SLOVENSKI STANDARD
SIST I-ETS 300 245-8 E1:2003

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Digitalno omreģje z integriranimi storitvami (ISDN) ï Tehniļne karakteristike telefonskih terminalov ï 8. del: Karakteristike prenosa govora ob uporabi kodiranja s kodno vzbujanim linearnim napovedovanjem z majhno zakasnitvijo (LD -CELP) in prenosno hitrostjo 16 kbit/s

Integrated Services Digital Network (ISDN); Technical characteristics of telephony terminals; Part 8: Speech transmission characteristics when using Low-Delay Code-Excited Linear Prediction (LD-CELP) coding at 16 kbit/s

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Foreword

Part 8 of 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 draft 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 full 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(ETS), have its life extended for a further two years, be replaced by a new version of the I-ETS or, finally, be withdrawn.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 is the eighth Part of an I-ETS which comprises eight Parts:

Part 1: General.

Part 2: PCM A-law, handset telephony.

Part 3: Pulse Code Modulation (PCM) A-law, loudspeaking and hands free telephony.

Part 4: Interface for additional equipment.

Part 5: Wideband (7 kHz) handset telephony.

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Part 6: Wideband (7 kHz), loudspeaking and hands free telephony.

Part 7: Locally generated information tones.

Part 8: Speech transmission characteristics when using Low-Delay Code-Excited Linear Prediction (LD-CELP) coding at 16 kbit/s.

Proposed announcement date	
Date of adoption of this I-ETS:	12 January 1996
Date of latest announcement of this I-ETS (doa):	30 April 1996

Introduction

The speech coding algorithm specified in CCITT Recommendation G.728 [1] is based on a digital bitstream encoded according to CCITT Recommendation G.711 [3]. The terminal applications of the CCITT Recommendation G.728 [1] algorithm are based on the framing structure specified in ETS 300 144 [8]. These terminals will be able to work in mode a0, i.e. using CCITT Recommendation G.711 [3] encoding. The characteristics to be specified in this I-ETS can therefore be verified by:

- testing the audio characteristics of the terminal when it is working in mode a0;

- verifying that the speech coding algorithm is conforming to CCITT Recommendation G.728 [1].

The characteristics specified in this I-ETS are based on the principle where a limited number are specified to test the overall characteristics of a terminal where the CCITT Recommendation G.728 [1] algorithm is implemented.

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1 Scope

Part 8 of this I-ETS specifies the technical characteristics for telephony terminals to be used at the basic access for the coincident S and T reference point of the Integrated Services Digital Network (ISDN) when using Low-Delay Code-Excited Linear Prediction (LD-CELP) coding at 16 kbit/s as specified in CCITT Recommendation G.728 [1]. This Part applies in conjunction with I-ETS 300 245-1 [2].

The input and output bitstreams to and from the LD-CELP are encoded using the Pulse Code Modulation (PCM) A-law encoding specified in CCITT Recommendation G.711 [3]. The speech transmission characteristics of a handset terminal when using PCM A-law encoding are specified in I-ETS 300 245-2 [4], and the speech transmission characteristics of a hands free or loudspeaking terminal when using PCM A-law are specified in I-ETS 300 245-3 [5]. The requirements of this Part are restricted to the minimum set of characteristics where the implementation of the LD-CELP codec may influence the speech transmission characteristics.

The present version of this Part does not cover measurements on receivers (in handsets) with low acoustic output impedance.

2 Normative references

This I-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 I-ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] CCITT Recommendation G.728 (1992): "Coding of speech at 16 kbit/s using low-delay code-excited linear prediction".

[2] I-ETS 300 245-1: "Integrated Services Digital Network (ISDN); Technical characteristics of telephony terminals, Part 1: General".

[3] CCITT Recommendation G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".

[4] I-ETS 300 245-2: "Integrated Services Digital Network (ISDN); Technical characteristics of telephony terminals, Part 2: PCM A-law handset telephony".

[5] I-ETS 300 245-3: "Integrated Services Digital Network (ISDN); Technical characteristics of telephony terminals, Part 3: Pulse Code Modulation (PCM) A-law, loudspeaking and hands free telephony".

[6] CCITT Recommendation G.101 (1988): "The transmission plan".

[7] TBR 3 (1995): "Integrated Services Digital Network (ISDN); Attachment requirements for terminal equipment to connect to an ISDN using ISDN basic access".

[8] ETS 300 144: "Integrated Services Digital Network (ISDN); Audiovisual services; Frame structure for a 64 kbit/s to 1 920 kbit/s channel and associated syntax for inband signalling".

[9] ITU-T Recommendation P.51 (1993): "Artificial mouth".

[10] ITU-T Recommendation P.57 (1993): "Artificial ears".

[11] IEC Publication 651: "Sound level meters".

[12] CCITT Recommendation G.712 (1992): "Transmission performance characteristics of pulse code modulation".