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Digital cellular telecommunications system (Phase 2+) (GSM);
Half rate speech;
Discontinuous Transmission (DTX)
for half rate speech traffic channels
(3GPP TS 46.041 version 14.0.0 Release 14)

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The present document is a GSM technical specification version 7 and is part of the 1998 release of the GSM Technical Specifications. The present document is part of a series covering the half rate speech traffic channels as described below:

GSM 06.02 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Half rate speech processing functions".

GSM 06.06 "Digital cellular telecommunications system (Phase 2+); Half rate speech; ANSI-C code for the GSM half rate speech codec".

GSM 06.07 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Test sequences for the GSM half rate speech codec".

GSM 06.20 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Half rate speech transcoding".

GSM 06.21 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels".

GSM 06.22 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Comfort noise aspects for half rate speech traffic channels".

GSM 06.41 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Discontinuous Transmission (DTX) for half rate speech traffic channels".

GSM 06.42 "Digital cellular telecommunications system (Phase 2+); Half rate speech; Voice Activity Detector (VAD) for half rate speech traffic channels".

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1 Scope

The present document gives a description of the general baseband operation of half rate speech traffic channels in the transmitter and in the receiver of GSM Mobile Stations (MS)s and Base Station Systems (BSS)s during Discontinuous Transmission (DTX).

For clarity, the description is structured according to the block diagrams in figures 1 and 4. Except in the case described below, this structure of distributing the various functions between system entities is not mandatory for implementation, as long as the operation on the air interface and on the speech decoder output remains the same.

In the case of BSSs where the speech transcoder is located remotely in the Base Station Controller (BSC), the implementation of the interfaces between the DTX Handlers and the Radio Sub System (RSS) as described in the present document together with all their flags is mandatory, being a part of the A-bis interface as described in GSM 08.61 [10].

The DTX functions described in the present document are mandatory for implementation in all GSM MSs. The receiver requirements are mandatory for implementation in all GSM BSSs, the transmitter requirements only for those where downlink DTX will be used.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] GSM 01.04: "Digital cellular telecommunication system (Phase 2+); Abbreviations and acronyms".

[2] GSM 04.08: "Digital cellular telecommunication system (Phase 2+); Mobile radio interface layer 3 specification".

[3] GSM 05.05: "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception".

[4] GSM 05.08: "Digital cellular telecommunication system (Phase 2+); Radio subsystem link control".

[5] GSM 06.02: "Digital cellular telecommunications system (Phase 2+); Half rate speech Part 1: Half rate speech processing functions".

[6] GSM 06.20: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Half rate speech transcoding".

[7] GSM 06.21: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels".

[8] GSM 06.22: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Comfort noise aspects for half rate speech traffic channels".

[9] GSM 06.42: "Digital cellular telecommunications system (Phase 2+); Half rate speech; Voice Activity Detector (VAD) for half rate speech traffic channels".

[10] GSM 08.61: "Digital cellular telecommunications system (Phase 2+); Inband control of remote transcoders and rate adaptors for half rate traffic channels".