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Digitalni celiļ ni telekomunikacijski sistem (faza 2+) ï Terminalske prilagajalne funkcije (TAF) za storitve, ki uporabljajo asinhrone nosilne zmogljivosti (GSM 07.02, razliļ ica 5.2.2)

Digital cellular telecommunications system (Phase 2+) (GSM); Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities (GSM 07.02 version 5.2.2)

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Digital cellular telecommunications system (Phase 2+); Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities (GSM 07.02 version 5.2.2)

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Foreword

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

This ETS defines the interfaces and Terminal Adaptation Functions (TAF) integral to a Mobile Termination (MT) which enables the attachment of asynchronous terminals to a MT within the digital cellular telecommunications system (Phase 2+).

The contents of this ETS is subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of this ETS, it will be resubmitted for OAP by ETSI with an identifying change of release date and an increase in version number as follows:

Version 5.x.y

where:

- y the third digit is incremented when editorial only changes have been incorporated in the specification;

- x the second digit is incremented for all other types of changes, i.e. technical enhancements, corrections, updates, etc.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS may not be entirely in accordance with the ETSI drafting rules.

Transposition dates	
Date of adoption:	5 September 1997
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1 Scope

This European Telecommunication Standard (ETS) defines the interfaces and Terminal Adaptation Functions (TAF) integral to a Mobile Termination (MT) which enables the attachment of asynchronous terminals to a MT (see GSM 04.02 [4]). The general aspects of Terminal Adaptation Functions are contained in GSM 07.01 (ETS 300 913) [7]. This ETS covers support of these services for the following interfaces and procedures:

(i) V.14 procedures
(ii) V.21 DTE/DCE interface
(iii) V.22bis DTE/DCE interface
(iv) V.23 DTE/DCE interface
(v) V.32 DTE/DCE procedures
(vi) I.420 S interface
(vii) V.25bis signalling procedures
(viii) V.25ter signalling procedures

The asynchronous data rates between the MT and the TE2 are defined in GSM 02.02 (ETS 300 904) [2].

1.1 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 02.02 (ETS 300 904): "Digital cellular telecommunications system (Phase 2+); Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".

[3] GSM 03.10: "Digital cellular telecommunications system (Phase 2+); GSM Public Land Mobile Network (PLMN) connection types".

[4] GSM 04.02: "Digital cellular telecommunications system (Phase 2+); GSM Public Land Mobile Network (PLMN) access reference configuration".

[5] GSM 04.08 (ETS 300 940): "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".

[6] GSM 04.21 (ETS 300 945): "Digital cellular telecommunications system (Phase 2+); Rate adaption on the Mobile Station - Base Station System (MS - BSS) interface".

[7] GSM 07.01 (ETS 300 913): "Digital cellular telecommunications system (Phase 2+); General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

[8] GSM 07.07 (ETS 300 916): "Digital cellular telecommunications system (Phase 2+); AT command set for GSM Mobile Equipment (ME)".

[9] GSM 09.05: "Digital cellular telecommunications system ; Interworking between the Public Land Mobile Network (PLMN) and the Packet Switched Public Data Network (PSPDN) for Packet Assembly/Disassembly (PAD) facility access".

[10] CCITT Recommendation V.4: "General structure of signals of international alphabet No.5 code for character oriented data transmission over public telephone networks".

[11] CCITT Recommendation V.25 bis (1988): Blue book, Volume VIII, Fascicle VIII.1 "Automatic Calling and/or Answering Equipment on the General Switched Telephone Network (GSTN) using the 100-Series Interchange Circuits".

[12] ITU-T Recommendation V.25 ter: "Serial asynchronous automatic dialling and control".

[13] CCITT Recommendation V.110: "Support of data terminal equipments (DTEs) with V-Series interfaces by an integrated services digital network (ISDN)".

[14] CCITT Recommendation V.24 (1988): Blue book, Volume VIII, Fascicle VIII.1 "List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)".

[15] CCITT Recommendation V.21 (1988): Blue book, Volume VIII, Fascicle VIII.1 "300 bits per second duplex modem standardized for use in the general switched telephone network".

[16] CCITT Recommendation V.14 (1988): Blue book, Volume VIII, Fascicle VIII.1 "Transmission of start-stop characters over synchronous bearer channels".

[17] CCITT Recommendation V.22bis (1988): Blue book, Volume VIII, Fascicle VIII.1 "2 400 bits per second duplex modem using the frequency division technique standardized for use on the general switched telephone network and on point-to-point 2 wire leased telephone-type circuits".

[18] CCITT Recommendation V.23 (1988): Blue book, Volume VIII, Fascicle VIII.1 "600/1 200-baud modem standardized for use in the general switched telephone network".

[19] CCITT Recommendation V.32 (1988): Blue book, Volume VIII, Fascicle VIII.1 "A family of 2-wire, duplex modems operating at data signalling rates of up to 9 600 bit/s for use on the general switched telephone network and on leased telephone-type circuits".

[20] CCITT Recommendation V.42 (1988): Blue book, Volume VIII, Fascicle VIII.1 "Error-correcting procedures for DCES using asynchronous-to-synchronous conversion".

[21] ITU-T Recommendation V.42 bis: "Data compression procedures for data circuit terminating equipment (DCE) using error correction procedures".

[22] CCITT Recommendation X.28: "DTE/DCE interface for a start-stop mode data terminal equipment accessing the packet assembly/disassembly facility (PAD) in a public data network situated in the same country".

[23] Recommendations I.310-I.470 (Study Group XVIII): Blue book, Volume III, Fascicle III.8, "Overall network aspects and functions, ISDN user-network interfaces".

[24] CCITT Recommendation I.420: Blue book, Volume III, Fascicle III.8 "Basic user-network interface".

[25] Personal Computer Memory Card Association: "PCMCIA 2.1 or PC-Card 3.0 electrical specification or later revisions".

[26] Infrared Data Association IrDA "IrPHY Physical layer signalling standard".

[27] TIA-617: "Data Transmission Systems and Equipment - In-Band DCE Control".

[28] GSM 02.34: "Digital cellular telecommunications system (Phase 2+); High Speed Circuit Switched Data (HSCSD) - Stage 1".

[29] GSM 03.34 (TS 101 038): "Digital cellular telecommunications system (Phase 2+); High Speed Circuit Switched Data (HSCSD) - Stage 2 Service Description".

1.3 Abbreviations

Abbreviations used in this ETS are listed in GSM 01.04 (ETR 350) [1].

2 Reference Configuration

GSM 07.01 (ETS 300 913) [7] and GSM 04.02 [4] describe the basic reference configurations.

2.1 Customer Access Configuration

This configuration is as shown in figure 1 of GSM 04.02 [4]. This ETS specifically refers to the Mobile Terminations (MTs) which support terminals of the type TE1 and TE2 with asynchronous capabilities. The TAF is functionally a part of an MT1, MT2 or MT0 with an integral asynchronous data capability.

2.2 Terminal Adaptation Function (TAF)

The TAF provides facilities to allow manual or automatic call control functions associated with alternate speech/data, speech followed by data and circuit switched services. The following functions are also included:

- Conversion of electrical, mechanical, functional and procedural characteristics of the V series and ISDN type interfaces to those required by the PLMN.
- Bit rate adaptation of the V series data signalling rates and the ISDN 64 kbit/s to that provided in the PLMN.
- The mapping functions necessary to convert automatic calling and/or automatic answering procedures of recommendation V.25 bis or V.25 ter and parameters for asynchronous operation.
- The mapping functions necessary to convert S interface signalling to the PLMN Dm channel signalling.
- Flow control (in some cases resulting in non-transparency of data as described in subclause 4.3).
- Layer 2 Relaying (see annex A).
- In-call modification function.
- Synchronization procedure, which means the task of synchronizing the entry to and the exit from the data transfer phase between two user terminals. This is described in GSM 07.01 (ETS 300 913) [7].
- Filtering of channel control information as described in GSM 07.01 (ETS 300 913) [7].
- Terminal compatibility checking.
- Splitting and combining of the data flow in case of multislot data configurations.

3 Terminal Adaptation Functions for transparent services

GSM 03.10 [3] refers to the connection types supporting the transparent services.

3.1 Rate Adaptation

GSM 04.21 (ETS 300 945) [6] describes the rate adaptation scheme to be utilized over the Base Station (BS) to Mobile Station (MS) link. GSM 03.10 [3] refers to the rate adaptation elements to be provided in the MS.