

CONTENTS

<u>Section</u>	<u>Page</u>
1 INTRODUCTION	1-1
1.1 PURPOSE.....	1-1
1.2 SCOPE.....	1-1
1.3 APPLICABILITY.....	1-1
1.4 RATIONALE.....	1-2
1.5 DOCUMENT STRUCTURE.....	1-2
1.6 CONVENTIONS AND DEFINITIONS.....	1-2
1.7 REFERENCES.....	1-5
2 OVERVIEW	2-1
2.1 CONCEPT OF TM SPACE DATA LINK PROTOCOL.....	2-1
2.2 OVERVIEW OF SERVICES.....	2-3
2.3 OVERVIEW OF FUNCTIONS.....	2-10
2.4 SERVICES ASSUMED FROM LOWER LAYERS.....	2-13
3 SERVICE DEFINITION	3-1
3.1 OVERVIEW.....	3-1
3.2 SOURCE DATA.....	3-1
3.3 PACKET SERVICE.....	3-3
3.4 VIRTUAL CHANNEL ACCESS (VCA) SERVICE.....	3-6
3.5 VIRTUAL CHANNEL FRAME SECONDARY HEADER (VC_FSH) SERVICE.....	3-9
3.6 VIRTUAL CHANNEL OPERATIONAL CONTROL FIELD (VC_OCF) SERVICE.....	3-12
3.7 VIRTUAL CHANNEL FRAME (VCF) SERVICE.....	3-15
3.8 MASTER CHANNEL FRAME SECONDARY HEADER (MC_FSH) SERVICE.....	3-18
3.9 MASTER CHANNEL OPERATIONAL CONTROL FIELD (MC_OCF) SERVICE.....	3-21
3.10 MASTER CHANNEL FRAME (MCF) SERVICE.....	3-23
4 PROTOCOL SPECIFICATION	4-1
4.1 PROTOCOL DATA UNIT.....	4-1
4.2 PROTOCOL PROCEDURES AT THE SENDING END.....	4-14
4.3 PROTOCOL PROCEDURES AT THE RECEIVING END.....	4-21

CONTENTS (continued)

<u>Section</u>	<u>Page</u>
5 MANAGED PARAMETERS	5-1
5.1 MANAGED PARAMETERS FOR A PHYSICAL CHANNEL	5-1
5.2 MANAGED PARAMETERS FOR A MASTER CHANNEL.....	5-2
5.3 MANAGED PARAMETERS FOR A VIRTUAL CHANNEL	5-2
5.4 MANAGED PARAMETERS FOR PACKET TRANSFER.....	5-3
ANNEX A ACRONYMS	A-1
ANNEX B INFORMATIVE REFERENCES	B-1
ANNEX C CHANGES FROM REFERENCES [B2] and [B3]	C-1

Figure

1-1 Bit Numbering Convention.....	1-5
2-1 Relationship with OSI Layers.....	2-1
2-2 Relationships Between Channels.....	2-3
2-3 Asynchronous Service Model.....	2-5
2-4 Synchronous Service Model.....	2-6
2-5 Internal Organization of Protocol Entity (Sending End)	2-11
2-6 Internal Organization of Protocol Entity (Receiving End).....	2-12
2-7 TM Space Data Link Protocol Channel Tree.....	2-13
4-1 TM Transfer Frame Structural Components.....	4-2
4-2 Transfer Frame Primary Header	4-3
4-3 Transfer Frame Data Field Status	4-6
4-4 Transfer Frame Secondary Header	4-9
4-5 Internal Organization of Protocol Entity (Sending End)	4-15
4-6 Abstract Model of Packet Processing Function.....	4-16
4-7 Abstract Model of Virtual Channel Generation Function	4-17
4-8 Abstract Model of Virtual Channel Multiplexing Function	4-18
4-9 Abstract Model of Master Channel Generation Function.....	4-19
4-10 Abstract Model of Master Channel Multiplexing Function.....	4-20
4-11 Abstract Model of All Frames Generation Function	4-21
4-12 Internal Organization of Protocol Entity (Receiving End).....	4-22
4-13 Abstract Model of Packet Extraction Function.....	4-23
4-14 Abstract Model of Virtual Channel Reception Function.....	4-24
4-15 Abstract Model of Virtual Channel Demultiplexing Function.....	4-25
4-16 Abstract Model of Master Channel Reception Function	4-26
4-17 Abstract Model of Master Channel Demultiplexing Function	4-27
4-18 Abstract Model of All Frames Reception Function.....	4-28

CONTENTS (continued)

<u>Table</u>	<u>Page</u>
2-1 Summary of Services Provided by TM Space Data Link Protocol	2-7
5-1 Managed Parameters for a Physical Channel	5-1
5-2 Managed Parameters for a Master Channel.....	5-2
5-3 Managed Parameters for a Virtual Channel.....	5-2
5-4 Managed Parameters for Packet Transfer	5-3
C-1 Mapping of Terms of Reference [B3] That Have Been Redefined	C-2