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TELEMATIC SERVICES

**TERMINAL EQUIPMENTS AND PROTOCOLS
FOR TELEMATIC SERVICES**

**PACKET MODE ACCESS FOR
SYNTAX-BASED VIDEOTEX VIA PSTN**

ITU-T Recommendation T.104

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation T.104 was prepared by the ITU-T Study Group VIII (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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Recommendation T.104**PACKET MODE ACCESS FOR SYNTAX-BASED
VIDEOTEX VIA PSTN***(Helsinki, 1993)***1 Scope**

This Recommendation aims to meet the requirements of network operators and equipment manufacturers who are designing equipment to operate with an increase speed on Videotex Services over the public switched telephone network (PSTN).

This Recommendation has a close relationship to Annexes B/T.101, C/T.101, D/T.101, E/T.101 and F/T.101 [2] describing the Videotex data syntaxes.

This Recommendation specifies how to use the end-to-end protocols defined by Recommendation T.105 [3] in case of "Packet mode access for Syntax-based Videotex via PSTN".

It

- identifies the parts of Recommendation T.105 [3] which apply;
- defines the protocol pillar ;
- precises the difference of semantic of some parameters
- precises the lower layer elements which are applicable.

It is applicable to devices supporting "Packet mode access for Syntax-based Videotex via PSTN" to be attached at the DTE side of a modem. In this context, a device is either a Videotex Terminal a Videotex Service Center, a Videotex Access point or a Videotex Host and a modem is a device providing an interface according to one of the V Series Recommendations contained in the list given in clause 2.

This Recommendation applies only for modems operating in "Synchronous interface" in both directions.

For Videotex Services using modems operating in "Asynchronous interface", the protocols to be used are those already defined by national Videotex Services.

The following principles apply for the use of Recommendation T.105 [3] in case of "Packet mode access for Syntax-based Videotex via PSTN":

- the term "S/T reference point" shall be read "Modem interface"
- the PSTN network shall be used instead of the ISDN network;
- in case of "Packet mode access for Syntax-based Videotex via PSTN" there is no D-channel and/or B-channel ; the communication and/or signalling is done via the protocol pillar described in clause 6;
- all parts of Recommendation T.105 [3] related to the use of "ISDN Supplementary Services" do not apply for "Packet mode access for Syntax-based Videotex via PSTN"
- a communication channel is equivalent to a virtual circuit (VC).

2 Normative references

- [1] CCITT Recommendation T.90 (1991), *Characteristics and protocols for terminals for telematic services in ISDN*.
- [2] CCITT Recommendation T.101, *International Interworking for Videotex Services*.
- [3] CCITT Recommendation T.105, *Syntax-based Videotex Application Layer protocol*.
- [4] CCITT Recommendation V.22 bis (1988), *2400 bit/s 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*.

**Documents**

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Recommendation T.104 (03/93)

- [5] CCITT Recommendation V.26 bis (1988), *2400/1200 bit/s modem standardized for use in the general switched telephone network.*
- [6] CCITT Recommendation V.26 ter (1988), *2400 bit/s duplex modem using the echo cancellation technique standardized for use on the general switched telephone network and on point to point 2 wire leased telephone type circuits.*
- [7] CCITT Recommendation V.27 ter (1988), *4800/2400 bit/s modem standardized for use in the general switched telephone network.*
- [8] CCITT Recommendation V.29 (1988), *9600 bit/s modem standardized for use on point to point 4 wire leased telephone type circuits.*
- [9] CCITT Recommendation V.32 (1988), *A family of 2-wire, duplex modems operating at data signalling rates of up to 9600 bit/s for use on the general switched telephone network and on leased telephone type circuits.*
- [10] CCITT Recommendation V.17 (1990), *Recommendation for a 2-wire modem for facsimile applications with rates up to 14 400 bit/s.*
- [11] CCITT Recommendation V.42 (1988), *Error correction procedures for DCE using asynchronous/synchronous converter.*
- [12] CCITT Recommendation X.3, *Packet assembly disassembly facility (PAD) in a public data network.*
- [13] CCITT Recommendation X.32, (1988), *Interface between data terminal equipment (DTE) and data-circuit terminating equipment (DCE) for terminals operating in the packet mode and accessing a packet switched public data network through a public switched telephone network or an integrated service digital network or a circuit switched public data network.*
- [14] CCITT Recommendation X.75, *Packet-switched signalling system between public networks providing data transmission services.*
- [15] ISO 8208 standard (1990), *Information processing systems – Data communications – X.25 Packet Level Protocol for Data Terminal Equipment.*

NOTE – The above list of modem Recommendations (V Series) might be extended if other types of modem will be standardized.

3 Definitions and abbreviations

The definitions and abbreviations of Recommendation T.105 [3] apply. Those related to ISDN are not used in this Recommendation.

4 Overview

Clause 4/T.105 [3] applies except 4.5/T.105 [3].

5 Configurations

Clause 5/T.105 [3] applies but examples of configurations are given in Annex A of this Recommendation.

6 General Model

Clause 6/T.105 [3] applies with the following exceptions:

- the Access Network shall be the PSTN (see Figure 1) ;
- there are no “Channel-Management” and “Coordination Function” for “Packet mode access for Syntax-based Videotex via PSTN”;

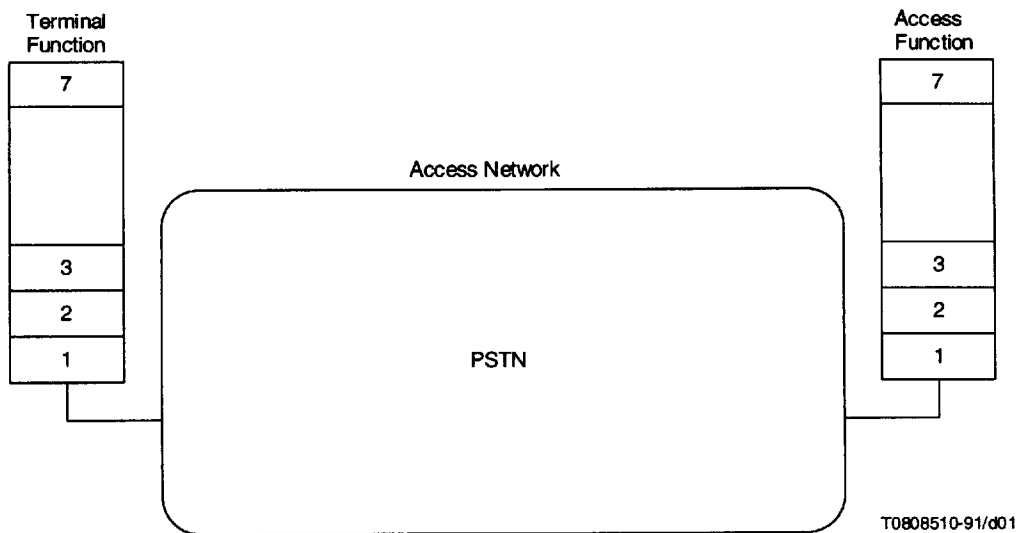


FIGURE 1/T.104
Access Network scenario

- the protocol pillar is defined as follows

3	ISO 8208 [15]	
2	X.75 [14], X.32 [13] (LAPX)	X.75 [14]
1	V-Series Modem Recommendations	
Layer	Half Duplex	Full Duplex

FIGURE 2/T.104
Protocol Pillar

NOTE – Layers 4 and 5 are not used by “Packet mode access for Syntax-based Videotex via PSTN” Moreover, Note 2 of 6.3/T.105 [3], does not apply.

7 Service Definition

7.1 Introduction

Subclause 7.1/T.105 [3] applies.

7.2 Kernel services

Subclause 7.2/T.105 [3] applies with the following exceptions: