



SLOVENSKI STANDARD SIST ETS 300 145 E1:2003

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Digitalno omrežje z integriranimi storitvami (ISDN) – Avdiovizualne storitve – Videotelefonski sistemi in terminalna oprema, ki delujejo z enim ali dvema kanaloma s hitrostjo 64 kbit/s

Integrated Services Digital Network (ISDN); Audiovisual services Videotelephone systems and terminal equipment operating on one or two 64 kbit/s channels

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

The attention of the user of this ETS is drawn to the possibility that compliance may require the use of technology covered by patent or similar rights.

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1 Scope

This ETS specifies the system requirements for a videotelephone using one or two B-channels, when connected to the S point or coincident S and T reference point of the pan-European Integrated Services Digital Network (ISDN). These requirements ensure end-to-end compatibility of terminals supporting the videotelephony teleservice to ETS 300 264 [9].

Conformance to this ETS allows interworking with terminals supporting telephony 3,1 kHz teleservice to ETS 300 111 [3], telephony 7 kHz teleservice to ETS 300 263 [8], terminals to CCITT Recommendation G.725 [13], and Public Switched Telephone Network (PSTN) telephony. Interworking with other audio-visual terminals can take place if their operation on one or two B-channels is according to this ETS.

This ETS is applicable to terminal equipment and other equipment supporting the videotelephony service, such as multipoint conference units.

Interworking with terminals not connected to an ISDN may be possible if one or two 64 kbit/s (unrestricted or restricted) digital channels can be established between the two terminals.

The inband signalling procedures are described in ETS 300 143 [6], and the syntax for these procedures is defined in ETS 300 144 [7]. The video coding algorithm is described in ITU-T Recommendation H.261 [5].

NOTE: Interworking with terminals to CCITT Recommendation G.725 [13] may be restricted to mode 0.

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 apply.

- <https://standards.iteh.ai/catalog/standards/sist/9b17057a-b540-4976-ad04-b2e0b377d5/sist-ets-300-145-e1-2003>
- [1] ETS 300 012 (1991): "Integrated Services Digital Network (ISDN); Basic user-network interface, Layer 1 specification and test principles".
- [2] ETS 300 102-1: "Integrated Services Digital Network (ISDN); User-network interface, layer 3, Specifications for basic call control".
- [3] ETS 300 111 (1992): "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice, Service description".
- [4] ETS 300 125 (1991): "Integrated Services Digital Network (ISDN); User-network interface data link layer specification, Application of CCITT Recommendations Q. 920/I. 440 and Q. 921/I. 441".
- [5] ITU-T Recommendation H.261 (1993): "Video codec for audiovisual services at p x 64 Kbit/s".
- [6] 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".
- [7] 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".
- [8] ETS 300 263: "Integrated Services Digital Network (ISDN): Telephony 7 kHz teleservice, Service description".
- [9] ETS 300 264: "Integrated Services Digital Network (ISDN): Videotelephony teleservice; Service description".

- [10] ETS 300 267: "Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices, Digital Subscriber Signalling System No. one (DSS1)".
- [11] CCITT Recommendation G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".
- [12] CCITT Recommendation G.722 (1988): "7 kHz audio-coding within 64 kbit/s".
- [13] CCITT Recommendation G.725 (1988): "System aspects for the use of the 7 kHz audio codec within 64 kbit/s".
- [14] CCITT Recommendation G.728 (1992): "Coding of speech at 16 kbit/s using low-delay code-excited linear prediction".
- [15] CCITT Recommendation H.100 (1984): "Visual telephone systems".
- [16] CCITT Recommendation H.233 (1992): "Confidentiality system for audiovisual services".

3 Definitions

For the purposes of this ETS the definitions given in Clause 3 of both ETS 300 143 [6] and ETS 300 144 [7] apply along with the following.

Additional channel: one of the channels between two users, which is not the I-channel (see ETS 300 144 [7]).

Audio mute: muting the loudspeaker of a terminal.

Channel: a unidirectional link between two users.

Connection: a bi-directional link between two users; it carries both (unidirectional) channels.

Control and Indication (C&I): end-to-end signalling between terminals, consisting of Control, which causes a state change in the receiver, and Indication which provides for information as to the state or functioning of the system (see also ETS 300 144 [7] for additional information and abbreviations).

Data: refer to any of these: Low Speed Data (LSD), High Speed Data (HSD), Multi Layer Protocol (MLP), High Speed Multi Layer Protocol (H-MLP) as defined in ETS 300 144 [7].

I-channel: the initial or only B-channel as defined in ETS 300 144 [7].

In-band signalling: signalling via the Bit-rate Allocation Signal (BAS) of the frame structure, as defined in ETS 300 144 [7].

Lip synchronisation: operation to provide the feeling that speaking motion of the displayed person is synchronised with his speech.

Man-machine interface: interface between human user and terminal/system, consisting of a physical section (electro-acoustic, electro-optic transducer, keys, etc.) and a logical section dealing with functional operation states.

4 Symbols and abbreviations

For the purposes of this ETS, the following symbols and abbreviations apply.

BAS	Bit-rate Allocation Signal
C&I	Control and Indication
CCITT	The International Telegraph and Telephone Consultative Committee
CONNECT	D-channel message (as in ETS 300 102-1 [2])
ECS	Encryption Control Signal
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
FAS	Frame Alignment Signal
H-MLP	High Speed Multi Layer Protocol
HOLD	Supplementary service
HSD	High Speed Data
ISDN	Integrated Services Digital Network
ITU-TS	International Telecommunications - Telecommunications Standardization Sector
LSD	Low Speed Data
MCU	Multipoint Control Unit
MLP	Multi Layer Protocol
MSB	Most Significant Bit
PSTN	Public Switched Telephone Network
SC	Service Channel
TEA	Terminal Equipment Alarm
TERM1, TERM2, TERM3	Terminals

5 System description

For a videotelephone as described in this ETS, at most 2 B-channels are available at a time, because it has to be connected to an ISDN basic access conforming to ETS 300 012 [1], ETS 300 102-1 [2] and ETS 300 125 [4].

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5.1 Block diagram and identification of elements (informative)

A generic videotelephony system is shown in figure 1. It consists of the videotelephone terminal, network, Multipoint Control Unit (MCU) and other system operation entities.

A configuration of a complete videotelephone consisting of several functional units is also shown in figure 1.

- Video I/O equipment includes camera(s) and monitor(s), and video processing units to provide functions such as split-screen scheme.
- Audio I/O equipment includes the handset and/or microphone(s), loud-speaker(s) and/or earphone(s), and audio processing units to provide such functions as acoustic echo cancellation.
- Telematic equipment includes visual aids such as an electronic blackboard and a still picture transceiver to enhance basic videotelephone communication as defined in CCITT T.120 series of Recommendations: these are optional.
- The system control unit carries out such functions as network access through end-to-network signalling, end-to-end C&I to establish a suitable mode of operation and signalling for proper operation of the terminal through end-to-end and end-to-network signalling.
- The video codec carries out redundancy reduction coding and decoding for video signals: the algorithm is defined in ITU-T Recommendation H.261 [5].