

IMPACT SEP HOUSEKEEPING TELEMETRY FORMAT

NOTE: Byte order documented here is as the packet is created in SEP-Central.

Revision: W 2007-Jan 05
 SEP SOH Start ApID 241 Total packet Length= 272 OK
 Addressing

IDENTIFIER	Lng	OFFSET	TYPE	WIDTH	A1	A0	Units	RL	YL	YH	RH	DESCRIPTION	Module	Mux	Source	Validity	GSE Display
UTCs	4	6	U1234	32	1.00000	0.00000	Sec					UTC Seconds since epoch					SEPInterface SEP
UTCf	1	10	UB	8	0.00391	0.00000	Sec					UTC Seconds fraction (1/256)					SEPInterface SEP
SEPTNS_Temp	1	11	UB	8	0.98590	-165.62000	C	-40	-30	40	50	Temperature of the electronics					SEPInterface SEPT
SEPTNS_CS0	1	12	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE0					SEPInterface SEPT
SEPTNS_CS1	1	13	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE1					SEPInterface SEPT
SEPTNS_CS2	1	14	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE2					SEPInterface SEPT
SEPTNS_CS3	1	15	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE3					SEPInterface SEPT
SEPTNS_GR0	1	16	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE0					SEPInterface SEPT
SEPTNS_GR1	1	17	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE1					SEPInterface SEPT
SEPTNS_GR2	1	18	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE2					SEPInterface SEPT
SEPTNS_GR3	1	19	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE3					SEPInterface SEPT
SEPTNS_SinglesCtr	3	20	U123	24	1.00000	0.00000	counts/min	NA	NA	1500000	15000000	24-bit singles counter, not compressed					SEPInterface SEPT
SEPTNS_STATUS	1	23	UB	8	1.00000	0.00000	binary	see notes b	see notes b	see notes b	see notes b	see notes below					SEPInterface SEPT
SEPTTemp	1	24	UB	8	0.98590	-165.62000	C	-40	-30	40	50	Temperature of the electronics					SEPInterface SEPT
SEPTCS0	1	25	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE0					SEPInterface SEPT
SEPTCS1	1	26	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE1					SEPInterface SEPT
SEPTCS2	1	27	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE2					SEPInterface SEPT
SEPTCS3	1	28	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of center segment linked to PDFE3					SEPInterface SEPT
SEPTGR0	1	29	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE0					SEPInterface SEPT
SEPTGR1	1	30	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE1					SEPInterface SEPT
SEPTGR2	1	31	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE2					SEPInterface SEPT
SEPTGR3	1	32	UB	8	1.00000	0.00000		1	32	200	254	Leakage current of guard ring linked to PDFE3					SEPInterface SEPT
SEPTTempSinglesCtr	3	33	U123	24	1.00000	0.00000	counts/min	NA	NA	1500000	15000000	24-bit singles counter, not compressed					SEPInterface SEPT
SEPTSTATUS	1	36	UB	8	1.00000	0.00000	binary	see notes b	see notes b	see notes b	see notes b	see notes below					SEPInterface SEPT
HET_Temp1	1	37	UB	8	See note below	See note below	C	-40	-25	35	40	HET Board Temperature 1, see notes below					SEPInterface HET
HET_Temp2	1	38	UB	8	See note below	See note below	C	-40	-25	35	40	HET Board Temperature 2, see notes below					SEPInterface HET
HET_PHA0_Chan_ID	1	39	UB	8								PHASIC 0 Channel ID					SEPInterface HET
HET_PHA0_Preamp	1	40	UB	8	-0.01953	4.98015	V					PHASIC 0 Preamp DC output					SEPInterface HET
HET_PHA0_HG_Thresh	2	41	U12	16								PHASIC 0 high gain threshold					SEPInterface HET
HET_PHA0_LG_Thresh	2	43	U12	16								PHASIC 0 low gain threshold					SEPInterface HET
HET_PHA0_Leakage	2	45	U12	16								PHASIC 0 Leakage Current					SEPInterface HET
HET_PHA1_Chan_ID	1	47	UB	8								PHASIC 1 Channel ID					SEPInterface HET
HET_PHA1_Preamp	1	48	UB	8	-0.01953	4.98015	V					PHASIC 1 Preamp DC output					SEPInterface HET
HET_PHA1_HG_Thresh	2	49	U12	16								PHASIC 1 high gain threshold					SEPInterface HET
HET_PHA1_LG_Thresh	2	51	U12	16								PHASIC 1 low gain threshold					SEPInterface HET
HET_PHA1_Leakage	2	53	U12	16								PHASIC 1 Leakage Current					SEPInterface HET
HET_Error_Flags	2	55	U12	16			bit-field					Error Flags (16 bits)					SEPInterface HET
HET_Software_version_ID	2	57	U12	16								Software version ID					SEPInterface HET
HET_N_invalid_token	2	59	U12	16								N invalid token					SEPInterface HET
HET_N_invalid_trigger	2	61	U12	16								N invalid trigger					SEPInterface HET
HET_N_lost_raw_events	2	63	U12	16								N lost raw events					SEPInterface HET
HET_Mjrfm_num	2	65	U123	16								Major frame number					SEPInterface HET
HET_Table_chksum	3	67	UB	24								Table checksum					
HET_DAC_PHASIC0	1	70	UB	8								24-bit DAC value, bits 0:7 (PHASIC 0 DAC)					
HET_DAC_PHASIC1	1	71	UB	8								24-bit DAC value, bits 8:15 (PHASIC 1 DAC)					
HET_DAC_BITS	1	72	UB	8								24-bit DAC value, bits 16:23 (un:4, mux:2, mg1:1, mg0:1)					
HET_Spare	5	73	BUF	40								TBD HET spare HK space					SEPInterface HET
LET_L2A0_leakage	1.25	78	?	10			uA	NA	NA	1	2	LET L2A0 detector leakage current					SEPInterface LET
LET_L2A1_leakage	1.25	79.25	?	10			uA	NA	NA	1	2	LET L2A1 detector leakage current					SEPInterface LET
LET_L2A2_leakage	1.25	80.5	?	10			uA	NA	NA	1	2	LET L2A2 detector leakage current					SEPInterface LET
LET_L2A3_leakage	1.25	81.75	?	10			uA	NA	NA	1	2	LET L2A3 detector leakage current					SEPInterface LET
LET_L2A4_leakage	1.25	83	?	10			uA	NA	NA	1	2	LET L2A4 detector leakage current					SEPInterface LET
LET_L2A5_leakage	1.25	84.25	?	10			uA	NA	NA	1	2	LET L2A5 detector leakage current					SEPInterface LET
LET_L2A6_leakage	1.25	85.5	?	10			uA	NA	NA	1	2	LET L2A6 detector leakage current					SEPInterface LET
LET_L2A7_leakage	1.25	86.75	?	10			uA	NA	NA	1	2	LET L2A7 detector leakage current					SEPInterface LET
LET_L2A8_leakage	1.25	88	?	10			uA	NA	NA	1	2	LET L2A8 detector leakage current					SEPInterface LET
LET_L2A9_leakage	1.25	89.25	?	10			uA	NA	NA	1	2	LET L2A9 detector leakage current					SEPInterface LET
LET_L3Ai_leakage	1.25	90.5	?	10			uA	NA	NA	10	15	LET L3Ai detector leakage current					SEPInterface LET
LET_L3Ao_leakage	1.25	91.75	?	10			uA	NA	NA	20	25	LET L3Ao detector leakage current					SEPInterface LET
LET_L1A0a_leakage	1.25	93	?	10			uA	NA	NA	5	7	LET L1A0a detector leakage current					SEPInterface LET
LET_L1A0b_leakage	1.25	94.25	?	10			uA	NA	NA	4	6	LET L1A0b detector leakage current					SEPInterface LET
LET_L1A0c_leakage	1.25	95.5	?	10			uA	NA	NA	5	7	LET L1A0c detector leakage current					SEPInterface LET
LET_L1A1a_leakage	1.25	96.75	?	10			uA	NA	NA	5	7	LET L1A1a detector leakage current					SEPInterface LET
LET_L1A1b_leakage	1.25	98	?	10			uA	NA	NA	4	6	LET L1A1b detector leakage current					SEPInterface LET
LET_L1A1c_leakage	1.25	99.25	?	10			uA	NA	NA	5	7	LET L1A1c detector leakage current					SEPInterface LET
LET_L1A2a_leakage	1.25	100.5	?	10			uA	NA	NA	5	7	LET L1A2a detector leakage current					SEPInterface LET
LET_L1A2b_leakage	1.25	101.75	?	10			uA	NA	NA	4	6	LET L1A2b detector leakage current					SEPInterface LET

LET_L1A2c_leakage	1.25	103	?	10						uA	NA	NA	5	7	LET L1A2c detector leakage current	SEPInterface LET
LET_L1A3a_leakage	1.25	104.25	?	10						uA	NA	NA	5	7	LET L1A3a detector leakage current	SEPInterface LET
LET_L1A3b_leakage	1.25	105.5	?	10						uA	NA	NA	4	6	LET L1A3b detector leakage current	SEPInterface LET
LET_L1A3c_leakage	1.25	106.75	?	10						uA	NA	NA	5	7	LET L1A3c detector leakage current	SEPInterface LET
LET_L1A4a_leakage	1.25	108	?	10						uA	NA	NA	5	7	LET L1A4a detector leakage current	SEPInterface LET
LET_L1A4b_leakage	1.25	109.25	?	10						uA	NA	NA	4	6	LET L1A4a detector leakage current	SEPInterface LET
LET_L1A4c_leakage	1.25	110.5	?	10						uA	NA	NA	5	7	LET L1A4c detector leakage current	SEPInterface LET
LET_L1B0a_leakage	1.25	111.75	?	10						uA	NA	NA	5	7	LET L1B0a detector leakage current	SEPInterface LET
LET_L1B0b_leakage	1.25	113	?	10						uA	NA	NA	4	6	LET L1B0b detector leakage current	SEPInterface LET
LET_L1B0c_leakage	1.25	114.25	?	10						uA	NA	NA	5	7	LET L1B0c detector leakage current	SEPInterface LET
LET_L1B1a_leakage	1.25	115.5	?	10						uA	NA	NA	5	7	LET L1B1a detector leakage current	SEPInterface LET
LET_L1B1b_leakage	1.25	116.75	?	10						uA	NA	NA	4	6	LET L1B1b detector leakage current	SEPInterface LET
LET_L1B1c_leakage	1.25	118	?	10						uA	NA	NA	5	7	LET L1B1c detector leakage current	SEPInterface LET
LET_L1B2a_leakage	1.25	119.25	?	10						uA	NA	NA	5	7	LET L1B2a detector leakage current	SEPInterface LET
LET_L1B2b_leakage	1.25	120.5	?	10						uA	NA	NA	4	6	LET L1B2b detector leakage current	SEPInterface LET
LET_L1B2c_leakage	1.25	121.75	?	10						uA	NA	NA	5	7	LET L1B2c detector leakage current	SEPInterface LET
LET_L1B3a_leakage	1.25	123	?	10						uA	NA	NA	5	7	LET L1B3a detector leakage current	SEPInterface LET
LET_L1B3b_leakage	1.25	124.25	?	10						uA	NA	NA	4	6	LET L1B3b detector leakage current	SEPInterface LET
LET_L1B3c_leakage	1.25	125.5	?	10						uA	NA	NA	5	7	LET L1B3c detector leakage current	SEPInterface LET
LET_L1B4a_leakage	1.25	126.75	?	10						uA	NA	NA	5	7	LET L1B4a detector leakage current	SEPInterface LET
LET_L1B4b_leakage	1.25	128	?	10						uA	NA	NA	4	6	LET L1B4a detector leakage current	SEPInterface LET
LET_L1B4c_leakage	1.25	129.25	?	10						uA	NA	NA	5	7	LET L1B4c detector leakage current	SEPInterface LET
LET_L2B0_leakage	1.25	130.5	?	10						uA	NA	NA	1	2	LET L2B0 detector leakage current	SEPInterface LET
LET_L2B1_leakage	1.25	131.75	?	10						uA	NA	NA	1	2	LET L2B1 detector leakage current	SEPInterface LET
LET_L2B2_leakage	1.25	133	?	10						uA	NA	NA	1	2	LET L2B2 detector leakage current	SEPInterface LET
LET_L2B3_leakage	1.25	134.25	?	10						uA	NA	NA	1	2	LET L2B3 detector leakage current	SEPInterface LET
LET_L2B4_leakage	1.25	135.5	?	10						uA	NA	NA	1	2	LET L2B4 detector leakage current	SEPInterface LET
LET_L2B5_leakage	1.25	136.75	?	10						uA	NA	NA	1	2	LET L2B5 detector leakage current	SEPInterface LET
LET_L2B6_leakage	1.25	138	?	10						uA	NA	NA	1	2	LET L2B6 detector leakage current	SEPInterface LET
LET_L2B7_leakage	1.25	139.25	?	10						uA	NA	NA	1	2	LET L2B7 detector leakage current	SEPInterface LET
LET_L2B8_leakage	1.25	140.5	?	10						uA	NA	NA	1	2	LET L2B8 detector leakage current	SEPInterface LET
LET_L2B9_leakage	1.25	141.75	?	10						uA	NA	NA	1	2	LET L2B9 detector leakage current	SEPInterface LET
LET_L3B1_leakage	1.25	143	?	10						uA	NA	NA	10	15	LET L3B1 detector leakage current	SEPInterface LET
LET_L3B0_leakage	1.25	144.25	?	10						uA	NA	NA	20	25	LET L3B0 detector leakage current	SEPInterface LET
LET_spare	0.5	145.5	?	4											LET SPARE	SEPInterface LET
LET_Temp0	1	146	UB	8	See note below	See note below	C	-40	-25	35					40 LET Board Temperature 0	SEPInterface LET
LET_Temp1	1	147	UB	8	See note below	See note below	C	-40	-25	35					40 LET Board Temperature 1	SEPInterface LET
LET_Temp2	1	148	UB	8	See note below	See note below	C	-40	-25	35					40 LET Board Temperature 2	SEPInterface LET
LET_Temp3	1	149	UB	8	See note below	See note below	C	-40	-25	35					40 LET Board Temperature 3	SEPInterface LET
LET_CmdTable	30	150	BUF	240			binary								TBD LET command table, PHASIC status, look-up tables, etc.	SEPInterface LET
SIT_MJR_FRM#	2	180	U21	16											SIT major frame number	SEPInterface SIT
SIT_CalGain	2	182	I21	16	0.00049	0.00000									SIT Calibration gain	SEPInterface SIT
SIT_Cal_Fset	2	184	I21	16	-0.01563	0.00000									SIT Calibration offset	SEPInterface SIT
SIT_ErrFlags	1	186	UB	8			bit-field								SIT Calibration error flags (see below)	SEPInterface SIT
SIT_HVMon	1	187	UB	8	See note below	See note below	V	-120	-100	3300					3400 HV Monitor	SEPInterface SIT
SIT_DTOf_Temp	1	188	UB	8	See note below	See note below	C	-50	-45	55					65 DTOf Temperature	SEPInterface SIT
SIT_Foil_Temp	1	189	UB	8	See note below	See note below	C	-50	-45	35					38 Foil Temperature	SEPInterface SIT
SIT_SSD_Temp	1	190	UB	8	See note below	See note below	C	-50	-45	35					38 SSD Temperature	SEPInterface SIT
SIT_P33Mon	1	191	UB	8	See note below	See note below	V		3	3.1	3.4				3.5 +3.3 Volts	SEPInterface SIT
SIT_P25Mon	1	192	UB	8	See note below	See note below	V	2.25	2.35	2.55					2.65 +2.5 Volts	SEPInterface SIT
SIT_P5DMon	1	193	UB	8	See note below	See note below	V	4.6	4.8	5.3					5.5 +5D Volts	SEPInterface SIT
SIT_P6Mon	1	194	UB	8	See note below	See note below	V	5.6	5.8	6.3					6.5 +6 Volts	SEPInterface SIT
SIT_Softversion	2	195	U21	16											SIT Software version tag	SEPInterface SIT
SIT_TableChecksum	3	197	U321	24											SIT Table area checksum	SEPInterface SIT
SIT_SoftErrorFlags	3	200	U321	24			bit-field								SIT Software error flags (see below)	SEPInterface SIT
SIT_Spare	13	203	BUF	104											TBD SIT spare HK space	SEPInterface SIT
SEP_APRBTemp	1	216	UB	8	See note below	See note below	C	-40	-25	40					50 Analog/Post-Regulator Board Temperature	SEPInterface SEP
SEP_BSBTemp	1	217	UB	8	See note below	See note below	C	-40	-25	40					50 Bias Supply Board Temperature	SEPInterface SEP
SEP_LBTemp	1	218	UB	8	See note below	See note below	C	-40	-25	40					50 Logic Board Temperature	SEPInterface SEP
SEP_LVPSTemp	1	219	UB	8	See note below	See note below	C	-40	-25	85					90 LVPS Board Temperature	SEPInterface SEP
SEP_Spare0	1	220	UB	8				-0.01	-0.005	0.005					0.01 SEP Spare 0	SEPInterface SEP
SEP_Spare1	1	221	UB	8				-0.01	-0.005	0.005					0.01 SEP Spare 1	SEPInterface SEP
SEP_Spare2	1	222	UB	8				-0.01	-0.005	0.005					0.01 SEP Spare 2	SEPInterface SEP
SEP_P26DMon	1	223	UB	8	0.03906	-5.00000	V	2.25	2.38	2.63					2.75 +2.6D LVPS Monitor	SEPInterface SEP
SEP_P34DMon	1	224	UB	8	0.03906	-5.00000	V	3.00	3.14	3.47					3.60 +3.4D LVPS Monitor	SEPInterface SEP
SEP_P51DMon	1	225	UB	8	0.04875	-6.24000	V	4.50	4.75	5.25					5.50 +5.1D LVPS Monitor	SEPInterface SEP
SEP_N52DMon	1	226	UB	8	0.04875	-6.24000	V	-5.46	-5.33	-5.07					-4.94 -5.2D LVPS Monitor	SEPInterface SEP
SEP_P13AMon	1	227	UB	8	0.12754	-16.32500	V	11.70	12.35	14.30					14.95 +13A LVPS Monitor	SEPInterface SEP
SEP_N13AMon	1	228	UB	8	0.12754	-16.32500	V	-14.95	-14.30	-12.35					-11.70 -13A LVPS Monitor	SEPInterface SEP
SEP_P6AMon	1	229	UB	8	0.05855	-7.49500	V	5.40	5.70	6.60					6.90 +6A LVPS Monitor	SEPInterface SEP
SEP_N6AMon	1	230	UB	8	0.05855	-7.49500	V	-6.90	-6.60	-5.70					-5.40 -6A LVPS Monitor	SEPInterface SEP
SEP_N5RefMon	1	231	UB	8	0.04875	-6.24000	V	-5.15	-5.08	-4.93					-4.85 -5VRef Voltage Monitor	SEPInterface SEP

SIT_P51AMon	1	232	UB	8	0.04875	-6.24000	V	4.95	5.00	5.15	5.20 SIT +5.1A Voltage Monitor	SEPInterface SEP
SEPTNS_P26DMon	1	233	UB	8	0.03906	-5.00000	V	2.44	2.50	2.70	2.76 SEPT-NS +2.6D LVPS Monitor	SEPInterface SEP
SEPTNS_P53DMon	1	234	UB	8	0.04875	-6.24000	V	4.98	5.09	5.57	5.67 SEPT-NS +5.3D LVPS Monitor	SEPInterface SEP
SEPTNS_P56AMon	1	235	UB	8	0.04875	-6.24000	V	5.26	5.38	5.82	5.94 SEPT-NS +5.6A LVPS Monitor	SEPInterface SEP
SEPT_E_P26DMon	1	236	UB	8	0.03906	-5.00000	V	2.44	2.50	2.70	2.76 SEPT-E +2.6D LVPS Monitor	SEPInterface SEP
SEPT_E_P53DMon	1	237	UB	8	0.04875	-6.24000	V	4.98	5.09	5.57	5.67 SEPT-E +5.3D LVPS Monitor	SEPInterface SEP
SEPT_E_P56AMon	1	238	UB	8	0.04875	-6.24000	V	5.26	5.38	5.82	5.94 SEPT-E +5.6A LVPS Monitor	SEPInterface SEP
SEP_BiasNMon	1	239	UB	8	-1.75781	225.00000	V	-140.00	-130.00	-100.00	-90.00 Bias Supply Tap Voltage Monitor - Negative	SEPInterface SEP
SEP_BiasPMon	1	240	UB	8	3.90625	-500.00000	V	280.00	290.00	340.00	350.00 Bias Supply Tap Voltage Monitor - Positive	SEPInterface SEP
SEP_CmdTable	30	241	BUF	240			binary				TBD SEP_Central command table, SEPT look-up table, etc.	SEPInterface SEP
Checksum_byte	1	271		8							Sum of all 272 bytes should equal zero	SEPInterface SEP
Total Bytes		266	272	<==OK								

Notes: A0 and A1 are conversion factors to engineering units: B233
For many items, we will probably need to provide two tables - one for FM1, the other for FM2 (ahead and behind...)
For SEPT leakage currents, the conversion factors are for ambient temperature only. We may need to include the temperature as a parameter in the calculation of physical units
In bit-field definitions below, bit 0 refers to the ls-bit of a byte.

N_SIT_SoftErrorFlags Bit Contains
0 Receive queue full
1 Transmit queue full
2 command queue full
3 Command buffer overflow
4 Command handler timeout
5 Command syntax error
6 Command processing error
7 Callback timer error

N_SIT_ErrFlags Bit Contains
0 Cal2 == Cal1
1 Cal2 < Cal1
2 Gain < 6
3 Gain > 13
4 Offset < 10
5 Offset > 22

N_SEPTNS_STATUS Bit Meaning
0 zero means SEPT NS A-side housekeeping is invalid YELLOW flag when zero SPNAT-OK
1 zero means SEPT NS B-side housekeeping is invalid YELLOW flag when zero SPNBT-OK
2 zero means SEPT-NS TA temperature is reported, 1 means TB temperature is reported SPN-TUSED
3 zero means that SEPT-NS response to cReadDate/cClrIRQ commands is invalid RED flag when zero NSTAT-OK
4,5,6 address of singles counter reported in THIS CYCLE
7 1 means that SEPT-NS is in tgen mode SPNTGEN

N_SEPTE_STATUS Bit Meaning
0 zero means SEPT E A-side housekeeping is invalid YELLOW flag when zero SPEAT-OK
1 zero means SEPT E B-side housekeeping is invalid YELLOW flag when zero SPEBT-OK
2 zero means SEPT-E TA temperature is reported, 1 means TB temperature is reported SPE-TUSED
3 zero means that SEPT-E response to cReadDate/cClrIRQ commands is invalid RED flag when zero ESTAT-OK
4,5,6 address of singles counter reported in THIS CYCLE
7 1 means that SEPT-E is in tgen mode SPETGEN

N_LET_Ileakage Leakage currents are encoded into HK stream in 10 bits.
Let the least significant 5 bits be denoted by N1 (= 0 to 31)
and the most significant 5 bits by N2 (= 0 to 31).
Then leakage current for a given detector can be calculated from:

$$\text{Det. leakage current [uA]} = (N2 - N2_0) * 1\text{uA} + (N1 - N1_0) * 39.06\text{nA} / 1000$$

where N2₀ and N1₀ depend on the detector type as shown below:

	N2 ₀	N1 ₀
L1	0	18
L2	1	0
L3	2	23

N_LET_Temp0 Temp = A + B*ADC + C*ADC^2 + D*ADC^3 + E*ADC^4 + F*ADC^5
N_LET_Temp1 A 8.5021200E+01 Example
N_LET_Temp2 B -1.8426540E+00 ADC Temp (deg C)
N_LET_Temp3 C 2.1019000E-02 200.00 -24.81
D -1.4837630E-04

E 5.3506590E-07
 F -7.8485070E-10

N_SEP_APRBTemp
 N_SEP_BSBTemp
 N_SEP_LBTemp
 N_SEP_LVPSTemp

Temp = A + B*ADC + C*ADC^2 + D*ADC^3 + E*ADC^4 + F*ADC^5

Example	
ADC	Temp (deg C)
134.98	104.72

A 1.535576693E+04
 B -3.923685680E+02
 C 4.031000402E+00
 D -2.069625498E-02
 E 5.299104092E-05
 F -5.412114792E-08

N_HET_ADCTemp 1
 N_HET_ADCTemp 2

Temp = 39.4 * tan(0.0085 * (ADC - 116)) + 10
 where the operand of the tangent function is in radians

Example	
ADC	Temp (deg C)
164.00	27.03

SIT analog Housekeeping Conversion

N_SIT_HVMon
 N_SIT_DTOF_Temp
 N_SIT_Foil_Temp
 N_SIT_SSD_Temp
 N_SIT_P33Mon
 N_SIT_P25Mon
 N_SIT_P5DMon
 N_SIT_P6Mon

FM1 (ahead)		FM2 (behind)	
A0	A1	A0	A1
4133.526	-16.587	4133.526	-16.587
37.4581	-0.3146	49.5024	-0.4885
37.4581	-0.3146	49.5024	-0.4885
45.7564	-0.4188	49.5024	-0.4885
5.1	-0.02	5.1	-0.02
5.1	-0.02	5.1	-0.02
10.2	-0.04	10.2	-0.04
10.1911	-0.0412	10.1911	-0.0412

For SIT temperatures, the conversion method is different:

Tcorr = A0 + A1 * (Traw - Vslope * (SIT_P6Mon - Vref))
 where Traw = raw telemetry value for the given temperature
 where SIT_P6Mon = raw SIT_P6Mon telemetry value
 where Vref and Vslope are defined below

FM1 (ahead)		FM2 (behind)	
Vref	Vslope	Vref	Vslope
101.5	-2.68	100	-2.68