

DfYbcg]b`a i `hjd`Y_g]fUb`Y`fHAŁĚ; YbYf] bY`nU hYj Y`nUg]b\ fcb]nUW]g_Uca fYy`UĚ
(!&`XY.` Ugcj bY`nbU]bcgh]`dcXfY`Yb]` i fždf]a Yfb]` nUg]b\ fcb]nUW]c`cdfYa Y
g]b\ fcbY`X] []HUbY\]YfU\]Y`fG8 <Ł]b`d`Yn]c\ fcbY`X] []HUbY\]YfU\]Y`fD8 <ŁĚ
DfcZ`fa UgdYV]Z_UW]U]n`Uj Y`c`g`_UXbcgh]`nj YXVY`f7 GŁ

Transmission and Multiplexing (TM); Generic requirements for synchronization networks;
Part 4-2: Timing characteristics of slave clocks suitable for synchronization supply to
Synchronous Digital Hierarchy (SDH) and Plesiochronous Digital Hierarchy (PDH)
equipment; Implementation Conformance Statement (ICS) proforma specification

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ETSI EN 300 462-4-2 V1.1.1 (1999-12)

European Standard (Telecommunications series)

**Transmission and Multiplexing (TM);
Generic requirements for synchronization networks;
Part 4-2: Timing characteristics of slave clocks suitable
for synchronization supply to Synchronous Digital Hierarchy
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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Transmission and Multiplexing (TM).

- Part 1-1: "Definitions and terminology for synchronization networks";
- Part 2-1: "Synchronization network architecture";
- Part 3-1: "The control of jitter and wander within synchronization networks";
- Part 4-1: "Timing characteristics of slave clocks suitable for synchronization supply to Synchronous Digital Hierarchy (SDH) and Plesiochronous Digital Hierarchy (PDH) equipment";
- Part 4-2: "Timing characteristics of slave clocks suitable for synchronization supply to Synchronous Digital Hierarchy (SDH) and Plesiochronous Digital Hierarchy (PDH) equipment; Implementation Conformance Statement (ICS) proforma specification";**
- Part 5-1: "Timing characteristics of slave clocks suitable for operation in Synchronous Digital Hierarchy (SDH) equipment";
- Part 6-1: "Timing characteristics of primary reference clocks";
- Part 6-2: "Timing characteristics of primary reference clocks; Implementation Conformance Statement (ICS) proforma specification";
- Part 7-1: "Timing characteristics of slave clocks suitable for synchronization supply to equipment in local node applications".

Parts 1-1, 2-1, 3-1, 4-1, 5-1 and 6-1 have been published as EN 300 462 Parts 1-1, 2-1, 3-1, 4-1, 5-1 and 6-1, respectively.

All previous ETSS have been withdrawn.

National transposition dates	
Date of adoption of this EN:	10 December 1999
Date of latest announcement of this EN (doa):	31 March 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2000
Date of withdrawal of any conflicting National Standard (dow):	30 September 2000

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).

The ICS proforma is not another complete description of the related specification, but rather a compact form of its static conformance requirements, to be used by the test laboratory to identify which test shall be performed on a given implementation. Not every feature of a profile specification is contained in the related ICS proforma. For particular cases requiring specific information the ICS can refer to the appropriate clause of the related specification by means of references, notes and or comments.

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1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma specification for the synchronization network generic requirements defined in EN 300 462-4-1 [4] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [9] and ETS 300 406 [7].

2 References

The following documents contain provisions, which through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
 - For a specific reference, subsequent revisions do not apply.
 - For a non-specific reference, the latest version applies.
 - A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.
- [1] EN 300 462-1-1: "Transmission and Multiplexing (TM); Generic requirements for synchronisation networks; Part 1: Definitions and terminology for synchronisation networks".
 - [2] EN 300 462-2-1: "Transmission and Multiplexing (TM); Generic requirements for synchronization networks; Part 2-1: Synchronization network architecture".
 - [3] EN 300 462-3-1: "Transmission and Multiplexing (TM); Generic requirements for synchronization networks; Part 3-1: The control of jitter and wander within synchronization networks".
 - [4] EN 300 462-4-1: "Transmission and Multiplexing (TM); Generic requirements for synchronization networks; Part 4-1: Timing characteristics of slave clocks suitable for synchronization supply to Synchronous Digital Hierarchy (SDH) and Plesiochronous Digital Hierarchy (PDH) equipment".
 - [5] EN 300 462-5-1: "Transmission and Multiplexing (TM); Generic requirements for synchronization networks; Part 5-1: Timing characteristics of slave clocks suitable for operation in Synchronous Digital Hierarchy (SDH) equipment".
 - [6] EN 300 462-6-1: "Transmission and Multiplexing (TM); Generic requirements for synchronization networks; Part 6-1: Timing characteristics of primary reference clocks".
 - [7] ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
 - [8] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
 - [9] ISO/IEC 9646-7 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
 - [10] ITU-T Recommendation O.172: "Jitter and wander measuring equipment for digital systems which are based on the synchronous digital hierarchy (SDH)".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

- terms defined in EN 300 462 [1] to [6];
- terms defined in ISO/IEC 9646-1 [8] and in ISO/IEC 9646-7 [9].

In particular, the following terms defined in ISO/IEC 9646-1 [8] apply:

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

3.2 Symbols

For the purposes of the present document, the following symbols apply:

K	Kelvin
τ	Tau

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3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ICS	Implementation Conformance Statement
IUT	Implementation Under Test
MTIE	Maximum Time Interval Error
PDH	Plesiochronous Digital Hierarchy
ppm	parts per million
SASE	Stand Alone Synchronization Equipment
SCS	System Conformance Statement
SDH	Synchronous Digital Hierarchy
SSU	Synchronization Supply Unit
STM-N	Synchronous Transport Module-N
SUT	System Under Test
TDEV	Time DEVIation
UI	Unit Interval
UIpp	Unit Interval peak to peak

A full list of abbreviations used in timing and synchronization is listed in EN 300 462-1-1 [1].

4 Conformance to this ICS proforma specification

If it claims to conform to the present document, the actual ICS proforma to be filled in by a supplier shall be technically equivalent to the text of the ICS proforma given in annex A, and shall preserve the numbering/naming and ordering of the proforma items.

An ICS, which conforms to the present document shall be a conforming ICS proforma completed in accordance with the guidance for completion given in clause A.1.

Instrumentation in accordance with ITU-T Recommendation O.172 [10] is appropriate for verifying conformance to these specifications.

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Annex A (normative): ICS proforma guidance

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

A.1 Guidance for completing the ICS proforma

A.1.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in EN 300 462-4-1 may provide information about the implementation in a standardized manner.

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

- guidance for completing the ICS proforma;
- identification of the implementation;
- identification of the EN;
- global statement of conformance.

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A.1.2 Abbreviations and conventions

The ICS proforma contained in annexes of the present document is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7.

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Status column

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

m	mandatory - the capability is required to be supported.
o	optional - the capability may be supported or not.
n/a	not applicable - in the given context, it is impossible to use the capability.
x	prohibited (excluded) - there is a requirement not to use this capability in the given context.
o.i	qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is defined immediately following the table.
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.