

FAST FIELDS INSTRUMENT
MODE : 37

02/18/99
REE

SUMMARY

SLOW SURVEY: 14,366 bit/s
FAST SURVEY: 196,608 bit/s
BURST: 3,932,570 bit/s
SLOT: 9

Backup - DC_16k, High Alt
Medium Speed
HG=1/4 (Rev: 6)

A. SPHERE CONFIGURATION. Spheres in Current Mode: 6,7; Ne range 1 to 4x10⁴ cm⁻³

B. SLOW SURVEY

APID SUMMARY	DATA	SMPL/S	BITS/s
SVY0	V1-V4_S	32	512
APID 1032	V5-V8_S	32	512
2,048 bit/s	V9-V10_S	32	512
(1/128 max rate)	Mag1dc	8	128
	Mag2dc	8	128
	Mag3dc	8	128
	Therm	8	128
SVY1	V1-V2_S	32	512
APID 1033	V3-V4_S	32	512
2,048 bit/s	Ne6_S	32	512
(1/128 max rate)	V7-V8_S	32	512
SVY2	Mag1ac_S	32	512
APID 1034	Mag2ac_S	32	512
2,048 bit/s	Mag3ac_S	32	512
(1/128 max rate)	V10_S	8	128
	V4_S	8	128
	V8_S	8	128
	LFF1	8	64
	LFF2	8	64
LFF1 set to V1-V2_HG. LFF2 set to V5-V8_HG.			
BBF	V1-V4_BBF	0	0
APID 1035	V5-V8_BBF	0	0
0 bit/s	Mag3ac_BBF	0	0
(OFF)	V9-V10_BBF	0	0
SFA_AVE	V1-V4_SFA	64	512
APID 1036	V5-V8_SFA	64	512
2,048 bit/s	Mag3ac_SFA	64	512
(Ave 64 sweeps)	1-V4_TRK	64	512
Each Ch.: 1 swp/4s, 256 pts/sweep, Swp: 0 - 2 MHz.			
DSP	V1-V4_DSP	<128	<1,024
APID 1037	V5-V8_DSP	<128	<1,024
6,144 bit/s	Mag3ac_DSP	<128	<1,024
(Ave 128 sweeps)	1-V4_TRK	128	1,024
Each Ch.: 1 swp/4s, 512 pts/sweep, Swp: 0 - 16 kHz.			
HFQ	PD12	0	0
APID 1038	PD13	0	0
0 bit/s	PD14	0	0
(OFF)	PD23	0	0
	PD24	0	0
	PD34	0	0
	TRK_FRQ	0	0
	FRQ1	0	0
	FRQ2	0	0
	FRQ3	0	0
	FRQ4	0	0

* LFF, BBF, SFA, DSP, and PD are 8-bit words.

C. FAST SURVEY

APID SUMMARY	DATA	SMPL/S	BITS/s
SSVY0	V1-V4_S	512	8,192
APID 1032	V5-V8_S	512	8,192
32,768 bit/s	V9-V10_S	512	8,192
(1/4 max rate)	Mag1dc	128	2,048
	Mag2dc	128	2,048
	Mag3dc	128	2,048
	Therm	128	2,048
SVY1	V1-V2_S	512	8,192
APID 1033	V3-V4_S	512	8,192
32,768 bit/s	Ne6_S	512	8,192
(1/4 max rate)	V7-V8_S	512	8,192
SVY2	Mag1ac_S	512	8,192
APID 1034	Mag2ac_S	512	8,192
32,768 bit/s	Mag3ac_S	512	8,192
(1/4 max rate)	V10_S	128	2,048
	V4_S	128	2,048
	V8_S	128	2,048
	LFF1	128	1,024
	LFF2	128	1,024
LFF1 set to V1-V4_HG. LFF2 set to V5-V8_HG.			
BBF	V1-V4_BBF	512	4,096
APID 1035	V5-V8_BBF	512	4,096
16,384 bit/s	Mag3ac_BBF	512	4,096
(1/8 max rate)	V9-V10_BBF	512	4,096
SFA_AVE	V1-V4_SFA	512	4,096
APID 1036	V5-V8_SFA	512	4,096
16,384 bit/s	Mag3ac_SFA	512	4,096
(Ave 8 sweeps)	1-V4_TRK	512	4,096
Each Ch.: 2 swp/s, 256 pts/sweep, Swp: 0 - 2 MHz.			
DSP	V1-V4_DSP	1,024	8,192
APID 1037	V5-V8_DSP	1,024	8,192
49,152 bit/s	Mag3ac_DSP	1,024	8,192
(Ave 16 sweeps)	1-V4_TRK	1,024	8,192
Each Ch.: 2 swp/s, 512 pts/sweep, Swp: 0 - 16 kHz.			
HFQ	PD12	128	1,024
APID 1038	PD13	128	1,024
16,384 bit/s	PD14	128	1,024
(Only rate)	PD23	128	1,024
	PD24	128	1,024
	PD34	128	1,024
	TRK_FRQ	128	2,048
	FRQ1	128	2,048
	FRQ2	128	2,048
	FRQ3	128	2,048
	FRQ4	128	2,048

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D. BURST

APID SUMMARY	DATA	SMPL/S	BITS/s
ADC1	V1-V4_ADC1	32,768	524,288
APID 1048			
524,288 bit/s			
(Max rate)			
ADC2	V5-V8_ADC2	32,768	524,288
APID 1049			
524,288 bit/s			
(Max rate)			
ADC3	SVY_BAC	0	0
APID 1050			
OFF			
ADC4	V1-V4TRK_ADC4	32,768	524,288
APID 1051			
524,288 bit/s			
(Max rate)			
ADC5	D8_ADC5	32,768	524,288
APID 1052			
524,288 bit/s			
(Max rate)			
ADC6	Mag3ac_ADC6	32,768	524,288
APID 1053			
524,288 bit/s			
(Max rate)			
ADC7	Mag1ac_ADC7a	8,192	131,072
APID 1054	Mag2ac_ADC7b	8,192	131,072
524,288 bit/s	Mag3ac_ADC7c	8,192	131,072
(Max rate)	V1-V2_ADC7d	8,192	131,072
ADC8	V7-V8_ADC8	32,768	524,288
APID 1055			
524,288 bit/s			
(Max rate)			
WPC	All Quantities	307	39,322
APID 1056			
039,322 bit/s			
(1/4 rate)			
Field input: V1-V4_LF (1-16 kHz)			
	V5-V8_LF (1-16 kHz)		
BCOR OFF			
SFA	V1-V4_SFA	4,096	32,768
APID 1057	V5-V8_SFA	4,096	32,768
131,072 bit/s	Mag3ac_SFA	4,096	32,768
(1/2 rate)	V1-V4_TRK	4,096	32,768
Each Ch.: 16 swp/s, 256 pts/sweep, Swp: 0 - 2 MHz.			
Track Frequency - V1-V4 Zero Crossing.			
HSBM	V1-V4_HSBM		
APID 1058	V5-V8_HSBM		
Memory allocation: Mag3ac_HSBM			
20,971,520 bytes	V9-V10_HSBM		
Sample rate: 0.5 us.			
Buffer size: 2,621,440 bytes.			
Triga=BBF1. TrigB=LFF2.			
PROC MODE =15, OL = 7, 4 second latency.			
(Capture during fast survey or burst.)			

E. MODE SET UP

POWER			
Command sequence (setbit):			
F9 0 :	System 7	Fields survey	ON
F8 14 :	System 4	Fluxgate	ON
F8 6 :	System 6	BEB1,2; Spheres 1,2,3,4.	ON
F8 7 :	System 23	BEB3,4; Spheres 5,6,7,8.	ON
F8 8 :	System 24	AXBEB; Spheres 9,10.	ON
F9 1 :	System 8	Fields LF analog	ON
F8 15 :	System 3	Search Coil	ON
F9 2 :	System 9	Fields HF analog, Osc.	ON
F9 3 :	System 10	SFA	ON
F9 4 :	System 11	WPC, BFF, HFQ	ON
** :	System 12	HSEB	ON
** :	System 13	DSP	ON
** :	System 14	DSP ROM	ON
** -	Driver turn on.	HSEB:.61000001. DSP:.60000001.	
BEB1	400078	IBIAS2 -6.25 nA	
	410090	STUB2 +300 mV	
	420078	IBIAS1 -6.25 nA	
	430090	STUB1 +300 mV	
	440080	GUARD -5.0 V	
	450001	SPH2 V_Mode	
BEB2	480080	IBIAS3 0 nA	
	490080	STUB3 0.0 V	
	4A0080	IBIAS4 0 nA	
	4B0080	STUB4 0.0 V	
	4C0000	GUARD 0 V	
	4D0001	SPH3 V_Mode	
BEB3	5000C0	VBIAS6 +15 V	
	510090	STUB6 +300 mV	
	520078	IBIAS5 -6.25 nA	
	530090	STUB5 +300 mV	
	540080	GUARD -5.0 V	
	55000A	SPH6 GL/I_Mode	
BEB4	558078	VBIAS7 -6.25 nA	
	590090	STUB7 +300 mV	
	5A0078	IBIAS8 -6.25 nA	
	5B0090	STUB8 +300 mV	
	5C0080	GUARD -5.0 V	
	5D0001	SPH7 V_Mode	
FORMATTER	D82804	APID ON/OFF	
	D90067	Rate SFA,ADC,BBF	
	CLRBIT	D5 8	
ANALOG A/B	800036	SVY 1/128 SPEED	
	823B00	ADC1 to ADC 4	
	830399	ADC5 to ADC 8	
	8401AC	ADC7 MUX	
	85FFFF	ADC8 V78_16k	
	860009	TRIGGERS	
	881800	ANB, BACKUP	
SFA	A8452A	SWP to 2MHz	
	A977FC	HPDIST	
	AA2600	SFA TRACK	
SLOW -> FAST	D82804		
	D90064		
	800036		
	9080CC		
	948004		
ANALOG C	A00006	ANC, BCOR TRIG	
	A16EA2	ESA HEAD POS	
	A20000	BCOR OFF	
	A40000	FREQ-T	
DSP	9080CC	ADC1 to ADC6	
	948007	AVERAGE 2^7	
HSBM	98B803	MSZ=7, 2MS/s	
	99B8A0	LFF2/BBF1 Levels	
	9A8803	Sel BBF1,LFF2	
FAST -> SLOW	D82804		
	D90067		
	800036		
	9080CC		
	948007		
-ree/fast/modes/frm3/mode033.frm			
Note:			
1. HG=1/4.			
2. HSBM=No retrig.TPOS=1/4.			
3. SVY BACKUP			
4. SFA 910 @ 4 MHz.			