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**Integrated Services Digital Network (ISDN);  
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Part 2: Implementation Conformance Statement (ICS) and  
Implementation eXtra Information for Testing (IXIT)  
specification for interface I<sub>A</sub>**

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## Foreword

This final draft second edition European Telecommunication Standard (ETS) has been produced by the ETSI Technical Committee Transmission and Multiplexing (TM), and is now submitted for the Voting phase of the ETSI standards Two-step Approval Procedure.

This ETS concerns the basic User Network Interface (UNI) for the Integrated Services Digital Network (ISDN) and consists of 7 parts as follows:

Part 1: "Layer 1 specification";

**Part 2: "Implementation Conformance Statement (ICS) and Implementation Extra Information for Testing (IXIT) for interface I<sub>A</sub>";**

Part 3: "Implementation Conformance Statement (ICS) and Implementation Extra Information for Testing (IXIT) for interface I<sub>B</sub>";

Part 4: "Conformance test specification for interface I<sub>A</sub>";

Part 5: "Conformance test specification for interface I<sub>B</sub>";

Part 6: "Abstract Test Suite (ATS) specification for interface I<sub>A</sub>";

Part 7: "Abstract Test Suite (ATS) specification for interface I<sub>B</sub>";

and is based on ITU-T Recommendation I.430 [9].

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

## Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called an Implementation Conformance Statement (ICS).

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## 1 Scope

This part 2 of ETS 300 012 provides the Protocol Implementation Conformance Statement (PICS) and the Protocol Implementation eXtra Information for Testing (PIXIT) proformas for the ISDN basic rate UNI I<sub>A</sub>, layer 1 specification defined in ETS 300 012-1 [1] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-2 [6], ISO/IEC 9646-7 [8] and ETS 300 406 [4].

## 2 Normal references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 012-1 (1996): "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 1: Layer 1 specification".
- [2] ETS 300 012-4 (1996): "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 4: Conformance test specification for interface I<sub>A</sub>".
- [3] ETS 300 012-6 (1996): "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 6: Abstract Test Suite (ATS) specification for interface I<sub>A</sub>".
- [4] ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [5] ISO/IEC 9646-1 (1994): "Information technology; Open Systems Interconnection; Conformance Testing Methodology and Framework; Part 1: General concepts".
- [6] ISO/IEC 9646-2 (1994): "Information technology; Open Systems Interconnection; Conformance Testing Methodology and Framework; Part 2: Abstract test suite specification".
- [7] ISO/IEC 9646-5 (1994): "Information technology; Open Systems Interconnection; Conformance Testing Methodology and Framework; Part 5: Requirements on test laboratories and clients for the conformance assessment process".
- [8] ISO/IEC 9646-7 (1995): "Information technology; Open Systems Interconnection; Conformance Testing Methodology and Framework; Part 7: Implementation Conformance Statements".
- [9] ITU-T Recommendation I.430 (1995): "Basic user-network interface; layer 1 specification".

### 3 Definitions and abbreviations

#### 3.1 Definitions

For the purposes of this ETS, the following definitions apply:

- terms defined in ETS 300 012-1 [1];
- terms defined in ISO/IEC 9646-1 [5] and in ISO/IEC 9646-7 [8].

In particular, the following terms defined in ISO/IEC 9646-1 [5] apply:

**Protocol Implementation Conformance Statement (PICS):** A statement made by the supplier of an Open Systems Interconnection (OSI) implementation or system, stating which capabilities have been implemented for a given OSI protocol.

**PICS proforma:** A document, in the form of a questionnaire, designed by the protocol specifier or the conformance test suite specifier, which when completed for an OSI implementation or system becomes the PICS.

**static conformance review:** A review of the extent to which the static conformance requirements are met by the Implementation Under Test (IUT), accomplished by comparing the PICS with the static conformance requirements expressed in the relevant standard(s).

#### 3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

I <sub>A</sub>	Interface point A
I <sub>B</sub>	Interface point B
ICS	Implementation Conformance Statement
IUT	Implementation Under Test
IXIT	Implementation eXtra Information for Testing
OSI	Open Systems Interconnection
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SCS	System Conformance Statement
SUT	System Under Test

### 4 Conformance to this PICS proforma specification

If it is claimed to conform to this ETS, the actual PICS proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma in annex A, and shall preserve the numbering/naming of the proforma items.

A PICS which conforms to this ETS shall be a conforming PICS proforma completed in accordance with the instructions for completion given in clause A.1.



## Annex A (normative): PICS proforma for ETS 300 012-1

Notwithstanding the provisions of the copyright clause related to the text of this ETS, ETSI grants that users of this ETS may freely reproduce the SCS, PICS and PIXIT proformas in this annex so that they can be used for their intended purposes and may further publish the completed SCS, PICS and PIXIT proformas.

### A.1 Guidance for completing the PICS proforma

#### A.1.1 Purpose and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation defined in ETS 300 012-1 [1] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into subclauses for the following categories of information:

- instructions for completing the PICS proforma;
- identification of the implementation;
- identification of the reference ETS;
- PICS proforma tables:
  - global statement of conformance;
  - tables.

#### A.1.2 Abbreviations and conventions

The PICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [8].

The reference column contained in the tables gives reference to the appropriate part(s) of ETS 300 012-1 [1] describing the particular item.

NOTE: However, a reference merely indicates the place the core of a description of an item can be found. Any additional information contained in ETS 300 012-1 [1] has to be taken into account when making a statement about the conformance of that particular item.

The following common notations, defined in ISO/IEC 9646-7 [8], are used for the status column:

- m** mandatory.
- o** optional.
- n/a** not applicable - in a given context, it is impossible to use the capability.
- o.i** qualified optional - for mutually exclusive or selectable options from a set. "i" is the integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table, in "Optional Status Notes" area.
- ci** conditional- the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table.
- x** prohibited (excluded) - there is a requirement not to use this capability in the given context.

The following common notations, defined in ISO/IEC 9646-7 [8], are used for the support column:

- y** for supported/implemented.
- n** for not supported/not implemented.

## A.2 Table/item identification

The PICS table is provided with a table/item identification label pre-printed to the left in the table headers. The labels are composed as follows:

- one capital letter, being the first letter of the layer name;
- a serial number.

Each item in a PICS table is provided with a serial number in the left-hand table column, called "Item No."

To identify an item unambiguously, the table label and the item number are combined by use of a slash character, "/", e.g. in the 2nd table of the physical layer PICS, the 3rd item is identified by "A.2/3".

## A.3 Filling in guidance

The filling in is done in the rows of the right table column named "**Support**" as follows:

- for implemented items a Y, y, Yes, yes or YES is entered;
- for not implemented items a N, n, No, no or NO is entered.

For each not implemented mandatory item, the client shall give a justification e.g. as an added note associated with the item.

## A.4 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much as possible regarding version numbers and configuration options.

The product supplier and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

### A.4.1 Date of the statement

Date:

.....

### A.4.2 Implementation Under Test (IUT) identification

IUT name:

.....  
.....

IUT version:

.....

### A.4.3 System Under Test (SUT) identification

SUT name:

.....  
.....

Hardware configuration:

.....  
.....  
.....

Operating system:

.....

**A.4.4 Product supplier**

Name:

.....

Address:

.....  
.....  
.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....  
.....  
.....

**A.4.5 Client (if different from product supplier)**

Name:

.....

Address:

.....  
.....  
.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

**A.4.6 PICS contact person**

(A person to contact if there are any queries concerning the content of the PICS)

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

**A.5 Identification of the protocol**

This PICS proforma applies to the following standard:

**ETS 300 012-1 (1996):** "Integrated Services Digital Network (ISDN); Basic User Network Interface (UNI); Part 1: Layer 1 specification".

**A.6 PICS proforma tables**

An explicit answer shall be entered, in each of the supported column boxes provided, using the notation described in subclause A.1.2.

## A.7 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No) .....

NOTE: Answering "No" to this question indicates non-conformance to the protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming. Explanations may be entered in the comment field at the bottom of each table ("Answer notes" areas) or on pages attached to the PICS proforma.

## A.8 Tables

Table A.1: Optional capabilities

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Predicate	Support
1	TE can be connected at reference point S or S/T by means of: - a hard wired cord $\leq 10$ m with a plug; - a jack with a cord $\leq 10$ m with a plug at each end; - a "standard ISDN basic access TE cord" $\leq 7$ m; - a "standard ISDN basic access TE cord" $> 7 \leq 10$ m; - direct wiring (without a detachable cord).	5.2.1, 5.2.2, ETS 300 012-4 [2] clause A.1	o.1		
2					
3		9.9	o.1 and o.2		
4					
5					
6	TE is powered across the interface and able to use: - power source 1 (PS1), normal power conditions; - power source 1 (PS1), restricted power conditions; - power source 2 (PS2), normal power conditions; - power source 2 (PS2), restricted power conditions.	10.1, 10.1.2, 10.2.1	o		
7					
8		10.3.2	o		
9					
10	TE is locally powered and: - able to detect PS1 or PS2; - unable to detect PS1 or PS2.	10.3.2, 10.1.2	o		
11					
12	TE activation/deactivation and connection status are based on: - detection of PS1 or PS2; - presence/absence of local power.	6.1.8 and 6.1.9, 6.3.1 and 6.3.2, 7.4.1 and 7.4.2 6.3.3	c	A.1/6 or A.1/8 or A.1/10	
13					
14	TE priority class is: - fixed; - under control of layer 2.	7.1.4	c	not A.1/15	
15					
16	TE cannot initiate activation ("answering only terminal").	7.3	o		
17	TE supports multiframing	8.3	o		
18	TE minimizes power disturbance according to: - 1 <sup>st</sup> alternative of ETS 300 012-1, 10.6.2.1 - 2 <sup>nd</sup> alternative of ETS 300 012-1, 10.6.2.2	10.6.1, figures 22 and 23 figure 25	o		
19					
20	TE is able to switch over from normal to restricted power mode.	10.6.4.3	c	A.1/6 and A.1/7	
o.1	The TE shall meet the requirements with a cord having a minimum length of five metres.				
o.2	Testing is performed by use of the cord being a part of the TE as well as by use of the reference cord specified in clause A.1 of ETS 300 012-4 [2].				
o.3	Testing is performed by use of the reference cord specified in clause A.1 of ETS 300 012-4 [2].				

Table A.2: Major functional characteristics

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Support
1	Two bi-directional 64 kbit/s B-channels are provided.	6.1.1	m	
2	Bit timing takes place at 192 kbit/s.	6.1.2	m	
3	Octet timing takes place at 8 kHz.	6.1.3	m	
4	Frame alignment.	6.1.4	see table A.3	
5	One D-channel for each direction is provided at 16 kbit/s.	6.1.5	m	
6	D-channel access.	6.1.6	see table A.4	
7	Power transfer across the interface is possible.	6.1.7	m	
8	Deactivation/activation.	6.1.8 and 6.1.9	see table A.5	
9	Two interchange circuits, one for each direction, are provided.	6.2	m	
10	Each transmitted frame contains 49 bits for all configurations.	6.4	m	
11	Nominal transmitted bit rate is 192 kbit/s.	6.4.1	m	
12	Binary organization of the transmitted frame meets the requirements.	6.4.2	m	
13	Contents and grouping of the transmitted frame meet the requirements.	6.4.2.1	m	
14	Relative bit positions meet the requirements.	6.4.2.3	m	
15	Pseudo-ternary line code is used.	6.5	m	
16	TE timing is derived from the NT signals.	6.6	m	

Table A.3: Frame alignment

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Support
1	Frame alignment procedure, based on line code violation, is used.	8	m	
2	Frame alignment, on initial activation of TE, meets the requirements.	8.1	m	
3	Loss of frame alignment is assumed on the required criterion.	8.1.1	m	
4	Frame alignment is assumed to occur on the required criterion.	8.1.2	m	
5	Multiframe is handled as required (extra bits are identified, FA bits are echoed).	8.3	m	
6	Idle code (binary ONE's) is sent in any not-assigned B-channel.	8.4	m	

Table A.4: D-channel access

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Predicate	Support
1	Interframe (layer 2) time fill is provided using ONEs.	7.1.1	m		
2	D-echo monitoring is provided.	7.1.3	m		
3	Collision detection is provided.	7.1.5	m		

**Table A.5: Activation/deactivation**

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Support
	TE uses the following states as required:			
1	- F1 (inactive);	3.1.5.1.1	m	
2	- F2 (sensing);	3.1.5.1.2	m	
3	- F3 (deactivated);	3.1.5.1.3	m	
4	- F4 (awaiting signal);	3.1.5.1.4	c1	
5	- F5 (identifying input);	3.1.5.1.5	c1	
6	- F6 (synchronized);	3.1.5.1.6	m	
7	- F7 (activated);	3.1.5.1.7	m	
8	- F8 (lost framing).	3.1.5.1.8	m	
9	Activate primitives correspond to the specification.	7.2.1	m	
10	Deactivate primitives correspond to the specification.	7.2.2	m	
11	Management primitives correspond to the specification.	7.2.3	m	
12	Signals INFO 0 and INFO 3 can be sent.	7.3	m	
13	Signal INFO 1 can be sent.		c1	
14	Signals INFO 0, INFO 2, INFO 4 can be received.		m	
15	Activation/deactivation procedures meet the requirements.	7.4.1 and 7.4.2	m	
16	Timer T3 is < 30 s.	7.6	c1	
17	Activation time in state F3 meets the requirements (respond to INFO 2/INFO 4 by sending of INFO 3 within 100 ms).	7.7.1	m	
18	Activation time in state F4 meets the requirements (cease INFO 1 sending and initiate sending of INFO 0 within 5 ms and then respond to INFO 2/INFO 4 by sending of INFO 3 within 100 ms).		c1	
19	Deactivation time meets the requirements (respond to INFO 0 by sending of INFO 0 within 25 ms).	7.8	m	
c1	Predicate: not A.1/16.			

**Table A.6: Maintenance**

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Support
1	Loopback 4 functions are provided.	Annex C	o	

Table A.7: Electrical characteristics

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Support
1	Nominal bit rate is 192 kbit/s.	9.1.1	m	
2	Bit rate tolerance is $\pm 100$ ppm.	9.1.2	c1	
3	Timing extraction jitter is within -7 % to +7 % of a bit period.	9.2.1 and 9.2.2	m	
4	Total phase deviation does not exceed -7 % to +15 % of a bit period.	9.2.1 and 9.2.3	m	
5	Transmitter output impedance is: a) at all times except when transmitting a binary ZERO: - from 2 kHz to 1 MHz: exceeding the impedance indicated by the template in figure 12;	9.5.1, 9.5.1.2 a)	m	
6	- at 96 kHz: peak current resulting from applied 1,2 V does not exceed 0,6 mA;		m	
7	b) when transmitting a binary ZERO: $\geq 20 \Omega$ .	9.5.1.2 b)	m	
8	Pulse shape is within the mask of figure 13.	9.5.3.1	m	
9	Nominal pulse amplitude is 750 mV, zero to peak.	9.5.3.2	m	
10	Pulse amplitude when transmitting a high density pattern meets the requirements.	9.5.4.1	m	
11	Pulse unbalance of an isolated couple of pulses meets the requirements.	9.5.4.2	m	
12	Pulse voltage on other transmitter test loads are: - on a 400 $\Omega$ load: pulse is within the mask of figure 14;	9.5.5.1	m	
13	- on a 5,6 $\Omega$ load: amplitude (peak) is $\leq 150$ mV.	9.5.5.2	m	
14	Longitudinal conversion loss of transmitter output is: - $10 \text{ kHz} \leq f \leq 300 \text{ kHz}$ : $\geq 54$ dB;	9.5.6, 9.5.6.1	m	
15	- $300 \text{ kHz} < f \leq 1 \text{ MHz}$ : minimum value decreasing from 54 dB at 20 dB/decade.		m	
16	Receiver input impedance, independently of the TE state, is: - from 2 kHz to 1 MHz: exceeding the impedance indicated by the template in figure 12;	9.6.1.1, 9.5.1.2 a)	m	
17	- at 96 kHz: peak current resulting from applied 1,2 V does not exceed 0,6 mA.		m	
18	Receiver sensitivity - noise and distortion immunity: TE operates with the specified input signals	9.6.2, 9.6.2.1	m	
19	Longitudinal conversion loss of receiver input is: - $10 \text{ kHz} \leq f \leq 300 \text{ kHz}$ : $\geq 54$ dB;	9.6.4	m	
20	- $300 \text{ kHz} < f \leq 1 \text{ MHz}$ : minimum value decreasing from 54 dB at 20 dB/decade.		m	
c1	Predicate: not A.1/16.			



Table A.8: "Static" power feeding

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Predicate	Support
1	TE meets the requirements when the available voltage:				
2	a) from PS1 is: - normal power conditions: 24-42 V	10.3.1.1	c	A.1/6	
3	- restricted power conditions: 32-42 V	10.3.1.2	c	A.1/7	
4	b) from PS2 is: - normal power conditions: 32-42 V	10.3.2.1	c	A.1/8	
5	- restricted power conditions: 32-42 V	10.3.2.2	c	A.1/9	
6	TE current transients do not exceed 5 mA/μs	10.6	c	A.1/6-9	
7	Maximum TE consumption from PS1 is:	10.4,			
8	a) normal power mode:				
9	- activated state: 1 W;	10.4.1	c	A.1/6	
10	- deactivated state: 100 mW;		c	A.1/6	
11	- deactivated/"local action" state: 1 W;		c	A.1/6	
12	b) restricted power mode, TE designated for restricted power operation:	10.4.2.1			
13	- activated state: 380 mW;		c	A.1/7	
14	- deactivated state: 25 mW;		c	A.1/7	
15	- deactivated/"local action" state: 380 mW;		c	A.1/7	
16	c) normal or restricted power mode, TE locally powered and:	10.4.2.2			
17	- can detect PS1/2: 3 mW;		c	A.1/10	
18	- cannot detect PS1/2: 0 mW;		c	A.1/11	
19	d) restricted power mode, TE non-designated for restricted power operation and normally powered from PS1 in normal mode: 0 mW.	10.4.2.2			
20			c	not A.1/7	
21	Galvanic isolation of TE meets the requirements.	10.5	m		

Table A.9: "Dynamic" power feeding

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Predicate	Support
1	TE meets the current/time limitations during connection, switch-on and switch-over between normal and restricted power modes as follows:	10.6.1, 10.4, 10.4.1, 10.4.2.1,			
2	a) TE is powered from PS1 in power mode:				
3	- normal: from 5 μs to 100 ms: ≤ 55 mA, then: "static" (≤ 1 W/≤ 55 mA);	figure 20 table 10	c	A.1/6, not A.1/18 and A.1/19	
4	- restricted: from 5 μs to 100 ms: ≤ 55 mA, then: "static" (≤ 380 mW/≤ 55 mA);	figure 20 table 11	c	A.1/7, not A.1/18 and A.1/19	
5	b) 1st alternative for PS1 in power mode:	10.6.2,			
6	- normal: from 5 μs: "static" (≤ 1 W/≤ 55 mA);	figures 22 and 24	c	A.1/6 and A.1/18	
7	- restricted: from 5 μs to 10 ms: ≤ 1 W, then: "static" (≤ 380 mW/≤ 55 mA);	figures 23 and 24	c	A.1/7 and A.1/18	
8	c) 2nd alternative for PS1 in power mode:				
9	- normal: From 5 μs to B (≤ 900) ms: ≤ 4 mA, from B ms to B+100 ms: ≤ 55 mA, then: "static" (≤ 1 W/≤ 55 mA);	figure 25	c	A.1/6 and A.1/19	
10	- restricted: From 5 μs to B (≤ 900) ms: ≤ 4 mA, from B ms to B +100 ms: ≤ 55 mA, then: "static" (≤ 380 mW/≤ 55 mA);	figure 25	c	A.1/7 and A.1/19	
11	d) TE is locally powered and:	10.6.1			
12	- can detect PS1/2: from 100 μs: ≤ 3 mW;		c	A.1/10	
13	- cannot detect PS1/2: from 100 μs: ≤ 10 μA.		c	A.1/11	

(continued)

Table A.9 (concluded): "Dynamic" power feeding

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Predicate	Support
9	TE making use of PS detector does not assume disconnection until the interface voltage has remained < 24 V for $\geq$ 500 ms.	10.6.1	c	A.1/10	
10	TE can reach operational condition when the specified start up parameters are used in power mode: - normal;	10.6.4.1, figure 26, table13	c	A.1/6 or A.1/8	
11	- restricted.	table 12	c	A.1/7 or A.1/9	
12	TE does not lose on-going communication if power is interrupted $\leq$ 5 ms in power mode: - normal;	10.6.4.2	c	A.1/6 or A.1/8	
13	- restricted.		c	A.1/7 or A.1/9	
14	TE designated for restricted power operation meets the switch-over requirements when switched: - from normal to restricted power mode;	10.6.4.3	c	A.1/20	
15	- from restricted to normal power mode.		c	A.1/20	
16	dc unbalance of power sink 1 is < 3 % of phantom pairs current.	10.7.1.2, figure 29	c	A.1/6-7	
17	TE meets the requirements also if 3 % dc unbalance is applied.	10.7.2, figure 30	m		

Table A.10: Interface connector and contact assignments

Item No.	Item	Reference ETS 300 012-1 [1]	Status	Support
1	Functions at access leads meet the requirements.	10.1.1	m	
2	Leads or/and contact assignments meet the requirements.	11	m	

**Annex B (normative): PIXIT proforma for interface point I<sub>A</sub> (TE) in ETS 300 012-1**

**B.1 Introduction**

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called an Implementation Conformance Statement (ICS).

In addition to the PICS it will be normal for the test house to require a PIXIT (Protocol Implementation eXtra Information for Testing) statement based on a proforma, related to a specific abstract test suite and to the relevant means of testing. This PIXIT proforma will normally be provided by the test house to the client with a request for its completion together with the PICS proforma.

The PIXIT proforma contained in this ETS is proposed to be provided to the client for completion, when the related abstract test suite is to be used against client's Implementation Under Test (IUT).

The completed PIXIT will normally be used in conjunction with the completed PICS, as it adds precision to the information given in the PICS.

**B.2 PIXIT proforma**

Notwithstanding the provisions of the copyright clause related to the text of this ETS, ETSI grants that users of this ETS may freely reproduce the partial PIXIT proforma in this annex so that it can be used for its intended purposes and may further publish the completed PIXIT.

**B.2.1 Identification summary**

PIXIT number:

.....

Means of testing:

.....

Test laboratory name:

.....

Date of issue:

.....

Issued of:

.....

**B.2.2 Abstract Test Suite (ATS) summary**

Protocol specification: ETS 300 012-1 [1]

ATS specification: ETS 300 012-6 [3]

Recommendation:

Abstract test method:

**B.2.3 Test laboratory**

Test laboratory identification:

.....

Test laboratory manager:

.....

Network address(es):

.....

Instructions for completion:

.....

**B.2.4 Client**

Client identification:

.....

Client test manager:

.....

Test facilities required:

.....

**B.2.5 IUT**

Name:

.....

Version:

.....

Machine configuration:

.....

Operating system identification:

.....

Upper tester identification (if any):

.....

Upper tester identification date (if appropriate):

.....

IUT identification:

.....

PICS reference for the IUT:

.....

Limitations of the IUT:

.....

### **B.3 Proforma structure and contents**

The PIXIT proformas are tables containing pre-printed guide text and empty table space intended to be used by the client for explanations, specification of details etc.

The proforma given in table B.1 is intended for client indication of the environmental conditions to be used during testing, and test limitations, if any.

NOTE: In case no environmental value or range is indicated by the client, the test laboratory will use a value within the ranges pre-printed in the proforma.

### **B.4 Table / item identification**

Corresponding to the PICS tables, each PIXIT table is provided with an identification label pre-printed to the left in the tables headers. In order to distinguish between PICS and PIXIT identifications, an X is added to the prefix letter. The PIXIT labels are composed as follows:

- two capital letters being the first letter of the layer name and the additional X;
- a serial number.

Each pre-printed item in a PIXIT table is provided with a serial number in the left hand tables column called "Item No."

To identify a PIXIT item unambiguously, the table label and item number are combined using a slash character, "/", e.g. in the 1st table of the physical layer PIXIT, the 3rd item is identified by "B.1/3".

### **B.5 Filling in guidance**

The PIXIT proformas shall be filled in by the client. The filling in is done according to the pre-printed guide test in the tables.

In order to reduce the test time, it is essential not only that the required explanations, specifications etc. are detailed but also that conditions which cannot be predetermined are explained/specified in details (using empty table space, additional pages or giving references to manuals etc.).

The information provided in a PIXIT shall not conflict with information provided in the corresponding PICS or with the requirements of the standards.

**Table B.1: Environmental test conditions and test limitations**

IUT REFERENCE (short identification)				
Environmental test conditions (indicate the conditions to be used during testing):				
Ambient temperature range	Relative humidity range	Air pressure range	Power supply	
			Voltage	Frequency
°C	%	kPa	V ± %	Hz ± %
If no values / ranges are indicated above by the client, the Implementation Under Test (IUT) will be tested under the following conditions				
19°C to 25°C	5 % to 75 %	86 kPa to 106 kPa	within ± 5 % of nominal operating voltage	within ± 4 % of nominal operating frequency
OTHER TEST CONDITIONS (indicate any other condition that may be needed / useful during testing):				
TEST LIMITATIONS (explain if any of the abstract tests cannot be executed because of non implementation of Abstract Layer Primitives etc.):				

**Table B.2: Means of control and observation and test co-ordination procedures etc.**

Item No.	Reference to PICS	Item	Answer below if relevant or make reference to table B.4
1	A.1/20, A.1/7, A.1/9	How to select the designation for use of restricted power.	
2	A.6/1	Explain how specific patterns can be transmitted in looped back B-channels.	

**Table B.3: Means of control and observation and test co-ordination procedures etc.**

Item No.	Reference to PICS	Item	VALUE
1	A.5/16	State the value of timer T3.	
2	A.5/15	State the value of timer T4. Timer T4 is a timer started when leaving state F7 or F8 upon the reception of INFO 0. The range shall be within 500 ms to 1 000 ms.	
3	A.3/3	State the value of N for loss of frame alignment.	
4	A.3/4	State the value of M for frame alignment.	
5	-	State the duration of the self-test.	
6	A.1/14	State the value of the priority class.	
7	-	State the delay time needed by the application to establish a call. (Layer 1 is deactivated).	
8	-	State the delay time needed by the application to disconnect a call. (Layer 3 has established a call).	

**Table B.4: Clients additional information**

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## History

Document history			
April 1992	First Edition		
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July 1998	Vote	V 9837:	1998-07-14 to 1998-09-11