



**SLOVENSKI STANDARD**  
**SIST ETS 300 970 E1:2003**  
**01-december-2003**

8 [[ ]HJb]`WV] b]`hY`ca i b]\_UW`g\_]`g]ghYa `E` ; cj cf`g`dc`\ ]]fcgh]`E`BUXca Yy Ub`Y  
]b`nUd]fUb`Y`n[ i V`Yb]` `c\_j ]]fcj `df]`\_UbU]` `nUdfYbcg]` [ cj cfUg`dc`\ ]]fcgh]`f] GA  
\$\*`&`z`f`U`h`] ]WU) `\$`%&

Digital cellular telecommunications system; Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels (GSM 06.21 version 5.0.1)

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**ICS:**

33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
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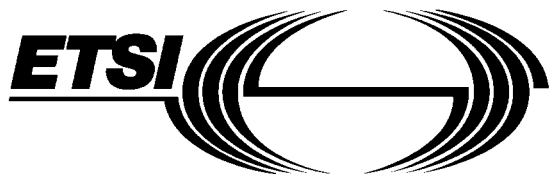
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**Digital cellular telecommunications system;  
Half rate speech;**

**Substitution and muting of lost frames for half rate  
speech traffic channels  
(GSM 06.21 version 5.0.1)**

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS defines a frame substitution and muting procedure which shall be used by the Receive (RX) Discontinuous Transmission (DTX) handler for the half rate speech traffic channels within the digital cellular telecommunications system. This ETS is part of ETSs' series covering the half rate speech traffic channels as described below:

GSM 06.02	ETS 300 966: "Digital cellular telecommunications system; Half rate speech; Half rate speech processing functions".
GSM 06.20	ETS 300 969: "Digital cellular telecommunications system; Half rate speech; Half rate speech transcoding".
<b>GSM 06.21</b>	<b>ETS 300 970: "Digital cellular telecommunications system; Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels".</b>
GSM 06.22	ETS 300 971: "Digital cellular telecommunications system; Half rate speech; Comfort noise aspects for half rate speech traffic channels".
GSM 06.41	ETS 300 972: "Digital cellular telecommunications system; Half rate speech; Discontinuous Transmission (DTX) for half rate speech traffic channels".
GSM 06.42	ETS 300 973: "Digital cellular telecommunications system; Half rate speech; Voice Activity Detector (VAD) for half rate speech traffic channels".
GSM 06.06	ETS 300 967: "Digital cellular telecommunications system; Half rate speech; ANSI-C code for the GSM half rate speech codec".
GSM 06.07	ETS 300 968: "Digital cellular telecommunications system; Half rate speech; Test sequences for the GSM half rate speech codec".

### Transposition dates

Date of adoption:	4 April 1997
Date of latest announcement of this ETS (doa):	31 August 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	28 February 1998
Date of withdrawal of any conflicting National Standard (dow):	28 February 1998

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## 1 Scope

This European Telecommunication Standard (ETS) defines a frame substitution and muting procedure which shall be used by the Receive (RX) Discontinuous Transmission (DTX) handler when one or more lost or unreliable speech or Silence Descriptor (SID) frames are received from the Radio Sub System (RSS).

The requirements of this ETS are mandatory for implementation in all GSM Base Station Systems (BSS)s and Mobile Stations (MS)s capable of supporting the half rate speech traffic channel.

## 2 Normative references

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

- [1] GSM 01.04 (ETR 350): "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 05.03 (ETS 300 909): "Digital cellular telecommunications system (Phase 2+); Channel coding".
- [3] GSM 06.20 (ETS 300 969): "Digital cellular telecommunications system; Half rate speech; Half rate speech transcoding".
- [4] GSM 06.41 (ETS 300 972): "Digital cellular telecommunications system; Half rate speech; Discontinuous Transmission (DTX) for half rate speech traffic channels".
- [5] GSM 06.06 (ETS 300 967): "Digital cellular telecommunications system; Half rate speech; ANSI-C code for the GSM half rate speech codec".

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## 3 Definitions and abbreviations

### 3.1 Definitions

The definitions of terms used in this ETS can be found in GSM 06.20 (ETS 300 969) [3], GSM 06.41 (ETS 300 972) [4], GSM 05.03 (ETS 300 909) [2].

### 3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

BFI	Bad Frame Indication
BSS	Base Station System
DTX	Discontinuous Transmission
GSM	Global System for Mobile communications
LPC	Linear Predictive Coding
MS	Mobile Station
RX	Receive
RSS	Radio Sub System
SID	Silence Descriptor
UFI	Unreliable Frame Indication

For abbreviations not given in this subclause, see GSM 01.04 (ETR 350) [1].