



**The ATM Forum**  
**Technical Committee**

**PICS Proforma for the**  
**100 Mbps Multimode Fibre**  
**Physical Layer Interface**

**af-test-0025.000**

**September, 1994**

**Copyright release for PICS:**

This PICS proforma may be freely reproduced, so that it may be used for its intended purpose.

**PICS Proforma for the 100 Mbps Multimode Fibre Physical Layer Interface**

Version 1.0

September, 1994

(C) 1994 The ATM Forum. All Rights Reserved.

The information in this publication is believed to be accurate at its publication date. Such information is subject to change without notice and the ATM Forum is not responsible for any errors. The ATM Forum does not assume any responsibility to update or correct any information in this publication. Notwithstanding anything to the contrary, neither The ATM Forum nor the publisher make any representation or warranty, expressed or implied, concerning the completeness, accuracy, or applicability of any information contained in this publication. No liability of any kind shall be assumed by The ATM Forum or the publisher as a result of reliance upon any information contained in this publication.

The receipt or any use of this document or its contents does not in any way create by implication or otherwise:

- Any express or implied license or right to or under any ATM Forum member company's patent, copyright, trademark or trade secret rights which are or may be associated with the ideas, techniques, concepts or expressions contained herein; nor
- Any warranty or representation that any ATM Forum member companies will announce any product(s) and/or service(s) related thereto, or if such announcements are made, that such announced product(s) and/or service(s) embody any or all of the ideas, technologies, or concepts contained herein; nor
- Any form of relationship between any ATM Forum member companies and the recipient or user of this document.

Implementation or use of specific ATM recommendations and/or specifications or recommendations of the ATM Forum or any committee of the ATM Forum will be voluntary, and no company shall agree or be obliged to implement them by virtue of participation in the ATM Forum.

The ATM Forum is a non-profit international organization accelerating industry cooperation on ATM technology. The ATM Forum does not, expressly or otherwise, endorse or promote any specific products or services.

## **Acknowledgement**

The assistance of Mustapha Aissaoui and Fai Fan who provided source material for this document is appreciated. Without their efforts this document could not have been assembled.

Walter Buehler, Editor



## **Table of Contents**

1. Introduction.....	1
1.1 Scope.....	1
1.2 Normative References .....	1
1.3 Definitions .....	2
1.4 Conformance Statement.....	2
2. Identification of the Implementation.....	3
3. PICS Proforma.....	5
3.1 Global Statement of Conformance.....	5
3.2 Instructions for Completing the PICS Proforma .....	5
3.3 Physical Medium Characteristics .....	6
3.4 Line Coding.....	6
3.5 Line Rates and Bit Timing.....	7
3.6 Idle Line.....	7
3.7 Cell Delineation .....	8
3.8 HEC Generation/Verification .....	8



## **1. Introduction**

Prior to the conformance testing and the interoperability testing of two IUTs, it is necessary to have the PICS (Protocol Implementation Conformance Statement) documents for both implementations.

This particular PICS deals with the implementation of the 100 Mbps Multimode Fibre Physical Layer Interface

### **1.1 Scope**

This document provides the PICS proforma for the 100 Mbps Multimode Fibre Physical Layer Interface as described in Section 2.3 of the ATM User-Network Interface Specification Version 3.0 [1], in compliance with the relevant requirements, and in accordance with the relevant guidelines, given in ISO/IEC 9646-2 [3].

### **1.2 Normative References**

- [1] ATM Forum, "ATM User-Network Interface Specification Version 3.0", 1993.
- [2] ISO/IEC 9646-1 1991, Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General Concepts. (See also ITU-T Recommendation X.290 (1991)).
- [3] ISO/IEC 9646-2 1991, Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification. (See also ITU-T Recommendation X.290 (1991)).
- [4] ITU-T, "Integrated Services Digital Network (ISDN): Overall Network Aspects and Functions, ISDN User-Network Interfaces, B-ISDN User-Network Interface Physical Layer Specification, Recommendation I.432", 3/93.
- [5] ISO/IEC 9314-3 1993, "Information Processing System - Fibre Distributed Data Interface (FDDI) - Part 3: Physical Layer Medium Dependent (PMD) First Edition".

### **1.3 Definitions**

ATM	Asynchronous Transfer Mode
CS	Convergence Sublayer

HEC	Header Error Control
IUT	Implementation Under Test
LOS	Loss of Signal
M	Mandatory
O	Optional
O.<n>	Optional, but, if chosen, support is required for either at least one or only one of the options in the group labelled by the same numeral <n>
P	Prohibited
PDU	Protocol Data Unit
S.<i>	Supplementary information number i
SAR	Segmentation and Reassembly (Sublayer)
SDU	Service Data Unit
X.<i>	Exceptional information number i

## 1.4 Conformance Statement

The supplier of a protocol implementation which is claimed to conform to the 100 Mbps Multimode Fibre Physical Layer Interface is required to complete a copy of the PICS proforma provided in Section 3.0 and is required to provide the information necessary to identify both the supplier and the implementation.



## 2. Identification of the Implementation

### Implementation Under Test (IUT) Identification

IUT Name: \_\_\_\_\_

\_\_\_\_\_

IUT Version: \_\_\_\_\_

\_\_\_\_\_

### System Under Test

SUT Name: \_\_\_\_\_

\_\_\_\_\_

Hardware Configuration: \_\_\_\_\_

\_\_\_\_\_

Operating System: \_\_\_\_\_

### Product Supplier

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

Additional Information: \_\_\_\_\_

### Client

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

Additional Information: \_\_\_\_\_

### PICS Contact Person

Name: \_\_\_\_\_

Address: \_\_\_\_\_

---

Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_

Additional Information: \_\_\_\_\_

**PICS - System Conformance Statement**

Provide the relationship of the PICS with the System Conformance Statement for the system:

---

---

---

**Identification of the protocol**

This PICS proforma applies to the following document:

ATM Forum, "ATM User-Network Interface Specification Version 3.0", 1993.

### 3. PICS Proforma

#### 3.1 Global Statement of Conformance

The implementation described in this PICS meets all of the mandatory requirements of the reference protocol.

Yes

No

Note: Answering "No" indicates non-conformance to the specified protocol. Non-supported mandatory capabilities are to be identified in the following tables, with an explanation in the comments section of each table of why the implementation is non-conforming.

#### 3.2 Instructions for Completing the PICS Proforma

The PICS Proforma is a fixed-format questionnaire. Answers to the questionnaire should be provided in the rightmost columns, either by simply indicating a restricted choice (such as Yes or No), or by entering a value or a set of range of values.

A supplier may also provide additional information, categorized as exceptional or supplementary information. This additional information should be provided as items labelled X.<i> for exceptional information, or S.<i> for supplemental information, respectively, for cross reference purposes, where <i> is any unambiguous identification for the item. The exception and supplementary information are not mandatory and the PICS is complete without such information. The presence of optional supplementary or exception information should not affect test execution, and will in no way affect interoperability verification.

### 3.3 Physical Medium Characteristics

Item	Protocol Feature	Status Pred.	Spec. Ref.	Support
3.3.1	Does the optical output interface and the active input interface adhere to to the specification in [5]?	M	2.3.1.1	Yes_ No_ X__ S__
3.3.2	Is the fibre connector used the MIC duplex connector specified for FDDI in [5]?	M	2.3.1.1	Yes_ No_ X__ S__
Comments:				

### 3.4 Line Coding

Item	Protocol Feature	Status Pred.	Spec. Ref.	Support
3.4.1	Does the implementation use the 4B/5B coding as described in [1]?	M	2.3.1.2	Yes_ No_ X__ S__
3.4.2	Does the IUT support the defined control codes listed in Figure 2-13 of [1]?	M	2.3.1.2	Yes_ No_ X__ S__
Comments:				

### 3.5 Line Rates and Bit Timing

Item	Protocol Feature	Status Pred.	Spec. Ref.	Support
3.5.1	Does the physical layer operate at the nominal rate of 125 Mbaud line rate?	M	2.3.1.3	Yes_ No_ X__ S__
Comments:				

### 3.6 Idle Line

Item	Protocol Feature	Status Pred.	Spec. Ref.	Support
3.6.1	While data or control codes are not being sent, does the IUT transmit the "JK" idle code continuously?	M	2.3.2.1	Yes_ No_ X__ S__
Comments:				

**3.7 Cell Delineation**

Item	Protocol Feature	Status Pred.	Spec. Ref.	Support
3.7.1	Is each cell transmitted by the IUT preceded by a "TT" code (start of cell code)?	M	2.3.2.2	Yes_ No_ X__ S__
3.7.2	Is there at least of 1 "JK" symbol pair transmitted on the link every 0.5 second?	M	2.3.2.2	Yes_ No_ X__ S__
3.7.3	Are the 54 symbol pairs (53 symbol pairs representing 53 bytes plus the start of cell code) transmitted contiguously on the line?	M	2.3.2.2	Yes_ No_ X__ S__
Comments:				

**3.8 HEC Generation/Verification**

Item	Protocol Feature	Status Pred.	Spec. Ref.	Support
3.8.1	Does the IUT implement the HEC error detection as defined in [4] Section 4.3.1?	M	2.3.2.3	Yes_ No_ X__ S__
3.8.2	Does the IUT generate the HEC byte as described in [4] Section 4.3.2?	M	2.3.2.3	Yes_ No_ X__ S__
3.8.3	Does the implementation discard the cell upon detection of a header error?	M	2.3.2.3	Yes_ No_ X__ S__
Comments:				

