



SLOVENSKI STANDARD
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Radio Equipment and Systems (RES); Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Radio Equipment and Systems (RES) Technical Committee of the European Telecommunications Standards Institute (ETSI), and was adopted, having passed the ETSI standards approval procedure (Public Enquiry 23: 1991-09-02 to 1991-12-27, Vote 22: 1992-05-25 to 1992-07-17).

Annexes A, B, C and D to this ETS are informative.

Further details of the DECT system may be found in the ETSI Technical Report ETR 015 [16] and ETR 043 [15], and also in ETSI Draft Technical Report, "Digital European Cordless Telecommunications System Description Document" [17].

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1 Scope

This part of the Digital European Cordless Telecommunications (DECT) Common Interface specifies the speech coding and transmission requirements. It is Part 8 of a series of 9.

In order to ensure satisfactory interworking of different portable and fixed units, it is necessary to specify the transmission performance of the analogue information over the digital link. This requires not only use of a common speech algorithm, but also standardisation of frequency responses, reference speech levels (or loudness) at the air interface and various other parameters.

This part applies to DECT equipment which includes all the necessary functions to provide real-time two-way speech conversation. A 3,1 kHz telephony teleservice conveyed over a DECT link (including FP and PP) which is capable of being connected (directly or indirectly) to the public network access point shall comply with the requirements in this part.

Tethered fixed point local loop applications are not required to comply with the requirements of this part.

The speech performance characteristics defined in this document typically conform to ETS 300 085 [32], which specifies the overall performance between the handset acoustic interface and a 64 kbps A-law Pulse Code Modulated (PCM) digital network interface. The deviations from ETS 300 085 [32] are mainly due to the consequences of non-PCM coding and transmission delay.

The additional features described in Clause 8 are those which are not included in ETS 300 085 [32], but which are likely to occur in a DECT system: analogue interface, loudspeaking and hand-free facilities, tandeming with a mobile radio network. Headsets are not covered by the present specifications.

For the DECT systems which connect to the Public Switched Telephone Network (PSTN) via an analogue interface, this document includes the basics on which the national specifications can be built, referring to prETS 300 001 [33] (which specifies the connection of terminal equipments to the PSTN via a 2-wire analogue interface) and the appropriate national standard.

ETSI/STC TM5 has prepared a technical report, ETR 041 "Transmission Multiplexing (TM) Digital European Cordless Telecommunications (DECT): Transmission aspects 3,1 kHz telephony, interworking with other networks" [20], to be used as a guide for network planning.

A summary of the control and the use of the DECT echo control functions, to guide on need for options to manufacturers and installers, is found in the supplementary services chapter of the technical report "Digital European Cordless Telecommunications System description document" [17].

Information concerning test methods can be found in I-ETS 300 176 [12]. The test methods take into account that DECT is a digital system.

2 Normative references

This European Telecommunication Standard (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.

- [1] ETS 300 175-1: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 1: Overview".
- [2] ETS 300 175-2: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 2: Physical layer".
- [3] ETS 300 175-3: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 3: Medium access control layer".

- [4] ETS 300 175-4: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 4: Data link control layer".
- [5] ETS 300 175-5: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 5: Network layer".
- [6] ETS 300 175-6: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 6: Identities and addressing".
- [7] ETS 300 175-7: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 7: Security features".
- [8] ETS 300 175-8: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 8: Speech coding and transmission".
- [9] ETS 300 175-9: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Part 9: Public access profile".
- [10] Reserved.
- [11] Reserved.
- [12] I-ETS 300 176: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Approval test specification".
- [13] Reserved for future ETS version of [12].
- [14] CEPT Recommendation T/SGT SF2 (89) 6/0 "Draft Recommendation T/SF Services and Facilities of Digital European Cordless Telecommunications".
- [15] ETR 043: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT) Common interface Services and facilities requirements specification".
- [16] ETR 015: "Digital European Cordless Telecommunications Reference document".
- [17] Draft ETSI Technical Report: "Digital European Cordless Telecommunications System description document".
- [18] ETR 042: "Radio Systems and Equipment (RES); Digital European Cordless Telecommunications (DECT); A guide to DECT features that influence the traffic capacity and the maintenance of high radio link transmission quality, including the results of simulations".
- [19] Reserved for future DECT document.
- [20] ETR 041: "Transmission Multiplexing (TM) Digital European Cordless Telecommunications (DECT) Transmission aspects 3,1 kHz telephony, interworking with other networks".
- [21] CCITT Recommendation G.101 (1988): "The Transmission Plan".
- [22] CCITT Recommendation G.131 (1988): "Stability and echo".

- [23] CCITT Recommendation G.164 (1988): "Echo Suppressors".
- [24] CCITT Recommendation G.165 (1988): "Echo Cancellers".
- [25] CCITT Recommendation G.173 (1988): "Transmission planning aspects of the speech service in digital public land mobile networks".
- [26] CCITT Recommendation G.701 (1988): "Vocabulary of digital transmission and multiplexing, and pulse code modulation".
- [27] CCITT Recommendation G.711 (1988): "Pulse code modulation (PCM) of voice frequencies".
- [28] CCITT Recommendation G.721 (1988): "32 kbit/s adaptive differential pulse code modulation (ADPCM)".
- [29] CCITT Recommendation I.241 (1988): "Teleservices supported by an ISDN".
- [30] CCITT Recommendation P.10 (1988): "Vocabulary of terms on telephone transmission quality and telephone sets".
- [31] CCITT Recommendation P.34 (1988): "Transmission characteristics of hands-free telephones".
- [32] ETS 300 085: "Integrated Services Digital Network (ISDN): 3,1 kHz telephony teleservice; Attachment requirements for handset terminals" (text relevant for NET 33).
- [33] prETS 300 001: "Attachments to Public Switched Telephone Network (PSTN); General technical requirements for equipment connected to an analogue subscriber interface in the PSTN" (Candidate NET 4).
- [34] CCITT Recommendation G.113 (1988): "Transmission Impairments".
- [35] CCITT Recommendation G.111 (1988): "General recommendations on the transmission quality for an entire international telephone connection".
- [36] GSM Recommendation 03.50: "Transmission Planning Aspects of the Speech Service in the GSM PLMN System (Version 3.1.0)".

3 Definitions and abbreviations

3.1 Definitions

For the purpose of this ETS, the following definitions which are listed in alphabetical order, apply:

Central Control Fixed Part (CCFP): a physical grouping that contains the central elements of a fixed part. A fixed part shall contain a maximum of one CCFP.

NOTE: A CCFP controls one or more RFPs.

DECT NetWork (DNW): a network that uses the DECT air interface to interconnect a local network (LNW) to one or more portable applications. The logical boundaries of the DECT network are defined to be at the top of the DECT network layer.

NOTE: A DECT NetWork (DNW) is a logical grouping that contains one or more Fixed radio Terminations (FTs) plus their associated Portable radio Termination (PTs). The boundaries of the DECT network are not physical boundaries.