

FAST FIELDS INSTRUMENT
MODE : 64

3/21/97
REE

SUMMARY

SLOW SURVEY: 14,366 bit/s
FAST SURVEY: 196,608 bit/s
BURST: 4,482,664 bit/s
SLOT: 11

Low Alt - LF 1
Medium
3-Wire (Rev: 5)

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	Ne2_S	32	512
APID 1033	V3-V4_S	32	512
2,048 bit/s	V5-V6_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-V4_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)	V9-V10_4M	64	512
Each Ch.: 1 swp/4s, 256 pts/sweep, Swp: 0 - 2 MHz.			
DSP	V5-V8_DSP	<128	<1,024
APID 1037	Mag3ac_DSP	<128	<1,024
6,144 bit/s	V5-V6_DSP	<128	<1,024
(Ave 128 sweeps)	V7-V8_DSP	128	1,024
	V56_V78_COH	128	1,024
	V56_V78_PHS	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

C. FAST SURVEY

APID SUMMARY	DATA	SMPL/S	BITS/s
SVY0	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	Ne2_S	512	8,192
APID 1033	V3-V4_S	512	8,192
32,768 bit/s	V5-V6_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)	V9-V10_4M	512	4,096
Each Ch.: 2 swp/s, 256 pts/sweep, Swp: 0 - 2 MHz.			
DSP	V5-V8_DSP	1,024	8,192
APID 1037	Mag3ac_DSP	1,024	8,192
49,152 bit/s	V5-V6_DSP	1,024	8,192
(Ave 16 sweeps)	V7-V8_DSP	1,024	8,192
	V56_V78_COH	1,024	8,192
	V56_V78_PHS	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

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

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

FAST FIELDS INSTRUMENT
MODE : 64

3/21/97
REE

2

D. BURST

APID SUMMARY	DATA	SMPL/S	BITS/s
ADC1	V1_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	V9-V10_ADC3	32,768	524,288
APID 1050			
524,288 bit/s			
(Max rate)			
ADC4	V8_ADC4	32,768	524,288
APID 1051			
524,288 bit/s			
(Max rate)			
ADC5	OFF	0	0
APID 1052			
0 bit/s			
(Off)			
ADC6	Mag3ac_ADC6	32,768	524,288
APID 1053			
524,288 bit/s			
(Max rate)			
ADC7	V5-V6_ADC7	32,768	524,288
APID 1054			
524,288 bit/s			
(Max rate)			
ADC8	V7-V8_ADC8	32,768	524,288
APID 1055			
524,288 bit/s			
(Max rate)			
WPC	All Quantities	307	157,288
APID 1056			
157,288 bit/s			
(Max 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)	V9-V10_4M	4,096	32,768
Each Ch.: 16 swp/s, 256 pts/sweep, Swp: 0 - 2 MHz.			
Track Frequency - V1-V4 Zero Crossing.			
HSMB	V1-V4_HSMB		
APID 1058	V7-V8_HSMB		
Memory allocation: V5-V6_HSMB			
20,971,520 bytes V9-V10_HSMB			
Sample rate: 4.0 us.			
Buffer size: 2,621,440 bytes.			
Triga=BBF3 (DISABLED). 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	HSMB	ON		
** :	System 13	DSP	ON		
** :	System 14	DSP ROM	ON		
** -	Driver turn on.	HSMB:.61000001. DSP:.60000001.			
BEB1	400070	IBIAS2 -12.5 nA	BEB2	400080	IBIAS3 0 nA
410088	STUB2 +150 mV	490080	STUB3 0.0 V	420070	IBIAS1 -12.5 nA
430088	STUB1 +150 mV	480080	STUB4 0.0 V	440080	GUARD -5.0 V
450001	SPH2 V_Mode	400001	SPH3 V_Mode	5000C0	VBIAS6 +15 V
510088	STUB6 0.0 V	590088	STUB7 0.0 V	520070	IBIAS5 -12.5nA
530088	STUB5 0.0 V	580088	STUB8 0.0 V	540080	GUARD -5.0 V
55000A	SPH6 GL/I_Mode	50000A	SPH7 GL/I_Mode	600080	IBIAS9 0 nA
D82810	APID ON/OFF	610080	IBIAS10 0 nA	D90067	Rate SFA,ADC,BBF
823A10	ADC1 to ADC 4	620055	V9, V10 V_Mode	84FFFF	ADC7 MUX
830358	ADC5 to ADC 8	A40000	FREQ-T	85FFFF	ADC8 MUX
881C00	ANB, No Track	908288	ADC2678	860001	TRIGGERS
		948087	AVERAGE 2^7,XTAL		
SFA	A80D20	SWP to 2MHz	HSMB	988B00	MSZ=7, 256 k/s/s
A977FB	HPDIST		99A0FF	LFF2/BBF3 Levels	
AA2600	SFA TRACK		9A88A2	Sel BBF3,LFF2	
SLOW -> FAST	D82810		FAST -> SLOW	D90067	
D82810			80001E	908288	
D90064			948084		
disks/plasmal/home/ree/fast/modes/frm3/mode064.frm					
Rev. 5: - Low Altitude Bias Tables					
- HSMB LFF2 Trig only 256 ksample/s					
- DSP Cross Spectral!					
- SFA sweep 4 M on axial.					