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## **Foreword**

This European Telecommunication Standard (ETS) has been produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

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## 1 Scope

Videotex is a public access information system which allows for the connection of a variety of terminal equipment to databases of information (servers) or to other terminals over widely available public telecommunications facilities. Initially, terminals were connected to information servers over the conventional Public Switched Telephone Network (PSTN). This was accomplished using low cost modems: typically at 1 200/75 or 1 200/1 200 bit/s. With the introduction of the Integrated Services Digital Network (ISDN) and improved modem facilities, a number of other optional configurations are becoming viable for the connection of Videotex terminals to server systems. These include higher speed conventional modems at 2 400 or 4 800 bit/s, much higher speed modems such as 9 600 bit/s (CCITT Recommendation V.29 [18], CCITT Recommendation V.32 [19]) or 14 400 bit/s (CCITT Recommendation V.17 [17]) and ISDN connections using packet mode on a B or D channel and circuit switched mode.

A number of Videotex communications configurations are possible using these new communications facilities. This ETS describes the method by which these facilities will be used in Videotex.

This ETS describes the application layer and lower layer protocols which are to be used for terminal to host Videotex systems operating over various types of networks. This includes:

- ISDN 64 kbit/s circuit mode;
- ISDN 64 kbit/s packet mode;
- ISDN D channel packet mode;
- PSTN packet mode operation using CCITT V. series modems.

In addition, the existing PSTN based Videotex services are identified. These services make use of relatively low speed modems operating in asynchronous circuit switched mode over the PSTN or equivalent networks.

This ETS also identifies the data syntax profiles to be used in the various configurations within the various countries, together with the common data syntaxes for audio and photographic information. The relationships between the various CCITT Recommendations applicable to Videotex are defined.

## 2 Normative references

This 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 of revision. For undated references the latest edition of the publication referred to applies.

- [1] CCITT Recommendation F.300 (1988): "Videotex service".
- [2] ISO 2022 (1986): "Information processing - 7-bit and 8-bit coded character sets - Code extension techniques".
- [3] ISO 9281 (1990): "Information technology - Picture coding method".
- [4] ETS 300 072: "Terminal Equipment (TE); Videotex Presentation Layer protocol, Videotex presentation layer data syntax".
- [5] ETS 300 073: "Videotex presentation layer data syntax, Geometric Display (CEPT Recommendation T/TE 06-02, Edinburgh 1988)".
- [6] ETS 300 074: "Videotex presentation layer data syntax transparent data (CEPT Recommendation T/TE 06-03, Edinburgh 1988)".
- [7] ETS 300 075: "Terminal Equipment (TE); Videotex processable data".

- [8] ETS 300 076: "Terminal Equipment (TE); Videotex, Terminal Facility Identifier (TFI)".
- [9] ETS 300 177: "Terminal Equipment (TE); Videotex, Photographic syntax".
- [10] ETS 300 149: "Terminal Equipment (TE); Videotex: Audio syntax".
- [11] prl-ETS 300 236: "Terminal Equipment (TE); Syntax-based Videotex protocols conformance testing".
- [12] ETS 300 218: "Integrated Services Digital Network (ISDN); Syntax-based Videotex lower layer protocols for ISDN packet mode (X.31 case A and case B).
- [13] ETS 300 223: "Terminal Equipment (TE); Syntax-based Videotex, end-to-end protocols".
- [14] ETS 300 221: "Terminal Equipment (TE): Syntax-based Videotex lower layer protocols using packet mode access over the Public Switched Telephone Network (PSTN)".
- [15] ETS 300 079: "Integrated Services Digital Network (ISDN); Syntax-based Videotex, End-to-end protocols circuit mode DTE-DTE".
- [16] ETS 300 080: "Integrated Services Digital Network (ISDN); Lower layer protocols for telematic terminals".
- [17] CCITT Recommendation V.17 (1990): "Recommendation for a 2-wire modem for facsimile applications with rates up to 14 400 bit/s".
- [18] CCITT Recommendation V.29 (1988): "9600 bits per second modem standardized for use on point-to-point 4 wire leased telephone-type circuits".
- [19] 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".

### 3 Abbreviations

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

CCITT	Consultative Committee on International Telegraph and Telephony
ETS	European Telecommunication Standard
ETSI	European Telecommunications Standards Institute
ISDN	Integrated Services Digital Network
PAD	Packet Assembler/Disassembler
PSTN	Public Switched Telephone Network
VAP	Videotex Access Point
VSC	Videotext Service Centre



#### **4 Overall structure of protocols and data syntaxes in various environments**

As identified in CCITT Recommendation F.300 [1], various configurations are permitted for the structure of a Videotex system. A terminal can be connected to a host server:

- directly by a telecommunication network;
- via a Packet Assembler Disassembler (PAD);
- via a Videotex Access Point (VAP);
- via a Videotex Service Centre (VSC) which may also act as a Videotex host.

All of these configurations are currently in use. In all of the identified configurations listed above there exists an access function which is located either in the host or in the VAP or in the VSC.

With the development of new types of networks and progress in modem technology, it is necessary to define the protocol between the terminal and the access function. For this reason, a series of standards have been developed addressing the protocol aspects between the terminal and the access function of the Videotex service.

Standards have been defined identifying the access protocols for three different types of networks. The relationships between these standards, including the Videotex syntax standards are illustrated in the following figure 1.

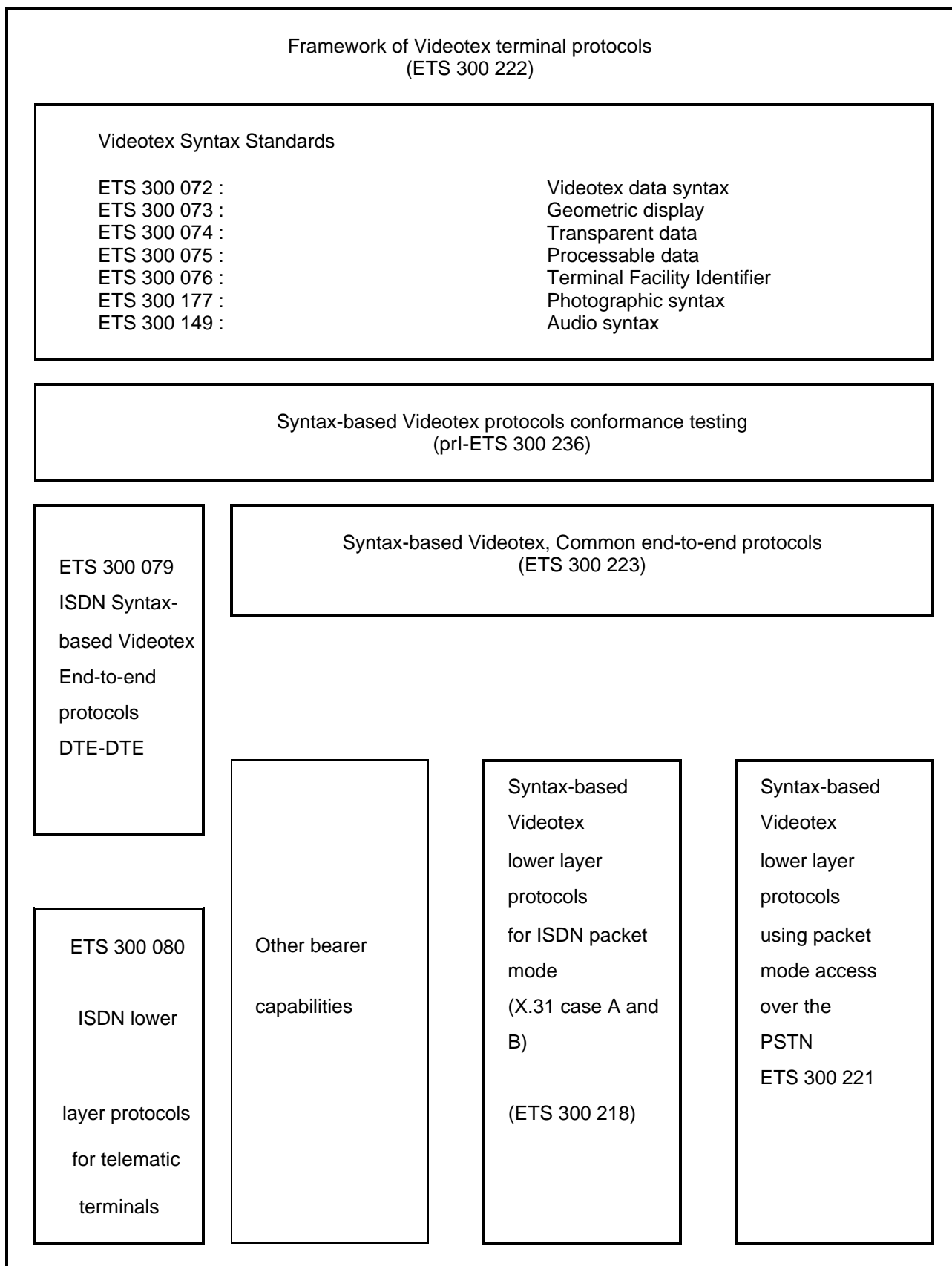


Figure 1: Framework of Videotex terminal protocols

#### **4.1 Data syntaxes applicable to Videotex terminals**

The representation of application data elements in syntax-based Videotex systems is accomplished by the use of a number of defined data syntaxes. Videotex services have been implemented in different countries making use of different data syntax profiles which have an equal status. These data syntax profiles are described in ETS 300 072 [4]. Any of these data syntax profiles may be used with the protocols given below (subclauses 4.2 to 4.4).

In combination with any of these data syntax profiles, two common enhancements are defined addressing audio and photographic capabilities. These common elements are described in ETS 300 177 [9] and ETS 300 149 [10]. The switching mechanism between the data syntax profiles is based on ISO 2022 [2] and ISO 9281 [3] as described in ETS 300 072 [4]. The ESC 2/5 F mechanism to introduce a complete coding environment may be used to select the data syntaxes. The ISO 9281 [3] picture coding environment switching technique based on ESC 7/0 CMI LI is used to establish the common audio and photo extensions.

#### **4.2 ISDN "Circuit mode"**

ETS 300 079 [15] describes the lower layers (1 - 3) applicable to ISDN circuit mode of operation. In addition, it describes in detail the application layer end-to-end protocol for ISDN circuit.

ETS 300 080 [16] describes the detailed characteristics, such as the values of the different parameters of the lower layers (1 - 3) protocols for telematic terminals.

#### **4.3 ISDN "Packet mode"**

ETS 300 218 [12] describes the lower layers (1 - 3) for ISDN packet mode operation on the B channel and the D channel. It also describes the additional aspects of the end-to-end protocol applicable to ISDN packet mode, making reference to ETS 300 223 [13] for the relevant common aspects of the end-to-end protocol.

ETS 300 223 [13] describes the end to end protocols common to all the syntax-based Videotex ETSs.

#### **4.4 PSTN "Packet mode"**

ETS 300 221 [14] describes the lower layers (1 - 3) for packet mode operation over the PSTN. It also describes the additional aspects of the end-to-end protocols operation, making references to ETS 300 223 [13] for the relevant common aspects of the end-to-end protocol.

#### **4.5 Conformance testing**

Final draft prl-ETS 300 236 [11] describes the conformance testing for the syntax-based Videotex protocols.

## History

Document history	
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