

CONTENTS

<u>Section</u>	<u>Page</u>
1 INTRODUCTION	1-1
1.1 PURPOSE.....	1-1
1.2 SCOPE AND APPLICABILITY.....	1-1
1.3 CONVENTIONS AND DEFINITIONS	1-2
1.4 STRUCTURE OF THIS DOCUMENT	1-2
1.5 REFERENCES.....	1-3
2 OVERVIEW	2-1
2.1 ATTITUDE DATA MESSAGE TYPES	2-1
2.2 ATTITUDE PARAMETER MESSAGE (APM).....	2-1
2.3 ATTITUDE EPHEMERIS MESSAGE (AEM)	2-2
2.4 EXCHANGE OF MULTIPLE MESSAGES.....	2-2
2.5 DEFINITIONS.....	2-2
3 ATTITUDE PARAMETER MESSAGE (APM)	3-1
3.1 OVERVIEW	3-1
3.2 APM CONTENT.....	3-1
3.3 APM EXAMPLES	3-10
4 ATTITUDE EPHEMERIS MESSAGE (AEM)	4-1
4.1 OVERVIEW	4-1
4.2 AEM CONTENT	4-1
4.3 AEM EXAMPLE	4-12
5 ADM SYNTAX	5-1
5.1 INTRODUCTION.....	5-1
5.2 LINES.....	5-1
5.3 KEYWORDS	5-1
5.4 VALUES.....	5-2
5.5 UNITS	5-4
5.6 COMMENTS.....	5-4
6 SECURITY	6-1
6.1 INTRODUCTION.....	6-1

CONTENTS (continued)

<u>Section</u>	<u>Page</u>
6.2 SECURITY CONCERNS WITH RESPECT TO THIS RECOMMENDED STANDARD	6-1
6.3 POTENTIAL THREATS AND ATTACK SCENARIOS	6-2
6.4 CONSEQUENCES OF NOT APPLYING STATED SECURITY TO THE TECHNOLOGY	6-2
6.5 DATA SECURITY IMPLEMENTATION SPECIFICS.....	6-2
ANNEX A VALUES FOR SELECTED KEYWORDS (NORMATIVE)	A-1
ANNEX B RATIONALE FOR ATTITUDE DATA MESSAGES (INFORMATIVE)	B-1
ANNEX C ITEMS FOR AN INTERFACE CONTROL DOCUMENT (INFORMATIVE)	C-1
ANNEX D ABBREVIATIONS AND ACRONYMS (INFORMATIVE)	D-1
ANNEX E INFORMATIVE REFERENCES (INFORMATIVE).....	E-1

<u>Figure</u>	<u>Page</u>
3-1 APM File Example Using Comments to Denote Updates	3-10
3-2 APM File Example Using Frame of Another Spacecraft	3-11
3-3 APM File Example Describing Sensor Frame to Body Frame Transform.....	3-11
3-4 APM File Example Describing Orientation of Instrument.....	3-12
3-5 APM File Example with Euler Angle Rates	3-12
3-6 APM File Example with Euler Angle Rates (Repeated Axis).....	3-13
3-7 APM File Example with Mission Elapsed Time	3-14
3-8 APM File Example with Optional Euler Elements and One Maneuver.....	3-15
4-1 AEM Example.....	4-12
4-2 AEM Spinner Example.....	4-13

<u>Table</u>	
3-1 APM Header	3-2
3-2 APM Metadata	3-3
3-3 APM Data	3-4
4-1 AEM File Layout Specifications.....	4-2
4-2 AEM Header	4-3
4-3 AEM Metadata	4-4
4-4 Types of Attitude Ephemeris Data Lines.....	4-8
B-1 Primary Requirements	B-2
B-2 Heritage Requirements	B-3

CONTENTS (continued)

<u>Table</u>	<u>Page</u>
B-3 Desirable Characteristics	B-3
B-4 Applicability of the Criteria to Attitude Data Messages	B-4
B-5 Services Available with Attitude Data Messages	B-4
C-1 Items Recommended for an ICD	C-1