



SLOVENSKI STANDARD
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Digitalno omrežje z integriranimi storitvami (ISDN) – Daljinske storitve: telefonija 7 kHz – Terminalske zahteve, potrebne za zagotavljanje združljivosti terminalov v zvezi konec-konec

Integrated Services Digital Network (ISDN); Telephony 7 kHz teleservice; Terminal requirements necessary for end-to-end compatibility

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ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
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Contents

Foreword	7
Introduction	7
1 Scope	9
2 Normative references	9
3 Definitions and symbols	11
3.1 Teleservices	11
3.2 Modes of operation	11
3.3 Terminal types	11
3.4 Acoustic Reference Level (ARL)	11
3.5 Weighted Terminal Coupling Loss (TCLw)	11
4 Abbreviations	12
5 D-channel characteristics	12
5.1 General	12
5.2 Outgoing calls	12
5.3 Incoming calls	13
5.3.1 Telephony 7 kHz call request	13
5.3.2 Telephony 3,1 kHz call request	13
5.4 Support of supplementary services	13
5.4.1 Terminal selection using MSN or SUB	13
5.4.2 Inband signalling when invoking supplementary services	13
5.5 Interim procedures	14
5.5.1 General	14
5.5.2 Outgoing calls	14
5.5.3 Incoming calls	14
5.6 Call clearing	14
6 B-channel characteristics	15
6.1 Relative level	15
6.2 Signal encoding	15
6.2.1 CCITT Recommendation G.711	15
6.2.1.1 A-law	15
6.2.1.2 μ -law	15
6.2.2 CCITT Recommendation G.722 encoding	15
6.3 Signal decoding	16
6.3.1 CCITT Recommendation G.711	16
6.3.1.1 A-law	16
6.3.1.2 μ -law	16
6.3.2 CCITT Recommendation G.722	16
6.3.2.1 General	16
6.3.2.2 Mode 1	16
6.3.2.3 Mode 2	16
6.3.2.4 Mode 3	16
6.3.2.5 Fallback to the telephony 3,1 kHz teleservice	16
6.3.2.6 Interworking with the Public Switched Telephone Network (PSTN)	17
6.4 Speech transmission characteristics (handset mode)	17
6.4.1 Volume control	17
6.4.2 Sensitivity-frequency response	17
6.4.2.1 Sending	17
6.4.2.2 Receiving	17

6.4.3	Loudness rating	18
6.4.3.1	Sending Loudness Rating (SLR).....	18
6.4.3.2	Receiving Loudness Rating (RLR).....	18
6.4.4	Talker sidetone	19
6.4.5	Terminal Coupling Loss (TCL).....	19
6.4.5.1	Weighted Terminal Coupling Loss (TCLw).....	19
6.4.5.2	Stability loss	19
6.4.6	Distortion.....	19
6.4.6.1	Sending	19
6.4.6.2	Receiving	20
6.4.6.3	Sidetone	20
6.4.7	Out-of-band signals	20
6.4.7.1	Discrimination against out-of-band input signals (Sending).....	20
6.4.7.2	Spurious out-of-band (Receiving)	20
6.4.8	Noise.....	21
6.4.8.1	Sending	21
6.4.8.2	Receiving	21
6.4.9	Acoustic shock.....	21
6.4.9.1	Continuous Signal	21
6.4.9.2	Peak signal.....	21
6.4.10	Delay.....	21
7	In-band signalling.....	22
7.1	Frame structure.....	22
7.1.1	General	22
7.1.2	Frame search	22
7.1.3	Frame alignment.....	22
7.1.4	Multiframe alignment.....	22
7.2	Telephony 7 kHz BAS attributes	22
7.2.1	General	22
7.2.2	Audio coding command.....	22
7.2.3	Audio capability.....	23
7.3	Sequences	24
7.4	Procedures.....	24
Annex A (normative):	Test methods.....	25
A.1	General conditions for testing.....	25
A.1.1	Environment for tests	25
A.1.2	Power supply limitations.....	25
A.1.3	Test equipment interface.....	25
A.1.4	Test equipment requirements	25
A.1.4.1	Electro-acoustic equipment	25
A.1.4.2	Test equipment for the digital interface	25
A.1.4.2.1	Codec specification.....	25
A.1.4.2.2	Analogue interface	25
A.1.4.2.3	Definition of 0 dBr point.....	26
A.1.5	Accuracy of calibrations	26
A.2	Speech transmission requirements testing.....	26
A.2.1	Sensitivity-frequency response	26
A.2.1.1	Sending.....	26
A.2.1.2	Receiving	27
A.2.2	Loudness rating.....	27
A.2.2.1	Sending Loudness Rating.....	27
A.2.2.2	Receiving Loudness Rating	27
A.2.3	Sidetone	27
A.2.3.1	Talker sidetone	27
A.2.4	Terminal Coupling Loss (TCL)	27
A.2.4.1	Weighted Terminal Coupling Loss (TCLw).....	27
A.2.4.2	Stability loss	28
A.2.5	Distortion	29
A.2.5.1	Sending.....	29

	A.2.5.2	Receiving.....	29
	A.2.5.3	Sidetone	29
A.2.6		Out-of-band signals	29
	A.2.6.1	Discrimination against out-of-band input signals (sending).....	29
	A.2.6.2	Spurious out-of-band (receiving)	30
A.2.7		Noise.....	30
	A.2.7.1	Sending	30
	A.2.7.2	Receiving.....	31
A.2.8		Acoustic shock.....	31
	A.2.8.1	Continuous signal.....	31
A.2.9		Delay.....	31
Annex B (informative): Bibliography.....			33
History.....			34

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Foreword

This Interim European Telecommunication Standard (I-ETS) was produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

An ETSI standard may be given I-ETS status as it is regarded either as a provisional solution ahead of a more advanced standard, or because it is immature and requires a "trial period". The life of an I-ETS is limited, at first, to three years after which it can be converted into a European Telecommunication Standard (ETS), have its life extended for a further two years, be replaced by a new version of the I-ETS or, finally, be withdrawn.

This I-ETS contains two annexes. Annex A is normative to this I-ETS whereas Annex B is informative.

Introduction

This I-ETS presents the requirements necessary for compatibility between handset terminals supporting the telephony 7 kHz teleservice in the ISDN. It covers the following aspects:

- 1) D-Channel signalling;
- 2) Inband signalling;
- 3) Speech transmission characteristics.

The D-Channel and inband signalling procedures are based on existing standards, and references are made to these.

A 7 kHz bandwidth handset usually requires the use of low acoustic impedance receivers. To test these receivers, a type 3.2 artificial ear as specified in ITU-T Recommendation P. 57 is needed. Although this ear is specified by ITU-TS, no device is commercially available at this time. The requirements presented are based on test results using prototypes developed by individual test laboratories. The results need to be checked on a commercially available device to secure reproducibility.

A terminal that supports the telephony 7 kHz teleservice shall also support the telephony 3,1 kHz teleservice. The end-to-end compatibility requirements for this teleservice can be found in ETS 300 082. The receive characteristics requirements and test methods of ETS 300 082 are not valid when low acoustic impedance receivers are used.

There is an urgent need for a standard on the speech transmission characteristics of telephony 7 kHz terminals. ETSI has, therefore, decided to publish this I-ETS in order to provide manufacturers and test laboratories with a set of agreed requirements and test procedures based on the state of the art. ETSI will continue the work on requirements and test methods and the results of this work will be included in a revised version to be issued when the period of validity of this I-ETS has expired. Findings and comments to this I-ETS are welcomed and should be sent to ETSI at the address indicated on the title page.

In the present version, no requirements to Listener Sidetone Rating (LSTR) have been included because the test methods require further study. The users of this I-ETS should note that requirements to all characteristics where the receiver is included may be altered when more experience has been gained.

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1 Scope

This I-ETS specifies technical characteristics (logical and electroacoustic) that are necessary to provide end-to-end compatibility of terminal equipment that support the telephony 7 kHz teleservice as defined in ETS 300 263 [1] which is intended for connection to the basic rate interface at the coincident S and T reference point or S reference point of the pan-European Integrated Services Digital Network (ISDN), as provided by European public telecommunications operators.

The requirements of this I-ETS are in addition to those of standards for connection to the ISDN basic rate interface.

The requirements of this I-ETS describe the logical characteristics of the user-network signalling and inband signalling relevant to this teleservice.

The requirements of this I-ETS provide real time two-way speech communication of an improved quality when compared with the telephony 3,1 kHz teleservice.

The speech transmission requirements of this I-ETS define only those characteristics relevant to telephony terminals equipped with a handset.

This I-ETS is applicable to terminal equipment, and other equipment (e.g. interworking units, conference bridges), equipped with a handset and supporting the telephony 7 kHz teleservice.

In this I-ETS, the speech transmission requirements are not applicable to:

- a) handsfree or loudspeaking telephony;
- b) telephony for disabled people (e.g. with amplification of received speech as an aid for the hard of hearing);
- c) telephony in hostile environments.

NOTE 1: The characteristics of the ISDN user-network interface are specified in ETS 300 012 [2] and ETS 300 102-1 [3].

NOTE 2: Information about type approval specifications for attachment to the ISDN basic access, and for terminals supporting the telephony 3,1 kHz teleservice in the ISDN can be found in Annex B.

NOTE 3: The telephony 7 kHz teleservice as defined in ETS 300 263 [1] does not include a data communication facility. The inband signalling codes for such a facility are, therefore, not a part of this I-ETS. Relevant information can be found in ETS 300 144 [4] and ETS 300 143 [5].

2 Normative references

This I-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 listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this I-ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 263 (1994): "Integrated Services Digital Network (ISDN); Telephony 7 kHz teleservice, Service description".
- [2] ETS 300 012 (1992): "Integrated Services Digital Network (ISDN); Basic user-network interface, Layer 1 specification and test principles".
- [3] ETS 300 102-1 (1990): "Integrated Services Digital Network (ISDN); User-network interface layer 3, Specifications for basic control".

- [4] ETS 300 144: "Integrated Services Digital Network (ISDN); Audiovisual Services, Frame structure for a 64 to 1 920 kbit/s channel and associated syntax for inband signalling".
- [5] ETS 300 143: "Integrated Services Digital Network (ISDN); Audiovisual Services, Inband signalling procedures for audiovisual terminals using digital channels up to 2 048 kbit/s".
- [6] CCITT Recommendation G.701 (1988): "Vocabulary of digital transmission and multiplexing, and pulse code modulation (PCM) terms".
- [7] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".
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- [9] CCITT Recommendation I.240 (1988): "Definition of teleservices".
- [10] ITU-T Recommendation P.10 (1993): "Vocabulary of terms on telephone transmission quality and telephone sets".
- [11] ITU-T Recommendation P.51 (1993): "Artificial mouth".
- [12] ITU-T Recommendation P.57 (1993): "Artificial ears".
- [13] ETS 300 111 (1992): "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice, Service description".
- [14] CCITT Recommendation G.711 (1988): "Pulse Code Modulation (PCM) of voice frequencies".
- [15] CCITT Recommendation G.722 (1988): "7 kHz audio coding within 64 kbit/s".
- [16] Draft prETS 300 267 (1993): "Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices, Digital Subscriber Signalling System No. one (DSS1) protocol".
- [17] prI-ETS 300 322: Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1), Abstract Test Suite (ATS) for use of signalling-network-layer protocol for circuit-mode basic call control".
- [18] CCITT Recommendation G.101 (1988): "The transmission plan".
- [19] CCITT Recommendation G.725 (1988): "System aspects for the use of the 7 kHz audio codec within 64 kbit/s".
- [20] ETS 300 082 (1992): "Integrated Services Digital Network (ISDN); 3,1 kHz telephony teleservice, End-to-end compatibility".
- [21] ITU-T Recommendation P.31 (1993): "Transmission characteristics for digital telephones".
- [22] ITU-T Recommendation P.79 (1993): "Calculation of loudness ratings".
- [23] ISO 3 (1973): "Preferred numbers - series of preferred numbers".
- [24] ITU-T Recommendation P.64 (1993): "Determination of sensitivity/frequency characteristics of local telephone systems to permit calculation of their loudness ratings".
- [25] IEC Publication 651: "Sound level meters".