_POS1   ACT_FOV_POS2   Actuator Field-of-View Position 2   (degrees). Position = MON - 104, where MON is found at word 47, bits 11-0. CAPS actuates from ACT_FOV_POS1   ACT_FOV_POS2   ACT_FOV_POS2   ACT_FOV_POS2   ACT_FOV_POS2   ACT_FOV_POS3   ACT_F		Table 1: CAPS HS	SK Data F	ile Content	s and Structure
SAM_HDWR_BIN					
SAM_HDWR_LUT					bit 3
SAM_HDWR_LUT	SAM_HDWR_BIN	Unsigned Integer			SAM Hardware Binning. 0 = Off, 1 =
SPARE_46			1	[0,1]	On. Found at word 45, bit 2
SPARE_46	SAM_HDWR_LUT	Unsigned Integer			SAM Hardware Look Up Table. Found
ACT_EXEC			1	[0,3]	at word 45, bits 1-0 of HK
ACT_TEMP_CMP	SPARE_46		1	0	
ACT_TEMP_CMP	ACT_EXEC	Unsigned Integer			
Disable, 1 = Enable. Found at word   46, bit 13			1	[0,1]	·
ACT_WOBL_CMP	ACT_TEMP_CMP	Unsigned Integer			
ACT_WOBL_CMP					
Disable, 1 = Enable. Found at word 46, bit 12			1	[0,1]	
ACT_OPMODE	ACT_WOBL_CMP	Unsigned Integer			
ACT_OPMODE			4	50.13	
Park, 2 = RAM, 3 = Slew, 4 = TBD, 5 = TBD, 6 = TBD, 7 = TBD, 8 = TBD, 9 = TBD, 10 = TBD, 11 = TBD, 12 = TBD, 13 = TBD, 14 = Search, 15 = Maint. 13 = TBD, 14 = Search, 15 = Maint. 13 = TBD, 14 = Search, 15 = Maint. 14 = Search, 15 = Maint. 15 = TBD, 16 = TBD, 16 = TBD, 10 = TBD, 10 = TBD, 10 = TBD, 11 = TBD, 12 = TBD, 13 = TBD, 14 = Search, 15 = Maint. 13 = TBD, 14 = Search, 15 = Maint. 14 = Search, 15 = TBD, 16 = TBD, 16 = TBD, 16 = TBD, 17 = TBD, 18 = TBD, 19 = TBD, 12 = TBD, 13 = TBD, 14 = Search, 15 = TBD, 14 = TBD, 14 = Search, 15 = TBD, 14 = TBD, 14 = Search, 15 = TBD, 14 = TBD, 14 = TBD, 14 = Search, 15 = TBD, 14	A CIT. OPLICE	**	1	[0,1]	
TBD, 6 = TBD, 7 = TBD, 8 = TBD, 9 = TBD, 10 = TBD, 11 = TBD, 12 = TBD, 13 = TBD, 14 = Search, 15 = Maint.	ACT_OPMODE	Unsigned Integer			
TBD, 10 = TBD, 11 = TBD, 12 = TBD, 13 = TBD, 14 = Search, 15 = Maint. Found at word 47, bits 15-12 of HK. ACT_FOV_POS1					
1					
1					
ACT_FOV_POS1			1	[0 15]	1
(degrees). Position = MON - 104, where MON is found at word 46, bits 11-0. CAPS actuates from ACT_FOV_POS1	ACT FOV POST	Float	1	[0, 13]	
MON is found at word 46, bits 11-0. CAPS actuates from ACT_FOV_POS1	AC1_10V_1031	Tioat			
CAPS actuates from ACT_FOV_POS1					
ACT_FOV_POS2					*
ACT_FOV_POS2  Float  Actuator Field-of-View Position 2 (degrees). Position = MON - 104, where MON is found at word 47, bits 11-0. CAPS actuates from ACT_FOV_POS1  4 [-110, 110] to ACT_FOV_POS2  ACT_CONV_MN  Float  Actuator Converter Monitor, converted with V = VMON * 0.09608 (Volts). Where VMON is the value at word 48, bits 15-8 of the HK stream  ACT_TMN  Float  Actuator Temperature Monitor, converted with: T = -47.9005394 + 0.6271286011 * TMON - 0.001936307643 * TMON^2 - 1.115957616E-6 * TMON^3  [-40.0, + 2.579906422E-8 * TMON^4 (deg C)  ACT_5V_MN  Float  Actuator 5 Volt Monitor, converted with V = VMON * 0.02464 (volts). VMON			4	[-110, 110]	
(degrees). Position = MON - 104, where MON is found at word 47, bits 11-0. CAPS actuates from ACT_FOV_POS1   4	ACT FOV POS2	Float		L -7 - J	
MON is found at word 47, bits 11-0. CAPS actuates from ACT_FOV_POS1					
ACT_CONV_MN					MON is found at word 47, bits 11-0.
ACT_CONV_MN  Float  Actuator Converter Monitor, converted with V = VMON * 0.09608 (Volts).  Where VMON is the value at word 48, bits 15-8 of the HK stream  ACT_TMN  Float  Actuator Temperature Monitor, converted with: T = -47.9005394 + 0.6271286011 * TMON - 0.001936307643 * TMON^2 - 1.115957616E-6 * TMON^3  [-40.0, + 2.579906422E-8 * TMON^4 (deg C)					CAPS actuates from ACT_FOV_POS1
with V = VMON * 0.09608 (Volts). Where VMON is the value at word 48, bits 15-8 of the HK stream  ACT_TMN  Float  Actuator Temperature Monitor, converted with: T = -47.9005394 + 0.6271286011 * TMON - 0.001936307643 * TMON^2 - 1.115957616E-6 * TMON^3 [-40.0, + 2.579906422E-8 * TMON^4 (deg C) TMON is found at word 48, bits 7-0  ACT_5V_MN  Float  with V = VMON * 0.02464 (volts). VMON			4	[-110, 110]	to ACT_FOV_POS2
Where VMON is the value at word 48, bits 15-8 of the HK stream	ACT_CONV_MN	Float			Actuator Converter Monitor, converted
ACT_TMN  Float  ACT_TMN  Float  Actuator Temperature Monitor, converted with: T = -47.9005394 + 0.6271286011 * TMON - 0.001936307643 * TMON^2 - 1.115957616E-6 * TMON^3 [-40.0, + 2.579906422E-8 * TMON^4 (deg C)  ACT_5V_MN  Float  ACT_5V_MN  Float  ACT_5V_MN  Float  ACT_5V_MN  Float  ACT_5V_MON  Float  ACT_5V_MON  Float  Float  ACT_5V_MON  Float  ACT_5V_MON  Float  ACT_5V_MON  Float  ACT_5V_MON  ACT_5V_MON  Float  ACT_5V_MON  Float  ACT_5V_MON					with $V = VMON * 0.09608$ (Volts).
ACT_TMN Float					
converted with: T = -47.9005394   + 0.6271286011 * TMON   - 0.001936307643 * TMON^2   - 1.115957616E-6 * TMON^3   [-40.0, + 2.579906422E-8 * TMON^4 (deg C)   4   100.0] TMON is found at word 48, bits 7-0   ACT_5V_MN   Float   Actuator 5 Volt Monitor, converted with   V = VMON * 0.02464 (volts). VMON			4	TBD	
+ 0.6271286011 * TMON - 0.001936307643 * TMON^2 - 1.115957616E-6 * TMON^3 [-40.0, + 2.579906422E-8 * TMON^4 (deg C) TMON is found at word 48, bits 7-0  ACT_5V_MN Float Actuator 5 Volt Monitor, converted with V = VMON * 0.02464 (volts). VMON	ACT_TMN	Float			Actuator Temperature Monitor,
- 0.001936307643 * TMON^2 - 1.115957616E-6 * TMON^3 [-40.0, + 2.579906422E-8 * TMON^4 (deg C)  TMON is found at word 48, bits 7-0  ACT_5V_MN Float ACT_5V_MON * O.02464 (volts). VMON					
- 1.115957616E-6 * TMON^3 [-40.0, + 2.579906422E-8 * TMON^4 (deg C) TMON is found at word 48, bits 7-0 ACT_5V_MN  Float  ACT_5V_MN  Float  Actuator 5 Volt Monitor, converted with V = VMON * 0.02464 (volts). VMON					
Continue					
ACT_5V_MN  Float  4 100.0] TMON is found at word 48, bits 7-0  Actuator 5 Volt Monitor, converted with V = VMON * 0.02464 (volts). VMON				[ 40 0	
ACT_5V_MN Float Actuator 5 Volt Monitor, converted with V = VMON * 0.02464 (volts). VMON			1	-	, ,
V = VMON * 0.02464  (volts). VMON	ACT 5V MN	Float	+	100.0]	
		Tioat			
lis the value at word 49 bits 15-8 of the					is the value at word 49, bits 15-8 of the
4 [0, 6.28] HK stream.			4	[0, 6.28]	·
ACT_20V_MN Float Actuator 20 Volt Monitor, converted	ACT 20V MN	Float	•	[0, 0.20]	
			4	[0, 24.5]	with $V = VMON * 0.09608$ (Volts).

	Table 1: CAPS HS	K Data F	ile Content	s and Structure
				VMON is found at word 49, bits 7-0
ACT_POSITION	Float			Actuator Position Decoder (degrees),
				converted with position = -169.88 +
				0.0996 * pMON. pMON is found at
		4	[-110, 110]	word 50, bits 11-0 of HK.
ACT_RATE	Float			Actuator Step Execution Rate. Units are
				degree/second. Found at word 50, bits
		4	[0.125,1]	15-12 of the HK stream
SPARE_51	Unsigned Integer	2	0	Spare bits at word 51, bits 15-8
BIU_CMD_BIT7	Unsigned Integer			BIU Discrete Command Bit #7 (TBD).
				0 = Disable, $1 = $ Enable. Found at word
		1	[0,1]	51, bit 7 of the HK stream
BIU_CMD_BIT6	Unsigned Integer			BIU Discrete Command Bit #6 (TBD).
				0 = Disable, $1 = $ Enable. Found at word
		1	[0,1]	51, bit 6 of the HK stream
BIU_CMD_BIT5	Unsigned Integer			BIU Discrete Command Bit #5 (TBD).
			50.43	0 = Disable, 1 = Enable. Found at word
D		1	[0,1]	51, bit 5 of the HK stream
BIU_WTA_ILCK	Unsigned Integer			BIU Wax Thermal Actuator Interlock.
		1	FO 13	0 = Disable, 1 = Enable. Found at word
DILL DDIL DOOT	TT ' 1T /	1	[0,1]	51, bit 4 of the HK stream
BIU_DPU_BOOT	Unsigned Integer	1	FO 13	BIU DPU Boot Address. 0 = 80000h, 1
DILL ODMODE	I Insianad Intern	1	[0,1]	= 90000h. Found at word 51, bit 3 BIU CAPS Power Mode Interlock. 0 =
BIU_OPMODE	Unsigned Integer			
				Sleep, 1 = OP, 2 = Sleep2, 3 = OPWART. OP=operate, OPWART=
				operate with articulation. Found at
		1	[0,3]	word 51, bits 2-1 of the HK stream
SPARE 51 0	Unsigned Integer	1	0	Spare bits at word 51, bit 0
BIU_STA_BIT7	Unsigned Integer	1		BIU Discrete Status Bit 7 (TBD). 0 =
DIC_SIN_DII	Chaighed integer	1	[0,1]	No, $1 = \text{Yes.}$ Found at word 52, bit 15
BIU_STA_BIT6	Unsigned Integer		[0,1]	BIU Discrete Status Bit 6 (TBD). 0 =
DIC_SIN_BIIO	Charghed integer	1	[0,1]	No, 1 = Yes. Found at word 52, bit 14
BIU_STA_BIT5	Unsigned Integer		[0,1]	BIU Discrete Status Bit 5 (TBD). 0 =
		1	[0,1]	No, 1 = Yes. Found at word 52, bit 13
BIU_DPU_SMEM	Unsigned Integer			BIU DPU Shared Memory Test. 0 =
		1	[0,1]	OK, 1 = Error. Found at word 52, bit 12
BIU_DPU_ROM	Unsigned Integer			BIU DPU ROM Test. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 52, bit 11 of HK
BIU_DPU_RAM	Unsigned Integer			BIU DPU RAM Test. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 52, bit 10 of HK
BIU_DESC_LOC	Unsigned Integer	· <u> </u>		BIU Descriptor Location. 0 = Auto, 1 =
	_	1	[0,1]	RAM. Found at word 52, bit 9 of HK
BIU_ROM_BOOT	Unsigned Integer			BIU ROM Boot Complete. 0 =
				Incomplete, $1 = $ Complete. Found at
		1	[0,1]	word 52, bit 8 of the HK stream
BIU_HKFORMAT	Unsigned Integer	1	[0,1]	BIU Housekeeping Format Type. 0 =

	Table 1: CAPS HSI	K Data F	ile Content	s and Structure
				Maintenance, 1 = Normal. Found at
				word 52, bit 7 of the HK stream
SPARE_52_6	Unsigned Integer	1	0	Spare bits at word 52, bit 6
BIU_XTRA_RTI	Unsigned Integer			BIU Extra Real Time Interrupt. 0 = No,
		1	[0,1]	1 = Yes. Found at word 52, bit 5 of HK
SPARE_52_4	Unsigned Integer	1	0	Spare bits at word 52, bit 4
BIU_MISD_RTI	Unsigned Integer			BIU Missed Real Time Interrupt. 0 =
		1	[0,1]	No, $1 = $ Yes. Found at word 52, bit 3
BIU_DESC_TBL	Unsigned Integer			BIU Descriptor Table. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 52, bit 2 of HK
BIU_RAM	Unsigned Integer			BIU RAM. $0 = OK$ , $1 = Error$ . Found at
		1	[0,1]	word 52, bit 1 of the HK stream
BIU_AUTO_INI	Unsigned Integer			BIU Auto Initialization. 0 = OK, 1 =
		1	[0,1]	Error. Found at word 52, bit 0
SPARE_53_15	Unsigned Integer	1	0	Spare bits at word 53, bits 15-12
BIU_XTRA_RTC	Unsigned Integer			BIU Extra RTI Count. Found at word
		1	[0,15]	53, bits 11-8 of the HK stream
SPARE_53_7	Unsigned Integer	1	0	Spare bits at word 53, bits 7-4
BIU_MISD_RTC	Unsigned Integer			BIU Missed RTI Count. Found at word
		1	[0,15]	53, bits 3-0 of the HK stream
CPU2_EVENT	Unsigned Integer			CPU2 Event Mode. 0 = Disable, 1 =
				Enable. When Enabled, CPU2 schedules
				event mode to be executed on the
				following B-cycle. Data is collected for
				that B-cycle and then telemetered the
				following B-cycle. Note: this only
				works in 16kbp, and a B-cycle is 256
		1	[0,1]	seconds. Found at word 54, bit 15
CPU2_LEF_INT	Unsigned Integer			CPU2 TOF LEF Interval. 1 – every
				word taken, 2 – every other word taken,
				4 – every 4 <sup>th</sup> word taken (from the start
		1	[1,4]	channel). Found at word 54, bits 14-13
CPU2_LEF_COL	Unsigned Integer			CPU2 TOF LEF Collapse Option.
		1	[0,3]	Found at word 54, bits 12-11 of HK
CPU2_LEF_STR	Unsigned Integer			CPU2 TOF LEF Start Channel. Found
		2	[0,2047]	at word 54, bits 10-0 of HK
CPU2_EXE_STA	Unsigned Integer			CPU2 Execution State. $0 = ROM$ , $1 =$
		1	[0,1]	RAM. Found at word 55, bit 15
CPU2_ST_INT	Unsigned Integer			CPU2 TOF ST Interval. 1 – every word
				taken, 2 – every other word taken, 4 –
				every 4 <sup>th</sup> word taken (from the start
CDVVA CT CCC-		1	[1,4]	channel). Found at word 55, bits 14-13
CPU2_ST_COLL	Unsigned Integer	_	F0. 55	CPU2 TOF ST Collapse Option. Found
<u> </u>		1	[0,3]	at word 55, bits 12-11 of HK
SPARE2	Unsigned Integer	1	0	Added for padding only
CPU2_ST_STA	Unsigned Integer	_	FO 50 :==	CPU2 TOF ST Start Channel. Found at
		2	[0,2047]	word 55, bits 10-0 of HK

	Table 1: CAPS HS	K Data F	ile Content	s and Structure
SPARE_56	Unsigned Integer	2	0	Spare bits at word 56, bits 15-7
CPU2_SHMEM	Unsigned Integer			CPU2 Shared Memory Test Status. 0 =
		1	[0,1]	OK, 1 = Error. Found at word 56, bit 6
CPU2_SAM_MEM	Unsigned Integer			CPU2 SAM Memory Test Status. 0 =
		1	[0,1]	OK, 1 = Error. Found at word 56, bit 5
CPU2_RAM_MEM	Unsigned Integer			CPU2 RAM Memory Test Status. 0 =
		1	[0,1]	OK, 1 = Error. Found at word 56, bit 4
CPU2_ROM_MEM	Unsigned Integer			CPU2 ROM Memory Test Status. 0 =
		1	[0,1]	OK, 1 = Error. Found at word 56, bit 3
CPU2_WATCHDG	Unsigned Integer			CPU2 Watchdog. 0 = Disable, 1 =
		1	[0,1]	Enable. Found at word 56, bit 2 of HK
CPU2_HEALTH	Unsigned Integer			CPU2 Health. $0 = OK$ , $1 = Error$ .
		1	[0,1]	Found at word 56, bit 1
CPU2_STATE	Unsigned Integer			CPU2 State. $0 = \text{Reset}$ , $1 = \text{Run}$ . Found
		1	[0,1]	at word 56, bit 0 of the HK stream
SPARE3	Unsigned Integer	1	0	Added for padding only
CPU2_ERROR_1	Unsigned Integer			CPU2 Error Word 1. TBD. See Table
				24: "CPU2 Error Bit Definitions" in the
				CAPS Flight software functional design
				document. Found at word 57, bits 15-0
		2	[0, 65535]	of the HK stream.
CPU2_ERROR_2	Unsigned Integer			CPU2 Error Word 2. TBD. See Table
				24: "CPU2 Error Bit Definitions" in the
				CAPS Flight software functional design
				document. Found at word 58, bits 15-0
		2	[0, 65535]	of the HK stream.
CP1_EXEC_CNT	Unsigned Integer			CPU1 Executed Command Count.
		2	[0, 2047]	Found at word 59, bits 15-5 of HK
CPU1_SHMEM	Unsigned Integer			CPU1 Shared Memory Test Status. 0 =
		1	[0,1]	OK, $1 = Error$ . Found at word 59, bit 4
CPU1_RAM_MEM	Unsigned Integer			CPU1 RAM Memory Test Status. 0 =
		1	[0,1]	OK, $1 = \text{Error.}$ Found at word 59, bit 3
CPU1_ROM_MEM	Unsigned Integer			CPU1 ROM Memory Test Status. 0 =
		1	[0,1]	OK, 1 = Error. Found at word 59, bit 2
CPU1_WATCHDG	Unsigned Integer		FO 17	CPU1 Watchdog. 0 = Disable, 1 =
GDV11	**	1	[0,1]	Enable. Found at word 59, bit 1 of HK
CPU1_EXE_STA	Unsigned Integer		FO 17	CPU1 Execution State. 0 = ROM, 1 =
an in the same	**	1	[0,1]	RAM. Found at word 59, bit 0 of HK
SPARE_62	Unsigned Integer	1	0	Spare bits at word 62, bits 15-14
CPU1_ERROR_1	Unsigned Integer			CPU1 Error Word 1. See Table 23: CPU
				1 Error Bit Definitions, in the CAPS
		2	10 655053	Flight Software Functional Design
CDIII EDDOD 2	TT * 1T .	2	[0, 65535]	Document. Found at word 60, bits 15-0
CPU1_ERROR_2	Unsigned Integer			CPU1 Error Word 2. See Table 23: CPU
				1 Error Bit Definitions, in the CAPS
		2	[0 65525]	Flight Software Functional Design
		2	[0, 65535]	Document. Found at word 61, bits 15-0

	Table 1: CAPS HS	SK Data Fi	ile Conten	ts and Structure
SC_TLM_RATE	Unsigned Integer			Spacecraft Telemetry Rate. Units are
SC_ILWI_KATE	Onsigned integer			kbps. Found at word 62, bits 13-11 of
		1	[0,16]	HK
DPU_BKG_CTRL	Unsigned Integer	1	[0,10]	DPU Background Control. 0 = Disable,
DIO_DRO_CIRL	Olisighed integer	1	[0,1]	1 = Enable. Found at word 62, bit 10
DPU_BKG_INT	Unsigned Integer		[~,-]	DPU Background Interval. Found at
	68	1	[0,63]	word 62, bits 9-4 of HK
DPU_SHTR_PWR	Unsigned Integer			DPU Supplemental Heater Power. 0 =
		1	[0,1]	Off, $1 = On$ . Found at word 62, bit 3
DPU_MODE_CHG	Unsigned Integer			DPU Mode Change. $0 = \text{No}$ , $1 = \text{Yes}$ .
		1	[0,1]	Found at word 62, bit 2 of HK
DPU_PWR_OPMD	Unsigned Integer			CPU Power Operation Mode. $0 = $ Sleep,
				1 = Sleep, $2 = $ Op, $3 = $ Opwart. Op =
				operate and Opwart = operate with
		1	[0,1]	articulation. Found at word 62, bits 1-0
DPU_MODE	Unsigned Integer			DPU Mode. 0 = Maintenance, 1 =
				LowPower (ROM), $2 = \text{CPU2/SAM}$
				Ready, 3 = LowPower (Science), 4 =
		1	FO 1.53	Normal Science, 5 = Sleep, 6-15 =
DDII DOVOLE	** 1 *	1	[0,15]	TBD. Found at word 63, bits 15-12
DPU_BCYCLE	Unsigned Integer		FO 1 57	DPU B-cycle Counter. Found at word
		1	[0,15]	63, bits 11-8 of the HK stream
DPU_ACYCLE	Unsigned Integer	1	[0.255]	DPU A-cycle Counter. Found at word
CD1 II I CNIT	II I I	1	[0,255]	63, bits 7-0 of the HK stream
CP1_ILL_CNT	Unsigned Integer	1	[0.255]	CPU1 Illegal Command Counter. Found at word 64, bits 15-8 of the HK stream
SC TIM MODE	Unsigned Integer	1	[0,255]	Spacecraft Telemetry Mode. 0 =
SC_TLM_MODE	Unsigned integer			RTE_5, 1 = RTE_10, 2 = RTE_20, 3 =
				RTE_1896, 4 = PCHK-24.885, 5 =
				PRLY (Prime), 6 = S&ER1, 7 =
				S&ER2, 8 = S&ER3, 9 = S&ER4, 10 =
				S&ER5, 11 = S&ER5, 9 = S&ER4, 10 = S&ER6,
				13 = S&ER7, 14 = S&ER8, 15 =
				S&ER10 (Prime), 16 = RTE&SPB-
				14420, 17 = RTE&SPB-22120, 18 =
				RTE&SPB-27650, 19 = RTE&SPB-
				33180, 20 = RTE&SPB-35550, 21 =
				RTE&SPB-41475, 22 = RTE&SPB-
				47400, 23 = RTE&SPB-66360, 24 =
				RTE&SPB-82950, 25 = RTE&SPB-
				99540, 26 = RTE&SPB-110600, 27 =
				RTE&SPB-124425, 28 = RTE&SPB-
				142200, 29 = RTE&SPB-165900, 30 =
				SAF-248.85(2), 31 = SAF-142.2.
		1	[0,31]	Found at word 64, bits 7-0 of HK
SC_MODE_CHG	Unsigned Integer			Spacecraft Mode Change. 0 = No, 1 =
		1	[0,1]	Yes. Found at word 65, bit 15.

	Table 1: CAPS HS.	K Data F	File Content	ts and Structure
SPARE_65	Unsigned Integer	2	0	Spare bits at word 65, bits 14-13
LTLM_RATE	Float			Logical Telemetry Rate. CAPS internal
				rate. Units are kbps. Found at word 65,
		4	[0.25,16]	bits 12-10
SC_CLOCK_STA	Unsigned Integer			Spacecraft Clock Status. 0 = OK, 1 =
		1	[0,1]	Adjusted. Found at word 65, bit 9
TELEMETRY	Unsigned Integer			Telemetry Data Stream Status. 0 =
				Invalid, $1 = Valid$ . Found at word 65,
		1	[0,1]	bit 8 of the HK stream
CP1_LAST_RCV	Unsigned Integer			CPU1 Last Command Received. The
				hex value can be used to look up the last
				command received by CPU1. Hex
				values are in the CAPS command
		1	[0,255]	dictionary. Found at word 65, bits 7-0
SCLK_MULTR	Unsigned Integer			Sample Clock Multiplier. Found at
~~~~		1	[0,255]	word 66, bits 15-8 of the HK stream
SEQ_LAST	Unsigned Integer			Last Activated Sequence Number.
		4	50.0551	Indicates which IEB was the last IEB to
CDIII DIII CVII	** 1 * .	1	[0,255]	be running. Found at word 66, bits 7-0
CPU1_INV_CNT	Unsigned Integer			CPU1 Invalid Commands Count.
		1	[0.055]	Found at word 67, bits 15-8 of the HK
CEO CNT	TT ' 1T /	1	[0,255]	stream
SEQ_CNT	Unsigned Integer			Active Sequence Counter. Indicates the
		1	[0.15]	number of active IEBs. Found at word
ALE LOAD	Unsigned Integer	1	[0,15]	67, bits 7-4 of the HK stream  ALF Block Load. 0 = OK, 1 = Error.
ALF_LOAD	Unsigned Integer	1	[0,1]	Found at word 67, bit 3 of HK
DIST_SEQ	Unsigned Integer	1	[0,1]	Distributed Sequence. 0 = OK, 1 =
DIST_SEQ	Onsigned integer	1	[0,1]	Error. Found at word 67, bit 2 of HK
DPU_ACQ	Unsigned Integer	1	[0,1]	DPU Acquisition and Compression
DI U_ACQ	Onsigned integer			Strategy. 0 = Normal, 1 = Solar Wind.
		1	[0,1]	Found at word 67, bit 1 of HK
IMS_ION_CFG	Unsigned Integer	1	[0,1]	IMS Ion Configuration. 0 = Disable, 1 =
11/15_1011_C1 0	Charghed integer	1	[0,1]	Enable. Found at word 67, bit 0 of HK
CP2_RCVD_CNT	Unsigned Integer		[0,1]	CPU2 Received Command Count.
012_100,0_01(1		1	[0,255]	Found at word 68, bits 15-8 of HK
CP2_EXEC_CNT	Unsigned Integer	-	[:,=::]	CPU2 Executed Command Count.
		1	[0,255]	Found at word 68, bits 7-0 of HK
CP2_RJCT_CNT	Unsigned Integer		[-,]	CPU2 Rejected Command Count.
	3 8-1	1	[0,255]	Found at word 69, bits 15-8 of HK
CP2_ILL_CNT	Unsigned Integer			CPU2 Illegal Command Count. Found
		1	[0,255]	at word 69, bits 7-0 of the HK stream
CP2_LAST_RCV	Unsigned Integer			CPU2 Last Command Received. The
				hex value can be used to look up the last
				command received by CPU2. Hex
				values are in the CAPS command
		1	[0,255]	dictionary. Found at word 70, bits 15-8

	Table 1: CAPS HS	SK Data F	ile Conten	ts and Structure
CP2_INV_CNT	Unsigned Integer			CPU2 Invalid Count. Found at word 70,
		1	[0,255]	bits 7-0 of the HK stream
HK_MRO_TBLNO	Unsigned Integer			Housekeeping Memory Read-Out Table
				Number. $0 = CPU1$ Memory, $1 = CPU2$
				Memory, $2 = ELS MCP Tolerance$
				Table, 3 = IBS CEM Tolerance Table, 4
				= IBS ESA Tolerance Table, 5 = HVU1
				ACC Tolerance Table, 6 = HVU1 RET
				Tolerance Table, 7 = HVU2 ESA
				Tolerance Table, 8 = HVU2 LEF
				Tolerance Table, 9 = HVU2 ST
				Tolerance Table, 10 = ACT Step Table
				1, 11 = ACT Step Table 2, 12 = ACT
				Step Table 3, 13 = ACT Accel/Decel
				Table, 15 = ELS/IBS Compression
				Table, $16 = \text{Revision ID}$ , $19 = \text{ELS}$
				Sweep Monitor Table, 20 = IBS SW
				Search Table, 21 = IBS MAG Table 1,
				22 = IBS MAG Table 2, 23 = IBS STD
				Table, 24 = IBS Sweep Monitor Table,
				30 = HVU2 ESA Sweep Table 1, 31 =
				HVU2 ESA Sweep Table 2, 32 = HVU2
				ESA Sweep Table 3, 33 = HVU2 ESA
				Sweep Table 4, 34 = IMS Sweep
				Monitor Table, 40 = Group Table 1, 41
				= Group Table 2, 42 = Group Table 3,
				44 = Ancillary S/C Data, 50 = IEBs, 59
				= Mode Transition Sequence
				Low/Power to Normal Science, 60 =
				Mode Transition Sequence Normal
				Science To Low/Power, 61 = Mode
				Transition Sequence Normal Science To
				Sleep, 62 = Mode Transition Sequence
				Sleep To Normal Science, 63 = Mode
				Transition Sequence Sleep to
		1	[0.62]	Low/Power. Found at word 71, bits 15-8 of the HK stream.
HK_MRO_ADDRESS	Unsigned Integer	1	[0,63]	Housekeeping MRO Address: Built
IIV_MIKO_ADDKESS	onsigned integer			using the Most Significant Byte found at
			[0,	word 71, bits 7-0 and least significant
		4	0xFFFFF	
HK_MRO_WORDS	Unsigned Integer	+	-	Housekeeping MRO Words 0 - 15:
IIK_MIKO_MOKDS	onsigned integer			Built using word 73 to 88 (all bits) of
				the HK stream. The Memory Read-Out
		32	_	is "trickled" down every A-cycle.
		32	լս, хгггг	jus utekieu down every A-cycle.