Title	Electrical Engineering Mission Telemetry (Ground Support) Requirements (MTR) for **Mission 52.003/52.004 Kletzing**		
Doc. No.	EE120237MTR		
Revision	Rev-Dash	**Release Date**	07/17/17

TM1 Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
2	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A31	R3	S1	S8	S9	S2	S5
3	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
4	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A65	R3	S1	S8	S9	S2	S5
5	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
6	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A81	R3	S1	S8	S9	S2	S5
7	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
8	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A82	R3	S1	S8	S9	S2	S5
9	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
10	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A83	R3	S1	S8	S9	S2	S5
11	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
12	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A86	R3	S1	S8	S9	S2	S5
13	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
14	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A96	R3	S1	S8	S9	S2	S5
15	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
16	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	R5	R3	S1	S8	S9	S2	S5
17	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
18	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	R6	R3	S1	S8	S9	S2	S5
19	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
20	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	R7	R3	S1	S8	S9	S2	S5
21	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
22	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A31	R3	S1	S8	S9	S2	S5
23	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
24	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A65	R3	S1	S8	S9	S2	S5
25	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
26	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A81	R3	S1	S8	S9	S2	S5
27	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
28	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A82	R3	S1	S8	S9	S2	S5
29	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
30	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A83	R3	S1	S8	S9	S2	S5
31	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
32	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A86	R3	S1	S8	S9	S2	S5
33	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
34	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A96	R3	S1	S8	S9	S2	S5
35	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
36	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	R5	R3	S1	S8	S9	S2	S5
37	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
38	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	R6	R3	S1	S8	S9	S2	S5
39	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	A30	R3	S1	S8	S9	S2	S5
40	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S13	S14	SFID	R7	R3	S1	S8	S9	S2	S5

PCM Code =	RNRZ-L	Frame Sync 1 =	1111-1110-0110-1011	Bit Rate =	9.6 Mbit/sec
Words/Frame =	120	Frame Sync 2 =	0010-1000-0100-0000	Bits/Word =	16
Frames/Major Frame =	40	Frame Sync (Hex) =	FE6B2480	Frames/sec =	5000
52.003 Kletzing		SFID =	1000000000CCCCCC	Mjr Frame/sec =	125

Title	Electrical Engineering Mission Telemetry (Ground Support) Requirements (MTR) for **Mission 52.003/52.004 Kletzing**		
Doc. No.	EE120237MTR		
Revision	Rev-Dash	**Release Date**	07/17/17

TM1 Matrix

	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
2	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
3	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
4	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
6	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
7	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
8	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
9	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
10	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
11	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
12	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
13	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
14	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
15	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
16	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
17	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
18	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
19	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
20	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
21	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
22	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
23	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
24	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
25	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
26	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
27	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
28	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
29	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
30	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
31	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
32	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
33	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
34	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
35	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
36	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
37	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
38	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
39	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R2	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7
40	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	R4	M1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7

PCM Code =	RNRZ-L	Frame Sync 1 =	1111-1110-0110-1011	Bit Rate =	9.6 Mbit/sec
Words/Frame =	120	Frame Sync 2 =	0010-1000-0100-0000	Bits/Word =	16
Frames/Major Frame =	40	Frame Sync (Hex) =	FE6B2480	Frames/sec =	5000
52.003 Kletzing		SFID =	1000000000CCCCCC	Mjr Frame/sec =	125

Title	Electrical Engineering Mission Telemetry (Ground Support) Requirements (MTR) for **Mission 52.003/52.004 Kletzing**		
Doc. No.	EE120237MTR		
Revision	Rev-Dash	**Release Date**	07/17/17

TM1 Matrix

	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
1	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
2	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A7	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
3	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A8	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
4	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A9	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
5	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
6	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A10	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A11	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
8	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A12	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
9	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
10	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A13	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
11	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A14	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
12	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A15	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
13	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
14	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A16	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
15	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A17	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
16	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A18	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
17	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
18	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A19	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
19	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A20	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
20	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A21	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
21	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
22	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A22	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
23	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A23	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
24	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A24	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
25	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
26	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A25	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
27	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A26	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
28	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A27	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
29	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
30	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A28	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
31	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A29	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
32	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A32	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
33	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
34	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A33	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
35	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A34	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
36	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A35	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
37	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A1	A61	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
38	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A2	A36	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
39	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A3	A37	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5
40	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	A49	A38	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5

PCM Code =	RNRZ-L	Frame Sync 1 =	1111·1110·0110·1011	Bit Rate =	9.6 Mbit/sec
Words/Frame =	120	Frame Sync 2 =	0010·1000·0100·0000	Bits/Word =	16
Frames/Major Frame =	40	Frame Sync (Hex) =	FE6B2480	Frames/sec =	5000
52.003 Kletzing		SFID =	1000000000CCCCCC	Mjr Frame/sec =	125

Title	Electrical Engineering Mission Telemetry (Ground Support) Requirements (MTR) for **Mission 52.003/52.004 Kletzing**		
Doc. No.	EE120237MTR		
Revision	Rev-Dash	**Release Date**	07/17/17

TM1 Matrix

	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
1	S6	S1	S8	S9	A4	R8	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
2	S6	S1	S8	S9	A5	R9	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
3	S6	S1	S8	S9	A6	R10	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
4	S6	S1	S8	S9	A39	R11	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
5	S6	S1	S8	S9	A40	R12	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
6	S6	S1	S8	S9	A41	A70	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
7	S6	S1	S8	S9	A42	A71	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
8	S6	S1	S8	S9	A43	A72	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
9	S6	S1	S8	S9	A44	A73	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
10	S6	S1	S8	S9	A45	A74	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
11	S6	S1	S8	S9	A4	A75	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
12	S6	S1	S8	S9	A5	A76	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
13	S6	S1	S8	S9	A6	A77	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
14	S6	S1	S8	S9	A46	A78	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
15	S6	S1	S8	S9	A47	A79	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
16	S6	S1	S8	S9	A48	A80	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
17	S6	S1	S8	S9	A50	A84	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
18	S6	S1	S8	S9	A51	A85	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
19	S6	S1	S8	S9	A52	A87	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
20	S6	S1	S8	S9	A53	A88	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
21	S6	S1	S8	S9	A4	R8	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
22	S6	S1	S8	S9	A5	R9	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
23	S6	S1	S8	S9	A6	R10	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
24	S6	S1	S8	S9	A54	R11	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
25	S6	S1	S8	S9	A55	R12	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
26	S6	S1	S8	S9	A56	A89	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
27	S6	S1	S8	S9	A57	A90	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
28	S6	S1	S8	S9	A58	A91	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
29	S6	S1	S8	S9	A59	A92	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
30	S6	S1	S8	S9	A60	A93	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
31	S6	S1	S8	S9	A4	A94	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
32	S6	S1	S8	S9	A5	A95	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
33	S6	S1	S8	S9	A6	S4	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
34	S6	S1	S8	S9	A62	P1	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
35	S6	S1	S8	S9	A63	P2	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
36	S6	S1	S8	S9	A64	E1L	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
37	S6	S1	S8	S9	A66	E1H	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
38	S6	S1	S8	S9	A67	E2L	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
39	S6	S1	S8	S9	A68	E2H	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2
40	S6	S1	S8	S9	A69	M2	R3	S1	S8	S9	S2	S5	S6	S1	S8	S9	S3	S7	R1	S1	S8	S9	S2	S5	S6	S1	S8	S9	FS1	FS2

PCM Code =	RNRZ-L	Frame Sync 1 =	1111·1110·0110·1011	Bit Rate =	9.6 Mbit/sec
Words/Frame =	120	Frame Sync 2 =	0010·1000·0100·0000	Bits/Word =	16
Frames/Major Frame =	40	Frame Sync (Hex) =	FE6B2480	Frames/sec =	5000
52.003 Kletzing		SFID =	1000000000CCCCCC	Mjr Frame/sec =	125

TM1 Measurement List

Format Label	Description	User	Mnemonic	Wd	Wd Int	Fr	Fr Int	Calculated SPS
Analog #1								
A1	X-Axis Accelerometer	TM	X-Accel	71	120	1	4	1250
A2	Y-Axis Accelerometer	TM	Y-Accel	71	120	2	4	1250
A3	Z-Axis Accelerometer	TM	Z-Accel	71	120	3	4	1250
A4	Spare	TM	X-Mag	95	120	1	10	500
A5	Spare	TM	Y-Mag	95	120	2	10	500
A6	Dartmouth EXP Current	TM	DTMExpI	95	120	3	10	500
A7	TM1 Bus Current	TM	TM1BusI	72	120	2	40	125
A8	TM2 Bus Current	TM	TM2BusI	72	120	3	40	125
A9	GPS Bus Current	TM	GPSBusV	72	120	4	40	125
A10	EXP Bus Current	TM	EXPBusI	72	120	6	40	125
A11	Iowa EXP Current	TM	DTMBusI	72	120	7	40	125
A12	OSLO EXP Current	TM	OsoBusI	72	120	8	40	125
A13	UCB EXP Current	TM	UCBBusI	72	120	10	40	125
A14	SWRI EXP Current	TM	SWRBusI	72	120	11	40	125
A15	Nose Cone SCM	TM	NC_SCM	72	120	12	40	125
A16	Stacer Boom SCM	TM	SB_SCM	72	120	14	40	125
A17	EEPAA SCM	TM	EPA_SCM	72	120	15	40	125
A18	Needle Probe SCM	TM	NP_SCM	72	120	16	40	125
A19	Nihka Separation BW	TM	NkSepBW	72	120	18	40	125
A20	PCM1 Temperature	TM	PCM1Tmp	72	120	19	40	125
A21	XM1 Temperature	TM	XM1Tmp	72	120	20	40	125
A22	XM2 Temperature	TM	XM2Tmp	72	120	22	40	125
A23	Skin Temperature	TM	SkinTemp	72	120	23	40	125
A24	PCM2 Temperature Remote A/D	TM	PCM2Tmp	72	120	24	40	125
A25	DPLY Pot #1	TM	DPLPot1	72	120	26	40	125
A26	DPLY Pot #2	TM	DPLPot2	72	120	27	40	125
A27	DPLY Pot #3	TM	DPLPot3	72	120	28	40	125
A28	DPLY Pot #4	TM	DPLPot4	72	120	30	40	125
A29	DPLY Pot #5	TM	DPLPot5	72	120	31	40	125
A30	Spare	TM	Spare1	24	120	1	2	2500
A31	Spare	TM	Spare2	24	120	2	20	250
A32	Spare	TM	Spare3	72	120	32	40	125
Analog #2								
A33	PCD-A +5V	TM	PCDA+5V	72	120	34	40	125.0
A34	TM1 +28V Bus	TM	TM1BusV	72	120	35	40	125.0
A35	XM1 +28V Bus	TM	XM1BusV	72	120	36	40	125.0
A36	PCD-B +5V	TM	PCDB+5V	72	120	38	40	125.0
A37	TM2 +28V Bus	TM	TM2BusV	72	120	39	40	125.0
A38	XM2 +28V Bus	TM	XM2BusV	72	120	40	40	125.0
A39	GPS +28V Bus	TM	GPSBUsV	95	120	4	40	125.0
A40	PCD-C +5V	TM	PCDC+5V	95	120	5	40	125.0
A41	IOWA +28V BUs	TM	IWABusV	95	120	6	40	125.0
A42	Dartmouth +28V Bus	TM	DTMBusV	95	120	7	40	125.0
A43	OSLO +28V Bus	TM	OslBusV	95	120	8	40	125.0
A44	UCB +28V Bus	TM	UCBBusV	95	120	9	40	125.0
A45	TM Pyro Bus Mon	TM	PyroBus	95	120	10	40	125.0
A46	TM Pyro Batt Mon	TM	PyroBat	95	120	14	40	125.0
A47	TM +5V Mon	TM	TM1+5V	95	120	15	40	125.0
A48	SWRI +28V Bus	TM	SWRBusV	95	120	16	40	125.0
A49	Nihka Motor Pressure	TM	NM_Pres	71	120	4	4	1250.0
A50	Terrier Lanyard #2 Mon	TM	TRLOLO2	95	120	17	40	125.0
A51	Nihka SCM Ignition	TM	NIgnSCM	95	120	18	40	125.0
A52	Nihka SCM Separation	TM	NSepSCM	95	120	19	40	125.0
A53	Nihka SCM De-Spin	TM	De-Spin	95	120	20	40	125.0
A54	Nihka SCM Spare	TM	Spr_SCM	95	120	24	40	125.0
A55	Nihka Lanyard Mon #1	TM	NLOLO1	95	120	25	40	125.0
A56	Nihka Lanyard Mon #2	TM	NLOLO2	95	120	26	40	125.0
A57	BB SCM Ignition	TM	BIgnSCM	95	120	27	40	125.0
A58	BB SCM Separation	TM	BSepSCM	95	120	28	40	125.0
A59	BB Lanyard Mon #1	TM	BBLOLO1	95	120	29	40	125.0
A60	BB Lanyard Mon #2	TM	BBLOLO2	95	120	30	40	125.0
A61	BB Motor Pressure	TM	BB_Pres	72	120	1	4	1250.0
A62	Terrier SCM Ignition	TM	TIgnSCM	95	120	34	40	125.0
A63	Terrier SCM Separation	TM	TSepSCM	95	120	35	40	125.0
A64	Terrier Lanyard Mon #1	TM	TRLOLO1	95	120	36	40	125.0

TM1 Measurement List

Format Label	Description	User	Mnemonic	Wd	Wd Int	Fr	Fr Int	Calculated SPS
Analog #3								
A65	Pressure Fine Regulator	ACS	FINPRES	24	120	4	20	250.0
A66	X-Axis Gyro	ACS	LN_XRATE	95	120	37	40	125.0
A67	GLNMAC -15V Monitor	ACS	GLN_M15V	95	120	38	40	125.0
A68	GLNMAC -5V Monitor	ACS	GLN_M5V	95	120	39	40	125.0
A69	GLNMAC +15V Monitor	ACS	GLN_P15V	95	120	40	40	125.0
A70	GLNMAC +5V Monitor	ACS	GLN_P5V	96	120	6	40	125.0
A71	GLNMAC +28V Monitor	ACS	GLN_P28V	96	120	7	40	125.0
A72	Temperature - GLNMAC CPU	ACS	GLN_TMP	96	120	8	40	125.0
A73	GLNMAC Motor Torque	ACS	GIM_MTRQ	96	120	9	40	125.0
A74	Z-Axis Accelerometer	ACS	LN_ZACC	96	120	10	40	125.0
A75	Y-Axis Accelerometer	ACS	LN_YACC	96	120	11	40	125.0
A76	X-Axis Accelerometer	ACS	LN_XACC	96	120	12	40	125.0
A77	Z-Axis Gyro	ACS	LN_ZRATE	96	120	13	40	125.0
A78	Y-Axis Gyro	ACS	LN_YRATE	96	120	14	40	125.0
A79	3.3V Monitor	ACS	ACS_3_3V	96	120	15	40	125.0
A80	24-34V Conditioned 28V Monitor	ACS	ACS28V2	96	120	16	40	125.0
A81	Combined Valve Monitor, VCW-CCW	ACS	VCW_VCCW	24	120	6	20	250.0
A82	Combined Valve Monitor, V270-90	ACS	V270_V90	24	120	8	20	250.0
A83	Combined Valve Monitor, V0-180	ACS	V0_V180	24	120	10	20	250.0
A84	ACS +28V Bus Monitor (0-50V)	ACS	ACS_28V	96	120	17	40	125.0
A85	Pressure - Tank Pressure	ACS	TNKPRES	96	120	18	40	125.0
A86	Pressure - Coarse Pressure	ACS	CRSPRES	24	120	12	20	250.0
A87	Umbi Sep Loop, +5V	ACS	UMBI_SEP	96	120	19	40	125.0
A88	+12V Stack	ACS	STK_P12V	96	120	20	40	125.0
A89	-12V Stack	ACS	STK_M12V	96	120	26	40	125.0
A90	+5V Stack	ACS	STK_P5V	96	120	27	40	125.0
A91	ACS Lanyard Switch Pulled/Stowed	ACS	ACS_LOLO	96	120	28	40	125.0
A92	NIACS-Enabled On/Off	ACS	ACS_ENBL	96	120	29	40	125.0
A93	GLNMAC - Current Monitor	ACS	ACS_I	96	120	30	40	125.0
A94	GPS Green LED	TM	GPSGrn	96	120	31	40	125.0
A95	GPS Red LED	TM	GPSRed	96	120	32	40	125.0
A96	Spare		Spare5	24	120	14	20	250.0
Parallel Deck #1								
P1	P1		P1	96	120	34	40	125.0
-1	TM LOLO1	TM						
-2	Nose Cone Separation uSwitch	TM						
-3	XM1 On/Off Mon	TM						
-4	TM1 Int/Ext Mon	TM						
-5	TM LOLO2	TM						
-6	GPS Int/Ext Mon	TM						
-7	XM2 Int/Ext Mon	TM						
-8	TM2 Int/Ext Mon	TM						
-9	HV On/Off Mon	TM						
-10	uSW Retract Mon							
-11	uSW Deploy Mon							
-12								
-13								
-14								
-15								
-16								
P2	P2		P2	96	120	35	40	125.0
-1	TM LOLO3							
-2	UCB Int/Ext Mon							
-3	OSLO Int/Ext Mon							
-4	Iowa Int/Ext Mon							
-5	Experiment Int/Ext Mon							
-6	SWRI Int/Ext Mon							
-7								
-8								
-9								
-10								
-11								
-12								
-13								
-14								
-15								
-16								

TM1 Measurement List

Format Label	Description	User	Mnemonic	Wd	Wd Int	Fr	Fr Int	Calculated SPS
Asynchronous								
	Asynchronous #1							
R1	ACS GUI - 115.2 K baud	ACS	rsACS	13	24	1	1	25000.0
R2	HMR2300 19.2 K baud	ACS	rsHMR	47	120	1	2	2500.0
R3	mJAGR GPS - 115.2K baud	TM	rsGPS	1	24	1	1	25000.0
R4	PCD - 19.2K baud	TM	rsPCD	47	120	2	2	2500.0
	Asynchronous #2							
R5	Nihka RMFT 1 - 1200 baud	TM	rsNihka1	24	120	16	20	250.0
R6	Nihka RMFT 2 - 1200 baud	TM	rsNihka2	24	120	18	20	250.0
R7	BB RMFT 1 - 1200 baud	TM	rsBB1	24	120	20	20	250.0
R8	BB RMFT 2 - 1200 baud	TM	rsBB2	96	120	1	20	250.0
	Asynchronous #3							
R9	Terrier RMFT 1 - 1200 baud	TM	rsTer1	96	120	2	20	250
R10	Terrier RMFT 2 - 1200 baud	TM	rsTer2	96	120	3	20	250
R11	Payload TM RMFT - 1200 baud	TM	rsRFMT	96	120	4	20	250
R12	Spare 1200 baud	TM	rsSpare	96	120	5	20	250.0
	Major Frame Counter							
M1	Major Frame Counter 1	TM	M1	48	120	1	1	5000.0
M2	Major Frame Counter 2	TM	M2	96	120	40	40	125.0
	Overhead Channels							
FS1	Frame Sync #1: 1111 1110 0110 1011	TM	FS1	119	120	1	1	5000.0
FS2	Frame Sync #2: 0010 1000 0100 0000	TM	FS2	120	120	1	1	5000.0
SFID	Sub Frame Sync: 1000000000CCCCCC	TM	SFID	23	120	1	1	5000.0
Time Event								
	Time Event #1							
E1L	GPS 1PPS lsb		GPSpps1	96	120	36	40	125.0
				96	120	37	40	125.0
E2L	ACS 1PPS lsb		ACSpps1	96	120	38	40	125.0
E3L	UCB 1PPS lsb		ACSppsm	96	120	39	40	125.0
Serial								
	Serial #1							
S1	EEPAA	U_Iowa	EEPAA	2	6	1	1	100000.0
S2	Langmuir Probes	UiO	LMRPROB	5	12	1	1	50000.0
S2+1	Langmuir Probe Channel 1	UiO						
S2+2	Langmuir Probe Channel 2	UiO						
S2+3	Langmuir Probe Channel 3	UiO						
S2+4	Langmuir Probe Channel 4	UiO						
S3	UCB Fields Low Rate	UCB	FLDSLR	11	24	1	1	25000.0
S4	UCB Fields Housekeeping	UCB	FLDSHK	96	120	33	40	125.0
	Remote A/D Serial Deck #2							
S5	DX1	Dartmouth	DX1	6	12	1	1	50000.0
S6	DZ2	Dartmouth	DZ2	7	12	1	1	50000.0
S7	HF-AGC	Dartmouth	HF_AGC	12	24	1	1	25000.0
	Remote A/D Serial Deck #3							
S8	VLF1	UCB	VLF1	3	6	1	1	100000.0
S9	VLF2	UCB	VLF2	4	6	1	1	100000.0