



ATIS-0600413.2009(\$2024)

Network to Customer Installation Interfaces – Asymmetric
Digital Subscriber Line (ADSL) Metallic Interface

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American National Standard for Telecommunications

**NETWORK TO CUSTOMER INSTALLATION INTERFACES --
ASYMMETRIC DIGITAL SUBSCRIBER LINE (ADSL) METALLIC INTERFACE**

Alliance for Telecommunications Industry Solutions

Approved March 23, 2009

American National Standards Institute, Inc.

Abstract

This standard describes the interface between the telecommunications network and the customer installation in terms of their interaction and electrical characteristics. The requirements of this standard apply to a single asymmetric digital subscriber line (ADSL).

FOREWORD

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

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Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, COAST, 1200 G Street NW, Suite 500, Washington, DC 20005.

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ATIS-0600413.2009(S2024)

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TABLE OF CONTENTS

1 SCOPE & PURPOSE	1
1.1 SCOPE.....	1
1.2 PURPOSE.....	1
2 REFERENCED STANDARDS	2
2.1 NORMATIVE REFERENCES	2
2.2 INFORMATIVE REFERENCES	2
DEFINITIONS, ABBREVIATIONS, ACRONYMS, & SYMBOLS	2
3.1 DEFINITIONS	3
3.2 ABBREVIATIONS, ACRONYMS, & SYMBOLS	4
4 REFERENCE MODELS	6
4.1 SYSTEM REFERENCE MODEL	6
4.2 ATU-C TRANSMITTER REFERENCE MODELS.....	8
4.2.1 ATU-C Transmitter Reference Model for STM Transport.....	8
4.2.2 ATU-C Transmitter Reference Model for ATM Transport	9
4.3 ATU-R TRANSMITTER REFERENCE MODELS.....	10
4.3.1 ATU-R Transmitter Reference Model for STM Transport.....	10
4.3.2 ATU-R Transmitter Reference Model for ATM Transport	11
5 TRANSPORT CAPACITY	12
5.1 TRANSPORT OF STM DATA.....	12
5.2 TRANSPORT OF ATM DATA	13
5.3 ADSL SYSTEM OVERHEADS & TOTAL DATA RATES.....	14
5.4 CLASSIFICATION BY ATU OPTIONS	16
6 ATU-C FUNCTIONAL CHARACTERISTICS	16
6.1 STM TRANSMISSION PROTOCOL SPECIFIC FUNCTIONALITIES	16
6.1.1 ATU-C Input & Output V-C Interfaces for STM Transport.....	16
6.1.2 Downstream Simplex Bearer Channels - Bit Rates	17
6.1.3 Downstream/Upstream Duplex Bearer Channels - Bit Rates.....	17
6.1.4 Payload Transfer Delay	17
6.1.5 Framing Structure for STM Transport	18
6.2 ATM TRANSPORT PROTOCOL SPECIFIC FUNCTIONALITIES.....	18
6.2.1 ATU-C Input & Output V-C Interface for ATM Transport.....	18
6.2.2 Payload Transfer Delay	19
6.2.3 ATM Cell Specific Functionalities	19
6.2.3.1 Idle Cell Insertion	19
6.2.3.2 Header Error Control Generation	19
6.2.3.3 Cell Payload Scrambling	20
6.2.3.4 Bit Timing & Ordering.....	20
6.2.3.5 Cell Delineation	20
6.2.3.6 Header Error Control Verification	21
6.2.4 Framing Structure for ATM Transport.....	21
6.3 NETWORK TIMING REFERENCE	21
6.3.1 Need for NTR	21
6.3.2 Transport of the NTR	22
6.3.3 Accuracy Requirements.....	23
6.4 FRAMING	23
6.4.1 Data Symbols	24
6.4.1.1 Superframe Structure	24
6.4.1.2 Frame Structure (with Full Overhead).....	27
6.4.1.2.1 Fast Data Buffer (with Full Overhead).....	28
6.4.1.2.2 Interleaved Data Buffer (with Full Overhead).....	29
6.4.1.3 Cyclic Redundancy Check (crc)	30
6.4.2 Synchronization.....	31
6.4.2.1 Synchronization for the Fast Data Buffer.....	31
6.4.2.2 Synchronization for the Interleaved Data Buffer.....	32
6.4.3 Reduced Overhead Framing	33
6.4.3.1 Reduced Overhead Framing with Separate Fast & Sync Bytes.....	34

ATIS-0600413.2009(S2024)

6.4.3.2	Reduced Overhead Framing with Merged Fast & Sync Bytes	34
6.5	SCRAMBLERS	35
6.6	FORWARD ERROR CORRECTION	36
6.6.1	Reed-Solomon Coding	36
6.6.2	Interleaving	37
6.6.3	Support of Higher Downstream Bit Rates with $S=1/2$	37
6.7	TONE ORDERING	38
6.8	CONSTELLATION ENCODER (WITH TRELLIS CODING)	40
6.8.1	Bit Extraction	40
6.8.2	Bit Conversion	40
6.8.3	Coset Partition & Trellis Diagram	42
6.8.4	Constellation Encoder	45
6.8.5	Even Values of b	45
6.8.5.1	Odd Values of b , $b = 3$	46
6.8.5.2	Odd Values of b , $b > 3$	46
6.9	CONSTELLATION ENCODER (WITHOUT TRELLIS CODING)	48
6.9.1	Bit Extraction	48
6.9.2	Constellation Encoder	49
6.10	GAIN SCALING	49
6.11	MODULATION	49
6.11.1	Sub-carriers	49
6.11.1.1	Data Sub-carriers	49
6.11.1.2	Pilot	49
6.11.1.3	Nyquist Frequency	49
6.11.1.4	DC	50
6.11.1.5	Modulation by the Inverse Discrete Fourier Transform (IDFT)	50
6.11.2	Synchronization Symbol	50
6.12	CYCLIC PREFIX	51
6.13	TRANSMITTER DYNAMIC RANGE	51
6.13.1	Maximum Clipping Rate	51
6.13.2	Noise/Distortion Floor	51
6.14	TRANSMITTER SPECTRUM	52
6.14.1	Passband PSD & Response	53
6.14.2	Low Frequency Stop Band Rejection	54
6.14.3	High Frequency Stop Band Rejection	54
6.15	TRANSMIT POWER SPECTRAL DENSITY & AGGREGATE POWER LEVEL	54
6.15.1	All Initialization Signals (except C-ECT) Starting with C-REVERBI	54
6.15.2	C-ECT	54
6.15.3	Steady-state Data Signal	55
6.15.4	Synchronization Symbol	56
7	ATU-R FUNCTIONAL CHARACTERISTICS	56
7.1	STM TRANSMISSION PROTOCOL SPECIFIC FUNCTIONALITIES	56
7.1.1	ATU-R Input & Output T-R Interfaces for STM Transport	56
7.1.2	Downstream Simplex Bearer Channels - Transceiver Bit Rates	57
7.1.3	Duplex Bearer Channels - Transceiver Bit Rates	57
7.1.4	Framing Structure for STM Transport	57
7.2	ATM TRANSPORT PROTOCOL SPECIFIC FUNCTIONALITIES	57
7.2.1	ATU-R Input & Output T-R Interfaces for ATM Transport	57
7.2.2	ATM Cell Specific Functionalities	58
7.2.3	Framing Structure for ATM Transport	58
7.3	NETWORK TIMING REFERENCE	59
7.4	FRAMING	59
7.4.1	Data Symbols	59
7.4.1.1	Superframe Structure	60
7.4.1.1.1	Frame Structure (with Full Overhead)	60
7.4.1.1.1.1	Fast Data Buffer	60
7.4.1.1.1.2	Interleaved Data Buffer	61
7.4.1.2	Cyclic Redundancy Check (crc)	62
7.4.2	Synchronization	63
7.4.2.1	Synchronization for the Fast Data Buffer	63
7.4.2.2	Synchronization for the Interleaved Data Buffer	64
7.4.3	Reduced Overhead Framing	65
7.5	SCRAMBLERS	65
7.6	FORWARD ERROR CORRECTION	65

ATIS-0600413.2009(S2024)

7.7	TONE ORDERING.....	66
7.7	CONSTELLATION ENCODER (WITH TRELLIS CODING).....	66
7.8	CONSTELLATION ENCODER (WITHOUT TRELLIS CODING).....	66
7.9	GAIN SCALING.....	66
7.10	MODULATION.....	67
7.10.1	Sub-carriers.....	67
7.10.1.1	Data Sub-carriers.....	67
7.10.1.2	Pilot.....	67
7.10.1.1	Nyquist Frequency.....	67
7.10.1.2	DC.....	67
7.10.2	Modulation by the Inverse Discrete Fourier Transform.....	67
7.10.3	Synchronization Symbol.....	68
7.11	CYCLIC PREFIX.....	68
7.12	TRANSMITTER DYNAMIC RANGE.....	69
7.12.1	Maximum Clipping Rate.....	69
7.12.2	Noise/Distortion Floor.....	69
7.13	TRANSMITTER SPECTRAL RESPONSE.....	69
7.13.1	Pass Band PSD & Response.....	70
7.13.2	Low-frequency Stop Band Rejection.....	71
7.13.3	High-frequency Stop Band Rejection.....	71
7.14	TRANSMIT POWER SPECTRAL DENSITY & AGGREGATE POWER LEVEL.....	71
7.14.1	All Initialization Signals (except R-ECT) starting with R-REVERB1.....	71
7.14.2	R-ECT.....	71
7.14.3	Steady-state Data Signal.....	72
7.14.4	Synchronization Symbol.....	72
8	OPERATIONS & MAINTENANCE.....	73
8.1	EMBEDDED OPERATIONS CHANNEL (EOC) REQUIREMENTS.....	73
8.1.1	eoc Organization & Protocol.....	73
8.1.2	eoc Message Structure.....	73
8.1.2.1	Address Field (#1).....	73
8.1.2.2	Data or Opcode Field (#2).....	74
8.1.2.3	Byte Parity Field (#3).....	74
8.1.2.4	Message/Response Field (#4).....	74
8.1.2.5	Information Field (#5).....	74
8.1.3	eoc Message Sets.....	74
8.1.3.1	Bidirectional eoc Messages.....	77
8.1.3.2	ATU-C to ATU-R Messages.....	77
8.1.3.3	ATU-R to ATU-C Messages.....	78
8.1.3.4	Autonomous Data Transfers.....	78
8.1.4	Data Registers in the ATU-R.....	78
8.1.5	eoc Protocol States.....	79
8.1.5.1	Message/Echo-response Protocol State.....	83
8.1.5.2	Message/Unable-to-comply Response Protocol State.....	84
8.1.5.3	Message/Data-response Protocol State.....	84
8.1.5.3.1	Data Read Protocol.....	84
8.1.5.3.2	Data Write Protocol.....	85
8.1.5.4	“Dying Gasp”.....	86
8.2	IN-SERVICE PERFORMANCE MONITORING & SURVEILLANCE.....	86
8.2.1	ADSL Line Related Primitives.....	88
8.2.1.1	ADSL Line Related Near-End Anomalies.....	88
8.2.1.2	ADSL Line Related Far-End Anomalies.....	88
8.2.1.3	ADSL Line Related Near-End Defects.....	89
8.2.1.4	ADSL Line Related Far-End Defects.....	89
8.2.2	STM Data Path Related Primitives.....	89
8.2.3	ATM Data Path Related Primitives.....	90
8.2.3.1	ATM Data Path Related Near-End Anomalies.....	90
8.2.3.2	ATM Data Path Related Far-End Anomalies.....	90
8.2.3.3	ATM Data Path Related Near-End Defects.....	91
8.2.3.4	ATM Data Path Related Far-End Defects.....	91
8.2.4	Other ADSL Indicators, Parameters, & Signals.....	92
8.2.4.1	Other Near-End Primitives.....	92
8.2.4.2	Other Far-End Primitives.....	92
8.2.4.3	Failure Count Parameters.....	92
8.2.5	ADSL Line Related Failures.....	92

ATIS-0600413.2009(S2024)

8.2.5.1	ADSL Line Related Near-End Failures	92
8.2.5.2	ADSL line related far-end failures	93
8.2.6	STM Data Path Related Failures	93
8.2.7	ATM Data Path Related Failures	93
8.2.7.1	ATM Related Near-End Failures	93
8.2.7.2	ATM Related Far-End Failures	93
8.2.8	ADSL Line Related Performance Parameters	94
8.2.9	STM Data Path Related Performance Parameters	94
8.2.10	ATM Data Path Related Performance Parameters	94
8.2.11	Performance Monitoring Functions	95
8.2.11.1	ADSL Line Related Performance Parameters	95
8.2.11.1.1	Performance Data Storage	95
8.2.11.1.2	Performance Data Reporting	95
8.2.11.2	ATM Data Path Related Performance Parameters	95
8.3	TEST PARAMETERS	95
8.3.1	Near-end Test Parameters	95
8.3.2	Far-end Test Parameters	96
9	INITIALIZATION	96
9.1	OVERVIEW	96
9.1.1	Basic Functions of Initialization	96
9.1.2	Transparency to Methods of Separating Upstream & Downstream Signals	98
9.1.3	Resetting During Initialization & Data Transmission	98
9.2	ACTIVATION & ACKNOWLEDGMENT - ATU-C	98
9.2.1	Pre-activate States	99
9.2.1.1	C-QUIET1	99
9.2.1.2	C-IDLE	100
9.2.1.3	C-TONE	100
9.2.2	C-Activate	100
9.2.2.1	C-ACT1	101
9.2.2.2	C-ACT2	101
9.2.2.3	C-ACT3	101
9.2.2.4	C-ACT4	101
9.2.3	C-QUIET2	102
9.3	ACTIVATION & ACKNOWLEDGMENT - ATU-R	102
9.3.1	R-ACT-REQ	102
9.3.2	R-QUIET1	103
9.3.3	R-Acknowledge	103
9.3.3.1	R-ACK1	103
9.3.3.2	R-ACK2	103
9.3.3.3	R-ACK3	104
9.4	TRANSCEIVER TRAINING - ATU-C	104
9.4.1	C-REVEILLE	104
9.4.2	C-QUIET3	105
9.4.3	C-PILOT1	105
9.4.4	C-PILOT1A	105
9.4.5	C-QUIET3A	105
9.4.6	C-REVERB1	106
9.4.7	C-QUIET4	106
9.4.8	C-PILOT2	106
9.4.9	C-ECT	107
9.4.10	C-REVERB2	107
9.4.11	C-QUIET5	107
9.4.12	C-PILOT3	107
9.4.13	C-REVERB3	107
9.5	TRANSCEIVER TRAINING - ATU-R	107
9.5.1	R-QUIET2	107
9.5.2	R-REVERB1	108
9.5.3	R-QUIET3	109
9.5.4	R-PILOT1	109
9.5.5	R-ECT	109
9.5.6	R-REVERB2	109
9.6	CHANNEL ANALYSIS (ATU-C)	110
9.6.1	C-SEGUE1	110
9.6.2	C-RATES1	110

ATIS-0600413.2009(S2024)

9.6.3	C-CRC1	111
9.6.4	C-MSGSI	112
9.6.4.1	Minimum Required SNR Margin - Bits 47 - 44	112
9.6.4.2	Vendor Identification - Bits 43 - 28	112
9.6.4.3	T1.413 Revision Number - Bits 25 - 23	113
9.6.4.4	Vendor Revision Number - Bits 22-18	113
9.6.4.5	Trellis Coding Option - Bit 17	113
9.6.4.6	Echo Cancellation Option - Bit 16	113
9.6.4.7	Expanded Exchange Sequence - Bit 15	113
9.6.4.8	NTR - Bit 11	113
9.6.4.9	Framing Structure - Bits 10,9	113
9.6.4.10	Transmit PSD During Initialization - Bits 8,7,6	113
9.6.4.11	Maximum Numbers of Bits per Sub-carrier Supported - Bits 3-0	114
9.6.5	C-CRC2	114
9.6.6	C-MEDLEY	114
9.6.7	C-REVERB4	114
9.7	CHANNEL ANALYSIS (ATU-R)	115
9.7.1	R-SEGUE1	115
9.7.2	R-REVERB3	115
9.7.3	R-SEGUE2	115
9.7.4	R-RATES1	115
9.7.5	R-CRC1	116
9.7.6	R-MSGSI	116
9.7.6.1	Vendor Identification - Bits 43 - 28	117
9.7.6.2	T1.413 Revision Number- Bits 25 - 23	117
9.7.6.3	Vendor Revision Number- Bits 22-18	117
9.7.6.4	Trellis Coding Option - Bit 17	117
9.7.6.5	Echo Cancellation Option - Bit 16	117
9.7.6.6	Extended Exchange Sequence - Bit 15	118
9.7.6.7	Support of Higher Bit Rates - Bit 14	118
9.7.6.8	Support of Dual Latency Downstream - Bit 13	118
9.7.6.9	Support of Dual Latency Upstream - Bit 12	118
9.7.6.10	Network Timing Reference - Bit 11	118
9.7.6.11	Framing Structure - Bits 10-9	118
9.7.6.12	Maximum Numbers of Bits per Sub-carrier Supported - Bits 3-0	118
9.7.7	R-CRC2	118
9.7.8	R-MEDLEY	119
9.7.9	R-REVERB4	119
9.8	EXCHANGE - ATU-C	119
9.8.1	C-REVERB4	121
9.8.2	C-SEGUE2	121
9.8.3	C-RATES-RA	121
9.8.4	C-CRC-RA1	122
9.8.5	C-MSG-RA	122
9.8.6	C-CRC-RA2	123
9.8.7	C-REVERB-RA	123
9.8.8	C-SEGUE-RA	123
9.8.9	C-MSGS2	123
9.8.9.1	Estimated Average Upstream Loop Attenuation	124
9.8.9.2	Performance Margin with Selected Rate Option	124
9.8.9.3	Total Number of Bits per Symbol Supported	124
9.8.10	C-CRC3	124
9.8.11	C-RATES2	124
9.8.12	C-CRC4	125
9.8.13	C-B&G	125
9.8.14	C-CRC5	126
9.8.15	C-REVERB5	126
9.8.16	C-SEGUE3	126
9.9	EXCHANGE - ATU-R	127
9.9.1	R-SEGUE3	127
9.9.2	R-MSG-RA	127
9.9.2.1	Number of RS Overhead Bytes (R)	127
9.9.2.2	Number of RS Payload Bytes (K)	128
9.9.2.3	Number of Tones Carrying Data (ncloaded)	128
9.9.2.4	Estimated Average Loop Attenuation	128

ATIS-0600413.2009(S2024)

9.9.2.5	Coding Gain.....	128
9.9.2.6	Performance Margin with Selected Rate Option.....	128
9.9.2.7	Maximum Interleaving Depth.....	128
9.9.2.8	Total Number of Bits Supported (b_{max}).....	128
9.9.3	R-CRC-RA1.....	129
9.9.4	R-RATES-RA.....	129
9.9.5	R-CRC-RA2.....	129
9.9.6	R-REVERB-RA.....	130
9.9.7	R-SEGUE-RA.....	130
9.9.8	R-MSGS2.....	130
9.9.8.1	Estimated Average Downstream Loop Attenuation.....	131
9.9.8.2	Performance Margin with Selected Rate Option.....	131
9.9.8.3	Total Number of Bits per Symbol Supported.....	131
9.9.9	R-CRC3.....	131
9.9.10	R-RATES2.....	131
9.9.11	R-CRC4.....	132
9.9.12	R-REVERB5.....	132
9.9.13	R-SEGUE4.....	132
9.9.14	R-B&G.....	132
9.9.15	R-CRC5.....	133
9.9.16	R-REVERB6.....	133
9.9.17	R-SEGUE5.....	133
9.10	DETAILS OF THE INITIALIZATION TIMING.....	134
10	ON-LINE ADAPTATION & RECONFIGURATION.....	136
10.1	THE ADSL OVERHEAD CONTROL (AOC) CHANNEL.....	136
10.1.1	aoc Message Header.....	137
10.1.2	aoc Protocol.....	137
10.2	ON-LINE ADAPTATION - BIT SWAPPING.....	137
10.2.1	Bit Swap Channel.....	138
10.2.2	Superframe Counting.....	138
10.2.3	Bit Swap Request.....	138
10.2.4	Extended Bit Swap Request.....	139
10.2.5	Bit Swap Acknowledge.....	140
10.2.6	Bit Swap - Receiver.....	141
10.2.7	Bit Swap - Transmitter.....	141
11	LOOP PLANT, IMPAIRMENTS, & TESTING.....	141
11.1	TEST LOOPS.....	143
11.2	IMPAIRMENTS AND SIMULATION IN TESTING.....	145
11.2.1	Crosstalk.....	145
11.2.2	Impulse Noise.....	146
11.3	TEST PROCEDURES.....	148
11.3.1	Laboratory Test Set-up.....	148
11.3.1.1	Crosstalk Noise Injection.....	149
11.3.1.2	Impulse Noise Injection.....	150
11.3.1.3	RFI Injection.....	150
11.3.1.4	Error Testing.....	150
11.3.2	Test Conditions.....	150
11.3.2.1	Crosstalk Interference.....	150
11.3.2.2	Impulse Test.....	152
11.3.2.3	POTS.....	153
11.3.3	Test Methods.....	154
11.3.3.1	Crosstalk.....	154
11.3.3.2	Impulse Noise.....	154
11.3.3.3	POTS Interference.....	155
12	ELECTRICAL CHARACTERISTICS.....	155
12.1	DC CHARACTERISTICS.....	155
12.2	VOICEBAND CHARACTERISTICS.....	156
12.2.1	Input Impedance.....	156
12.2.2	ADSL Noise Interference into the POTS Circuit.....	156
12.3	ADSL BAND CHARACTERISTICS.....	156
12.3.1	Longitudinal Balance.....	156

ATIS-0600413.2009(S2024)

13 PHYSICAL CHARACTERISTICS	157
13.1 WIRING POLARITY INTEGRITY	157
13.2 CONNECTOR	157
13.2.1 <i>RJ31X for Modems with Internal POTS Splitters</i>	157
13.2.2 <i>RJ14C for Externally Mounted POTS Splitters</i>	158
13.3 WIRING REQUIREMENTS FOR AN ATU-R WITH INTEGRATED POTS SPLITTER	159
13.4 MAXIMUM DISTANCE FOR A REMOTELY LOCATED UNIT	160
14 ENVIRONMENTAL CONDITIONS	160
14.1 PROTECTION	160
14.2 ELECTROMAGNETIC COMPATIBILITY	160
A ATU-C AND ATU-R STATE DIAGRAMS	161
A.1 INTRODUCTION	161
A.2 DEFINITIONS	161
A.3 STATE DIAGRAMS	162
B POWER SPECTRAL DENSITY OF CROSSTALK DISTURBERS	169
B.1 SIMULATED DSL POWER SPECTRAL DENSITY AND INDUCED NEXT	169
B.2 SIMULATED HDSL POWER SPECTRAL DENSITY AND INDUCED-NEXT	170
B.3 SIMULATED T1 LINE POWER SPECTRAL DENSITY AND INDUCED - NEXT	171
B.4 SIMULATED ADSL DOWNSTREAM PSD AND INDUCED FEXT AND NEXT	173
B.4.1 <i>FEXT</i>	174
B.4.2 <i>NEXT</i>	175
B.5 SIMULATED ADSL-UPSTREAM PSD AND INDUCED FEXT AND NEXT	176
B.5.1 <i>FEXT</i>	177
B.5.2 <i>NEXT</i>	178
C CHARACTERISTICS OF TEST IMPULSE WAVEFORMS	180
D VENDOR IDENTIFICATION NUMBERS	186
D.1 NUMERICAL ORDER	186
D.2 ALPHABETICAL ORDER	188
E POTS SPLITTER REQUIREMENTS	190
F ATU-C TRANSMITTER PSD MASK FOR REDUCED NEXT	191
G CHARACTERISTICS OF TYPICAL TELEPHONE CABLES	192
G.1 RESISTANCE AND INSERTION LOSS	192
G.2 PRIMARY CONSTANTS	193
H ASPECTS OF ADSL SYSTEMS BASED ON 2048 KBIT/S	194
H.1 SCOPE	194
H.2 BEARER CHANNEL ALLOCATIONS	194
H.3 NOISE MODELS	194
H.3.1 <i>Injection Method</i>	194
H.3.2 <i>Crosstalk Noise Sources</i>	194
H.4 TEST LOOPS	197
H.5 ADSL/POTS SPLITTER IMPEDANCES	203
H.6 TESTING	203
H.6.1 <i>Maximum Stress Linearity Test</i>	203
I EXTENDED IMPULSE NOISE TESTS	205
J CELL TC SUBLAYER INTERFACES	208
K DYNAMIC RATE ADAPTATION	211
K.1 INTRODUCTION	211
K.1.1 <i>General Concepts</i>	211
K.2 DRA PROTOCOL AND MESSAGES	212
K.2.1 <i>DRA Concept</i>	212

ATIS-0600413.2009(S2024)

K.2.2	<i>DRA-aoc Messages</i>	212
K.3	MONITORING	212
K.3.1	<i>DRA Monitor Request</i>	213
K.3.2	<i>DRA Monitor Reply</i>	213
K.4	CONFIGURATION	214
K.4.1	<i>DRA Configuration Request</i>	214
K.4.2	<i>DRA Configuration Reply</i>	215
K.5	EXCHANGE	216
K.5.1	<i>DRA Exchange Request</i>	216
K.5.2	<i>DRA Exchange Reply</i>	217
K.6	SWAP.....	218
K.6.1	<i>Example</i>	220
K.6.2	<i>DRA Swap Request</i>	220
K.6.3	<i>DRA Swap Reply</i>	221
K.7	DRA STATE DIAGRAM.....	222
K.7.1	<i>State Machine Conventions</i>	222
K.7.2	<i>ATU-R State Machine</i>	223
K.7.3	<i>ATU-C State Machine</i>	224
L	FULL DUPLEX AUTONOMOUS DATA TRANSFER FOR THE EOC	225
L.1	INTRODUCTION.....	225
L.2	EMBEDDED OPERATIONS CHANNEL (EOC) REQUIREMENTS (8.1)	226
L.2.1	<i>eoc Organization and Protocol (8.1.1)</i>	226
L.2.2	<i>eoc Message Structure (8.1.2)</i>	226
L.2.2.1	<i>Message/Response Field (#4) (8.1.2.4)</i>	226
L.2.2.2	<i>eoc Message Sets (8.1.3)</i>	227
L.2.2.3	<i>Autonomous Data Transfers (8.1.3.4)</i>	227
M	ADSL LINE RELATED PERFORMANCE PARAMETERS	228
M.1	ADSL PERFORMANCE PARAMETERS	228
M.1.1	<i>Near-End ADSL Line Performance Parameters</i>	228
M.1.1.1	<i>Code Violation-line (CVI-L)</i>	228
M.1.1.2	<i>Code Violation-line (CVF-L)</i>	228
M.1.1.3	<i>Forward Error Correction Count Line (ECI-L)</i>	228
M.1.1.4	<i>Forward Error Correction Count Line (ECF-L)</i>	228
M.1.1.5	<i>Forward Error Correction Second-line (ECS-L)</i>	229
M.1.1.6	<i>Errored Second-line (ES-L)</i>	229
M.1.1.7	<i>Severely Errored Second-line (SES-L)</i>	229
M.1.1.8	<i>LOS Second (LOSS-L)</i>	229
M.1.1.9	<i>Unavailable Second (UAS-L)</i>	229
M.1.2	<i>Far-End ADSL Line Performance Parameters</i>	229
M.1.2.1	<i>Code violation-line Far-end (CVI-LFE)</i>	229
M.1.2.2	<i>Code violation-line Far-end (CVF-LFE)</i>	230
M.1.2.3	<i>Forward Error Correction Count Line Far-end (ECI-LFE)</i>	230
M.1.2.4	<i>Forward Error Correction Count Line Far-end (ECF-LFE)</i>	230
M.1.2.5	<i>Forward Error Correction Second-line Far-end (ECS-LFE)</i>	230
M.1.2.6	<i>Errored Second Far-end (ES-LFE)</i>	230
M.1.2.7	<i>Severely Errored Second-line Far-end (SES-LFE)</i>	230
M.1.2.8	<i>LOS Second (LOSS-LFE)</i>	230
M.1.2.9	<i>Unavailable Seconds Far-end (UAS-LFE)</i>	230
M.2	ADSL PERFORMANCE DATA COLLECTION	231
N	SUMMARY OF CHANGES FROM ISSUE 1 TO ISSUE 2	234
O	BIBLIOGRAPHY	236
O.1	INFORMATIVE REFERENCES CONTAINED IN THIS STANDARD	236
O.2	ADDITIONAL REFERENCES ON OVERVOLTAGE, SURGE PROTECTION, AND EMC.....	236
P	ADDITIONAL VENDOR IDENTIFICATION NUMBERS	238
P.1	PREDEFINED VENDOR IDENTIFICATION NUMBERS	238
P.2	ADDITIONAL VENDOR IDENTIFICATION NUMBERS.....	238
P.3	NULL VENDOR IDENTIFICATION NUMBER	238
Q	SUMMARY OF CHANGES FROM ISSUE 2 TO ISSUE 3	239

TABLE OF FIGURES

FIGURE 1 - ADSL SYSTEM REFERENCE MODEL	7
FIGURE 2 - ATU-C TRANSMITTER REFERENCE MODEL FOR STM TRANSPORT	8
FIGURE 3 - ATU-C TRANSMITTER REFERENCE MODEL FOR ATM TRANSPORT	9
FIGURE 4 - ATU-R TRANSMITTER REFERENCE MODEL FOR STM TRANSPORT	10
FIGURE 5 - ATU-R TRANSMITTER REFERENCE MODEL FOR ATM TRANSPORT	11
FIGURE 6 - ATU-C FUNCTIONAL INTERFACES TO THE STM LAYER AT THE V-C REFERENCE POINT	17
FIGURE 7 - ATU-C FUNCTIONAL INTERFACES TO THE ATM LAYER AT THE V-C REFERENCE POINT	19
FIGURE 8 - ATM CELL DELINEATION STATE MACHINE.....	20
FIGURE 9 - EXAMPLE IMPLEMENTATION OF THE $\Delta^2\phi$ □ MEASUREMENT	23
FIGURE 10 - ADSL SUPERFRAME STRUCTURE - ATU-C TRANSMITTER.....	25
FIGURE 11 - FAST SYNC BYTE (“FAST” BYTE) FORMAT - ATU-C TRANSMITTER	26
FIGURE 12 - INTERLEAVED SYNC BYTE (“SYNC” BYTE) FORMAT - ATU-C TRANSMITTER.....	27
FIGURE 13 - FAST DATA BUFFER - ATU-C TRANSMITTER.....	28
FIGURE 14 - INTERLEAVED DATA BUFFER, ATU-C TRANSMITTER	29
FIGURE 15 - SCRAMBLER.....	35
FIGURE 16 - TONE ORDERING AND BIT EXTRACTION EXAMPLE (WITHOUT TRELIS CODING)	39
FIGURE 17 - TONE ORDERING AND BIT EXTRACTION EXAMPLE (WITH TRELIS CODING)	39
FIGURE 18 - CONVERSION OF U TO V AND W	41
FIGURE 19 - CONVOLUTIONAL ENCODER.	42
FIGURE 20 - CONSTITUENT 2-DIMENSIONAL COSETS FOR WEI’S CODE.....	42
FIGURE 21 - TRELIS DIAGRAM	44
FIGURE 22 - CONSTELLATION LABELS FOR $B = 2$ AND $B = 4$	45
FIGURE 23 - EXPANSION OF POINT N INTO THE NEXT LARGER SQUARE CONSTELLATION.....	46
FIGURE 24 - CONSTELLATION LABELS FOR $B = 3$	46
FIGURE 25 - CONSTELLATION LABELS FOR $B = 5$	48
FIGURE 26 - MTPR TEST.....	52
FIGURE 27 - ATU-C TRANSMITTER PSD MASK.....	53
FIGURE 28 - ATU-R FUNCTIONAL INTERFACES TO THE STM LAYER AT THE T-R REFERENCE POINT.....	56
FIGURE 29 - ATU-R FUNCTIONAL INTERFACES TO THE ATM LAYER AT THE T-R REFERENCE POINT	58
FIGURE 30 - FAST DATA BUFFER - ATU-R TRANSMITTER.....	60
FIGURE 31 - INTERLEAVED DATA BUFFER - ATU-R TRANSMITTER	62
FIGURE 32 - ATU-R TRANSMITTER PSD MASK.....	70
FIGURE 33 - ATU-C STATE DIAGRAM FOR OUTSTANDING EOC MESSAGES.....	80
FIGURE 34 - EOC RECEIVER STATE MACHINE AT ATU-R.	81
FIGURE 35 - EOC RECEIVER STATE MACHINE AT ATU-C.....	82
FIGURE 36 - IN-SERVICE SURVEILLANCE OF THE ADSL LINK SHOWN FROM STANDPOINT OF ATU-C	87
FIGURE 37 - ILLUSTRATION OF ADSL LINES	88
FIGURE 38 - OVERVIEW OF INITIALIZATION.....	97
FIGURE 39 - TIMING DIAGRAM OF ACTIVATION AND ACKNOWLEDGMENT (9.2-9.3).....	99
FIGURE 40 - TIMING DIAGRAM OF TRANSCIEVER TRAINING (9.4-9.5).....	104
FIGURE 41 - TIMING DIAGRAM OF CHANNEL ANALYSIS (9.6-9.7).....	110
FIGURE 42 - TIMING DIAGRAM OF EXCHANGE	120
FIGURE 43 - TIMING DIAGRAM OF THE INITIALIZATION SEQUENCE (PART 1).....	134
FIGURE 44 - TIMING DIAGRAM OF THE INITIALIZATION SEQUENCE (PART 2 - WITHOUT RA).....	135
FIGURE 45 - TIMING DIAGRAM OF THE INITIALIZATION SEQUENCE (PART 2 - WITH RA).....	136
FIGURE 46 - OVERVIEW OF TEST SET-UP FOR DOWNSTREAM TESTING	142
FIGURE 47 - OVERVIEW OF TEST SET-UP FOR UPSTREAM TESTING	142
FIGURE 48 - TEST LOOPS	145
FIGURE 49 - TEST IMPULSE 1	147
FIGURE 50 - TEST IMPULSE 2	147
FIGURE 51 - LABORATORY TEST SET-UP FOR MEASURING DOWNSTREAM PERFORMANCE MARGINS.....	148
FIGURE 52 - LABORATORY TEST SET-UP FOR MEASURING UPSTREAM PERFORMANCE MARGINS	149
FIGURE 53 - HIGH IMPEDANCE CROSSTALK INJECTION CIRCUIT.....	150
FIGURE 54 - LONGITUDINAL BALANCE ABOVE 30 KHZ MEASUREMENT METHOD (ONLY HPF INTEGRATED).....	157
FIGURE 55 - LONGITUDINAL BALANCE ABOVE 30 KHZ MEASUREMENT METHOD (HPF AND LPF INTEGRATED).....	157
FIGURE 56 - INTERFACE ON THE CUSTOMER PREMISES SIDE OF THE U-R	158
FIGURE 57 - HOUSE WIRING FOR EXTERNAL POTS SPLITTER.....	159
FIGURE 58 - WIRING FOR A REMOTE ATU-R WITH INTEGRATED POTS SPLITTER	159

ATIS-0600413.2009(S2024)

FIGURE A.1 - STATE DIAGRAM FOR THE ATU-C	163
FIGURE A.2 - STATE DIAGRAM FOR THE ATU-R	164
FIGURE B.1 - 24-DISTURBER DSL NEXT	170
FIGURE B.2 - 10-DISTURBER HDSL NEXT	171
FIGURE B.3 - 4 AND 24-DISTURBER T1 NEXT	173
FIGURE B.4 - THEORETICAL 10-DISTURBER DOWNSTREAM ADSL FEXT	175
FIGURE B.5 - 10-DISTURBER DOWNSTREAM ADSL NEXT INTO THE UPSTREAM.....	176
FIGURE B.6 - THEORETICAL 10-DISTURBER UPSTREAM ADSL FEXT	178
FIGURE B.7 - THEORETICAL 10-DISTURBER UPSTREAM ADSL NEXT INTO THE DOWNSTREAM	179
FIGURE F.1 - ATU-C TRANSMITTER PSD MASK FOR REDUCED NEXT	191
FIGURE H.1 - SINGLE SIDED NOISE POWER SPECTRAL DENSITY INTO 100 Ω FOR MODEL A.....	195
FIGURE H.2 - SINGLE SIDED NOISE POWER SPECTRAL DENSITY INTO 100 Ω FOR MODEL B.....	196
FIGURE H.3 - TEST LOOP SET FOR 2048 KBIT/S CONFIGURATION 1 OR 2 OPERATION WITH NOISE MODEL A OR B.....	198
FIGURE I.1 - IMPULSE NOISE OF VERY LONG DURATION (#1)	205
FIGURE I.2 - IMPULSE NOISE OF VERY LONG DURATION (#2)	206
FIGURE I.3 - IMPULSE NOISE OF VERY LONG DURATION (#3)	206
FIGURE I.4 - IMPULSE NOISE OF VERY LONG DURATION (#4)	207
FIGURE J.1 - INTERFACES TO CELL TC SUBLAYER, INTERNAL TO ATM ATU-C.....	208
FIGURE J.2 - INTERFACES TO CELL TC SUBLAYER, EXTERNAL TO STM ATU-C.....	209
FIGURE K.1 - CORRUPTED FRAMES TRANSMITTED BY ATU-C.....	220
FIGURE K.2 - FRAMES CORRUPTED BY THE ATU-R RECEIVER.....	220
FIGURE K.3 - ATU-R STATE DIAGRAM FOR AOC	223
FIGURE K.4 - ATU-C STATE DIAGRAM FOR AOC	224

TABLE OF TABLES

TABLE 1 - REQUIRED 32 KBIT/S MULTIPLES FOR TRANSPORT OF STM.....	13
TABLE 2 - ADSL DOWNSTREAM SYSTEM OVERHEAD (EXCLUDING RS FEC REDUNDANCY)	15
TABLE 3 - ADSL UPSTREAM SYSTEM OVERHEAD (EXCLUDING RS FEC REDUNDANCY)	15
TABLE 4 - DEFINITION OF FRAMING STRUCTURES	23
TABLE 5 - DEFINITION OF INDICATOR BITS, ATU-C TRANSMITTER (FAST DATA BUFFER, DOWNSTREAM DIRECTION).....	26
TABLE 6 - FAST BYTE FORMAT (FAST DATA BUFFER)	32
TABLE 7 - SYNC BYTE FORMAT (INTERLEAVED DATA BUFFER)	33
TABLE 8 - OVERHEAD FUNCTIONS FOR FULL AND REDUCED OVERHEAD MODE WITH SEPARATE FAST AND SYNC BYTES.....	34
TABLE 9 - OVERHEAD FUNCTIONS FOR REDUCED OVERHEAD MODE WITH MERGED FAST AND SYNC BYTES	35
TABLE 10 - MINIMUM FEC CODING CAPABILITIES FOR ATU-C.....	36
TABLE 11 - CONVOLUTIONAL INTERLEAVING EXAMPLE FOR $N = 5$, $D = 2$	37
TABLE 12 - DUMMY BYTE INSERTION AT INTERLEAVER INPUT FOR $S = 1/2$	38
TABLE 13 - FORMING THE BINARY WORD U	40
TABLE 14 - RELATION BETWEEN 4-DIMENSIONAL AND 2-DIMENSIONAL COSETS	43
TABLE 15 - DETERMINING THE TOP 2 BITS OF X AND Y	47
TABLE 16 - MAPPING OF TWO DATA BITS INTO A 4-QAM CONSTELLATION POINT	51
TABLE 17 - FAST BYTE FORMAT FOR SYNCHRONIZATION (FAST DATA BUFFER).....	64
TABLE 18 - SYNC BYTE FORMAT FOR SYNCHRONIZATION (INTERLEAVED DATA BUFFER)	65
TABLE 19 - MINIMUM FEC CODING CAPABILITIES FOR ATU-R.....	66
TABLE 20 - EOC MESSAGE FIELDS	73
TABLE 21 - EOC MESSAGE OPCODES	76
TABLE 22 - ATU-R DATA REGISTERS	79
TABLE 23 - EOC MESSAGES ACCEPTABLE AT THE ATU-R.....	83
TABLE 24 - MEANING OF FOUR C-ACTIVATE SIGNALS	101
TABLE 25 - MEANING OF R-ACK1 AND R-ACK2	103

ATIS-0600413.2009(S2024)

TABLE 26 - POWER CUT-BACK: DOWNSTREAM PSD AS A FUNCTION OF UPSTREAM RECEIVED POWER.....	106
TABLE 27 - C-RATES1	111
TABLE 28 - ASSIGNMENT OF 48 BITS OF C-MSG1	112
TABLE 29 - C-MSG1 ENCODING RULES FOR TRANSMIT PSD DURING C-REVERB1	114
TABLE 30 - R-RATES1	115
TABLE 31 - ASSIGNMENT OF 48 BITS OF R-MSG1	117
TABLE 32 - C-RATES-RA.....	122
TABLE 33 - RRSI FIELDS OF C-RATES-RA	122
TABLE 34 - ASSIGNMENT OF 48 BITS OF C-MSG-RA.....	122
TABLE 35 - ASSIGNMENT OF 32 BITS OF C-MSG2	123
TABLE 36 - BIT PATTERN FOR C-RATES2.....	125
TABLE 37 - ASSIGNMENT OF 80 BITS OF R-MSG-RA.....	127
TABLE 38 - BIT SETTINGS FOR MAXIMUM INTERLEAVING DEPTH.....	128
TABLE 39 - BIT PATTERN FOR R-RATES-RA	129
TABLE 40 - ASSIGNMENT OF 32 BITS OF R-MSG2	130
TABLE 41 - BIT PATTERN FOR R-RATES2.....	132
TABLE 42 - AOC MESSAGE HEADERS.....	137
TABLE 43 - FORMAT OF THE BIT SWAP REQUEST MESSAGE	139
TABLE 44 - BIT SWAP REQUEST COMMANDS.....	139
TABLE 45 - FORMAT OF THE EXTENDED BIT SWAP REQUEST MESSAGE	140
TABLE 46 - FORMAT OF THE BIT SWAP ACKNOWLEDGE	140
TABLE 47 - ATU OPERATING MODES FOR PERFORMANCE EVALUATION BY CATEGORY.....	144
TABLE 48 - LOOP SETS AND MAXIMUM RATES FOR CATEGORY I AND II TESTING	144
TABLE 49 - CROSSTALK TESTS FOR CATEGORY I (DOWNSTREAM).....	151
TABLE 50 - CROSSTALK TESTS FOR CATEGORY I (UPSTREAM)	151
TABLE 51 - CROSSTALK TESTS FOR CATEGORY II (DOWNSTREAM)	152
TABLE 52 - CROSSTALK TESTS FOR CATEGORY II (UPSTREAM)	152
TABLE 53 - TEST LOOPS, INTERFERERS, AND DATA RATES FOR IMPULSE TESTS FOR CATEGORY I	152
TABLE 54 - TEST LOOPS, INTERFERERS, AND DATA RATES FOR IMPULSE TESTS FOR CATEGORY II	153
TABLE 55 - TEST LOOPS, INTERFERERS, AND DATA RATES FOR POTS TESTS CATEGORY I.....	153
TABLE 56 - TEST LOOPS, INTERFERERS, AND DATA RATES FOR POTS TESTS CATEGORY II	154
TABLE 57 - MINIMUM TEST TIME FOR CROSSTALK.....	154
TABLE 58 - PIN ASSIGNMENTS FOR 8-POSITION JACK AND PLUG AT NETWORK INTERFACE	158
TABLE 59 - PIN ASSIGNMENTS FOR 8-POSITION JACK AND PLUG AT REMOTE LOCATION	159
TABLE A.1 - ATU C STATE DEFINITIONS	165
TABLE A.2 - ATU-R STATE DEFINITIONS.....	167
TABLE B.1 - DSL TRANSMIT AND DSL-INDUCED NEXT POWER.....	169
TABLE B.2 - HDSL TRANSMIT AND INDUCED NEXT POWER.....	171
TABLE B.3 - T1 TRANSMIT AND INDUCED NEXT POWER WITH SHAPING AND COUPLING TRANSFORMER.....	172
TABLE B.4 - PSDADSL-DISTURBER AND PSDADSL-FEXT POWER WITH SHAPING AND COUPLING TRANSFORMER	174
TABLE C.1 - IMPULSE NUMBER 1	181
TABLE C.2 - IMPULSE NUMBER 2	182
TABLE G.1 - RESISTANCE AND INSERTION LOSS VALUES FOR TEST LOOPS AT 70□F.....	192
TABLE G.2 - RESISTANCE AND INSERTION LOSS IN DB FOR TEST LOOPS AT 90□F	192
TABLE G.3 - RESISTANCE AND INSERTION LOSS IN DB FOR TEST LOOPS AT 120□F	193
TABLE G.4 - COEFFICIENTS FOR CALCULATION OF R AND L (24 AND 26 AWG PIC AT 70□ F).....	193
TABLE H.1 - BEARER CHANNEL ALLOCATIONS FOR 2048 KBIT/S APPLICATIONS.....	194
TABLE H.2 - CO-ORDINATES FOR NOISE MODEL A.....	195
TABLE H.3 - TONE FREQUENCIES AND POWERS FOR NOISE MODEL A	196
TABLE H.4 - CO-ORDINATES FOR NOISE MODEL B.....	197
TABLE H.5 - LOOP-SET INSERTION LOSS AND NOMINAL LENGTHS FOR 2048 KBIT/S CONFIGURATION 1 (NOISE MODEL A)	199
TABLE H.6 - LOOP-SET INSERTION LOSS AND NOMINAL LENGTH FOR 2048 KBIT/S CONFIGURATION 2 (NOISE MODEL A)	199
TABLE H.7 - LOOP-SET INSERTION LOSS AND NOMINAL LENGTHS FOR 2048 KBIT/S CONFIGURATION 1 (NOISE MODEL B).....	200
TABLE H.8 - LOOP-SET INSERTION LOSS AND NOMINAL LENGTHS FOR 2048 KBIT/S CONFIGURATION 2 (NOISE MODEL B).....	200
TABLE H.9 - RLC VALUES FOR 0.32, 0.4, AND 0.5 MM PE CABLES	201

ATIS-0600413.2009(S2024)

TABLE H.10 - RLC VALUES FOR 0.63 AND 0.9 MM PE CABLES.....	202
TABLE H.11 - COEFFICIENTS FOR CALCULATION OF R AND L	203
TABLE H.12 - INSERTION LOSS (AND NOMINAL LENGTH) FOR LOOP #1	204
TABLE J.1 - UTOPIA LEVEL 2 ATM INTERFACE SIGNALS FOR TX	210
TABLE J.2 - UTOPIA LEVEL 2 ATM INTERFACE SIGNALS FOR RX	210
TABLE K.1 - DRA COMMAND SET	212
TABLE K.2 - DRA MONITOR REQUEST.....	213
TABLE K.3 - DRA-AOC MESSAGE FORMAT	214
TABLE K.4 - DRA CONFIGURATION REQUEST FORMAT	215
TABLE K.5 - DRA CONFIGURATION REQUEST MESSAGES	215
TABLE K.6 - DRA CONFIGURATION REPLY FORMAT	215
TABLE K.7 - DRA CONFIGURATION REPLY MESSAGES	216
TABLE K.8 - DRA_EXCHANGE_REQUEST FORMAT	217
TABLE K.9 - DRA_EXCHANGE_REQUEST MESSAGES	217
TABLE K.10 - DRA_EXCHANGE_REPLY FORMAT	218
TABLE K.11 - DRA_EXCHANGE_REPLY MESSAGES	218
TABLE K.12 - DRA_SWAP_REQUEST FORMAT.....	221
TABLE K.13 - DRA_SWAP_REQUEST MESSAGES	221
TABLE K.14 - DRA_SWAP_REPLY FORMAT.....	221
TABLE K.15 - DRA_SWAP_REPLY MESSAGES.....	222
TABLE L.1 - EOC MESSAGE FIELDS	226
TABLE M.1 - ADSL PARAMETER DEFINITIONS.....	232

American National Standard for Telecommunications –

Network to Customer Installation Interfaces -- Asymmetric Digital Subscriber Line (ADSL) Metallic Interface

1 SCOPE & PURPOSE

1.1 Scope

This standard describes the interface between the telecommunications network and the customer installation in terms of their interaction and electrical characteristics. The requirements of this standard apply to a single asymmetric digital subscriber line (ADSL). ADSL allows the provision of voiceband services (including POTS and data services up to 56 kbit/s) and a variety of digital channels. In the direction from the network to the customer premises the digital bearer channels may consist of full-duplex low-speed bearer channels and simplex high-speed bearer channels; in the other direction, only low-speed bearer channels are provided.

The transmission system is designed to operate on two-wire twisted metallic cable pairs with mixed gauges. The standard is based on the use of cables without loading coils, but bridged taps are acceptable in all but a few unusual situations.

Specifically, this standard:

- ◆ Describes the transmission technique used to support the simultaneous transport of voiceband services and both simplex and duplex digital channels on a single twisted-pair.
- ◆ Defines the combined options and ranges of the digital simplex and full-duplex channels provided.
- ◆ Defines the line code and the spectral composition of the signals transmitted by both ATU-C and ATU-R.
- ◆ Specifies the transmit signals at both the ATU-C and ATU-R.
- ◆ Describes the electrical and mechanical specifications of the network interface.
- ◆ Describes the organization of transmitted and received data into frames.
- ◆ Defines the functions of the operations channel.
- ◆ Defines the ATU-R to service module(s) interface functions.
- ◆ Defines the Transmission Convergence Sub-layer for ATM transport.

1.2 Purpose

This interface standard defines the minimal set of requirements to provide satisfactory simultaneous transmission between the network and the customer interface of POTS and a variety of high-speed simplex and low-speed duplex channels. The standard permits network providers an expanded use of existing copper facilities. All Layer 1 aspects required to ensure compatibility