



SLOVENSKI STANDARD SIST ETS 300 118 E1:2003

01-december-2003

Df]_`4]lj Y`bU`Uj bc`_ca i hfUbc`hY`YZbg_c`ca fYy`Y`fDGHBL`E`Df]_`4]lj YbY
nU hYj Y`UH[cf]`Y`=nUdc`Xi d`Y`gbY`a cXYa Y`nU\]f`cgh`%&\$\$`V#g`]b`Ug]a Yf] bY
Xi d`Y`gbY`a cXYa Y`nU\]f`cgh`%&\$\$#)`V#g`ghUbXUfX]n]fUbY`nUi dcfUvc`j`DGHB

Attachments to the Public Switched Telephone Network (PSTN); Category II attachment requirements for 1200 bits per second half duplex and 1200/75 bits per second asymmetrical duplex modems standardized for use on the PSTN (Candidate NET 24)

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 118 E1:2003](https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003)

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003>

Ta slovenski standard je istoveten z: **ETS 300 118 Edition 1**

ICS:

33.040.35 Telefonska omrežja Telephone networks

SIST ETS 300 118 E1:2003 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST ETS 300 118 E1:2003

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003>



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 118

June 1991

Source: ETSI TC-TE

Reference: T/TE 04-21

ICS: 33.020, 33.040.40

Key words: PSTN, modems

**Attachments to the Public Switched Telephone Network (PSTN)
Category II attachment requirements for 1200 bits per second
half duplex and 1200/75 bits per second asymmetrical duplex
modems standardized for use on the PSTN**

[SIST ETS 300 118 E1:2003](https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-001895000000/sist-ets-300-118-e1-2003)

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-001895000000/sist-ets-300-118-e1-2003>
(The text of this ETS may be utilized, wholly or in part,
for the establishment of NET 24)

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1991. All rights reserved.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 118 E1:2003](https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003)

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003>

Contents

Foreword.....	5
1 Scope	7
2 Normative references	7
3 Definitions and abbreviations	7
3.1 Definitions.....	7
3.2 Abbreviations.....	8
4 General requirements	9
4.1 References to other ETSs	9
4.2 Information to be provided by the applicant	9
4.2.1 Information required for testing purposes	9
4.2.2 Instructions for use.....	9
5 Functional requirements specific to Category II modems	9
5.1 General requirements.....	9
5.2 Modes of operation/use.....	10
5.3 Line signals.....	10
5.3.1 Carrier frequencies.....	10
5.3.2 Spectral power	10
5.4 Line signalling rates.....	11
5.5 Channel allocation	11
5.6 Response times	11
5.6.1 Response times of the forward channel and backward channel received line signal detectors	11
5.6.2 Response times of the forward channel ready for sending indicator.....	12
5.6.2.1 For modems with DTE control	12
5.6.2.2 For modems with control derived from the backward channel	12
5.6.2.3 For modems which transmit carrier constantly when in the on-line state	13
5.6.3 Response times of the backward channel ready for sending indicator.....	13
5.6.3.1 For modems with DTE control	13
5.6.3.2 For modems with control derived from the forward channel	13
5.7 Synchronous mode of use.....	14
5.8 Thresholds of received line signal detectors	14
5.9 Auto-calling and auto-answering procedures.....	14
5.9.1 Auto-calling - calling tone	14
5.9.2 Auto-calling- recognition of answering tone.....	14
5.9.3 Auto-answering - answer tone	14
5.10 Provision of test looping facilities	15
5.11 Performance.....	15
5.11.1 Distortion.....	15
5.11.2 Receiver performance	15
Annex A (Normative): Testing methods	16
A.1 General testing conditions.....	16
A.2 Test for subclause 5.3.1 (Carrier frequencies).....	16

A.3	Test for subclause 5.5 (Channel allocation).....	16
A.4	Test for subclause 5.6 (Response times)	16
A.4.1	Test for subclause 5.6.1	17
A.4.2	Test for subclause 5.6.2 (Data channel Ready For Sending (RFS) response times).....	17
A.4.2.1	Test for subclause 5.6.2.1.....	17
A.4.2.2	Test for subclause 5.6.2.2.....	17
A.4.2.3	Test for subclause 5.6.2.3.....	17
A.4.3	Test for subclause 5.6.3 (Backward channel RFS response times)	18
A.4.3.1	Test for subclause 5.6.3.1.....	18
A.4.3.2	Test for subclause 5.6.3.2.....	18
A.5	Test for subclause 5.7 (Synchronous mode of use)	18
A.6	Test for subclause 5.11.1 (Distortion)	18
A.6.1	Test for subclause 5.11.1 (a)	19
A.6.2	Test for subclause 5.11.1 (b)	19
A.6.3	Test for subclause 5.11.1 (c)	19
Annex B (Informative):	Proforma declaration of modes of operation/use.....	20
History	22

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST ETS 300 118 E1:2003](https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003)

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003>

Foreword

This European Telecommunication Standard (ETS) was produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI) and adopted in November 1990. The text of this draft ETS may be utilized, wholly or in part, for the establishment of NET 24.

This ETS contains the technical requirements for approval to Category II of 1200 bits per second half duplex and 1200/75 bits per second asymmetrical duplex modems standardized for use on the Public Switched Telephone Network (PSTN). Approval and testing to Category II is applicable only at the request of the applicant. These requirements are based upon, and do not conflict with, CCITT Recommendation V.23 [4] except in the case of subclause 5.3.1 where the frequency tolerances specified are tighter than those given.

Additionally, requirements are included relating to end-to-end inter-operability over PSTN connections. Such requirements are in excess of the CCITT Recommendations. A modem which complies with CCITT Recommendation V.23 [4] should always meet the requirements of this ETS which relate to parameters specified in that CCITT Recommendation.

Clause 4 of this ETS references the requirements common to both Category I and II modems, which are contained in ETS 300 114 [2], Clause 4.

Clause 5 of this ETS contains Category II requirements specific to 1200 bits per second half duplex and 1200/75 asymmetrical duplex modems. In the case of certain functions common to a number of different types of modem (e.g. Auto-answering sequence) reference is made to Clause 5 of ETS 300 114 [2] which contains the relevant requirements.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 118 E1:2003](https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003)

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003>

Blank page

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST ETS 300 118 E1:2003](https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003)

<https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-b0f88990d0bd/sist-ets-300-118-e1-2003>

1 Scope

This European Telecommunication Standard (ETS) specifies the technical characteristics to be met by a modem seeking Category II approval for

- half duplex operation over the PSTN at 1200 bits per second; and/or
- asymmetrical duplex operation over the PSTN at 1200/75 bits per second.

The modulation schemes specified are those described in CCITT Recommendation V.23 [4].

The term "modem" in the context of this ETS includes all physical implementation practices for a voice band modem, which are galvanically connected to the PSTN.

This ETS specifies four modes of operation/use (see subclause 5.2).

This ETS also contains descriptions of the tests to be performed in order to confirm compliance with the functional requirements contained herein. A general description of the test conditions and test requirements is given in Annex A (Normative).

NOTE: To aid reading, the term "forward channel" is sometimes used to describe the channel capable of transmitting up to 1200 bit/s, and the term "backward channel" is similarly used to describe the channel capable of transmitting up to 75 bit/s.

2 Normative references

This ETS incorporates, by dated or 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.

- <https://standards.iteh.ai/catalog/standards/sist/10af28f0-ee2d-43cb-a620-6405790d0000/sist-300-118-e1-2003>
- SIST ETS 300 118 E1:2003
- [1] Draft pr-ETS 300 001, "Attachments to Public Switched Telephone Network (PSTN). General technical requirements for equipment connected to an analogue subscriber interface in the PSTN (candidate NET4)"
- [2] ETS 300 114 (1990), "Attachments to the Public Switched Telephone Network (PSTN), Basic attachment requirements for modems standardized for use on the PSTN"
- [3] CCITT Recommendation S.33 (1984), "Standardization of an international text for the measurement of the margin of start-stop machines using International Alphabet No 5"
- [4] CCITT Recommendation V.23 (1984), "600/1200-Baud modem standardized for use in the General Switched Telephone Network"

3 Definitions and abbreviations

For the purposes of this standard the definitions and abbreviations contained in ETS 300 114 [2] shall apply, together with the following.

3.1 Definitions

Data Terminal Equipment (DTE): the expression "DTE" is used to define the origin and destination of signals present at the digital interface of a modem. This expression does not require that a "commercial data terminal" be present to receive or generate such signals; a tester or any other suitable device may monitor or generate such signals.

Degree of start-stop distortion: in start-stop transmission the ratio of the maximum measured difference, irrespective of sign, between the actual and theoretical intervals separating any significant instant from the significant instant of the start element immediately preceding it, to the unit interval. The highest absolute value of degrees of individual distortion of the significant instants of a start-stop signal is reached within a specific time interval. The degree of distortion of start-stop modulation, restitution or signal shall be expressed as a percentage. The result of measurement shall be completed by an indication of the period of the observation. The start-stop distortion shall be considered positive when the significant instant occurs after the ideal instant and conversely, negative when it occurs before.

Degree of synchronous start-stop distortion: the degree of start-stop distortion determined when the assumed unit interval is that appropriate to the actual modulation rate. The degree of synchronous start-stop distortion shall be measured by adjusting the scanning rate of the distortion measuring set. The start-stop distortion shall be considered positive when the significant instant occurs after the ideal instant and conversely, negative when it occurs before. For the determination of the actual mean modulation rate, account shall only be taken of those significant instants of modulation (or restitution) that correspond to a change on the same sense as that occurring at the beginning of the start element.

Modem: a functional unit that modulates and demodulates signals in order to enable digital data to be transmitted over analogue transmission facilities.

Modem used for reference: a modem used for some of the tests specified herein or in another modem specific ETS. A modem used for reference may, at the discretion of the applicant, be provided by the testing authority or by himself. It shall be designed:

- to meet the requirements of the same Recommendation(s) of the CCITT as the modem under test, to the extent necessary for performing the tests;
- to provide the functionalities for a modem used for reference that are specified in the relevant testing clauses; and
- to provide an interface which is accessible and of a type suitable for use in the tests (e.g. CCITT Recommendation V.24).

Where the applicant has provided the modem used for reference and the test fails, the testing authority may not be in a position to determine the precise reason for failure.

Modes of operation: in the context of this ETS, modes of operation are defined as modes specified in this modem-specific ETS that have an influence upon line signals present at the PSTN interface.

Modes of use: in the context of this ETS, modes of use are defined as modes specified in this modem-specific ETS that have an influence upon conditions present at a digital interface. Examples include a "conventional" CCITT Recommendation V.24 interface or a PC bus interface in the case of an integral modem.

On-line state: an electrical condition into which, when connected to the network, a modem is placed such that it draws enough current to be capable of activating the exchange.

NOTE: Usually, a modem in the on-line state is potentially capable of sending or receiving speech-band information to or from the network.

3.2 Abbreviations

CCITT	Comité Consultatif International Télégraphique et Téléphonique
Cct	Circuit
CEPT	Conférence Européenne des Administrations des Postes et des Télécommunications
DCE	Data Circuit-Terminating Equipment
DTE	Data Terminal Equipment

ISO	Organization for International Standardization (French Terminology)
PSTN	Public Switched Telephone Network
RFS	Ready For Sending

4 General requirements

4.1 References to other ETSs

The modem shall comply with ETS 300 114 [2], Clause 4.

NOTE: ETS 300 114 in turn refers to Draft prETS 300 001 [1] for the majority, if not all, of its requirements.

4.2 Information to be provided by the applicant

4.2.1 Information required for testing purposes

The applicant shall declare for which of the modes of operation/use identified in this ETS approval to Category II is sought.

Compliance will be considered to have been accomplished by provision of the relevant information.

NOTE : This may be carried out by completion of forms such as those provided in Annex B (Informative).

4.2.2 Instructions for use

Instructions for use shall be made available with the apparatus. The instructions for use shall include:

- a) the apparatus or types of apparatus to which the instructions apply;
- b) any information specifically indicated in this ETS for inclusion in the "Instructions for use"; and
- c) any national restrictions on the use of the apparatus.

For the purpose of compliance with this standard, any additional information shall be disregarded unless it is subject of another ETS.

Compliance shall be checked by inspection.

5 Functional requirements specific to Category II modems

5.1 General requirements

To comply with the requirements of this ETS, it shall be necessary that the modem provide

- half-duplex mode with switched carrier or asymmetrical duplex mode of operation/use with continuous carriers, as specified in CCITT Recommendation V.23 [4],
- frequency shift binary modulation with synchronous or asynchronous mode of use,
- signalling rates of up to 1200 bit/s in the forward channel and, optionally, of up to 75 bit/s in the backward channel.

NOTE 1: In the following, references are made to interchange circuits between the modem and the DTE, as defined in CCITT Recommendation V.24. DTEs using certain customised modems will generally not provide an interface with such interchange circuits. For these cases the references to V.24 type interchange circuits indicate equivalent functionality of a DTE and a modem.