



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 076

November 1990

Source: ETSI TC-TE

Reference: DE/TE-01005

ICS: 33.020, 33.040.40

Key words: Videotex

**Terminal Equipment (TE);
Videotex
Terminal Facility Identifier (TFI)**

ETSI

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Foreword

This European Telecommunication Standard (ETS) was produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI) in May 1990.

This standard describes the Terminal Facility Identifier (TFI) which may be used to ascertain the capabilities of either a physical Videotex Terminal or another Videotex Service. This ETS is one of an integrated package of 5 ETSs covering various aspects of videotex which comprises:

ETS 300 072	Terminal Equipment (TE); Videotex presentation layer protocol Videotex presentation layer data syntax
ETS 300 073	Videotex presentation layer data syntax Geometric Display (CEPT Recommendation T/TE 06-02, Edinburgh 1988)
ETS 300 074	Videotex presentation layer data syntax transparent data (CEPT Recommendation T/TE 06-03, Edinburgh 1988)
ETS 300 075	Terminal Equipment (TE); Videotex processable data

This standard and its companion ETSs are based on previous CEPT Recommendations and two of them (Final draft ETSs 300 073 and 300 074) are CEPT Recommendations proposed as endorsed ETSs without modification.

For the purposes of this standard, all references within the text to the following T/TE or T/CD numbers should read (unless otherwise stated) as:

T/TE or T/CD 06-01	= ETS 300 072,
T/TE 06-02	= ETS 300 073,
T/TE 06-03	= ETS 300 074,
T/TE or T/CD 06-04	= ETS 300 075,
T/TE or T/CD 06-05	= ETS 300 076.

1 Introduction

The Terminal Facility Identifier may be used to ascertain the capabilities of a "terminal", (where a terminal may actually be a physical terminal or another videotex service). The TFI may be used in three ways:

- [1] To determine the terminal profile and additional terminal capabilities;
- [2] To determine to which parts of the Service Reference Model (SRM) the terminal conforms;
- [3] To determine whether the terminal can execute a particular Videotex Presentation Data Element (VPDE).

2 References

ETS 300 072, ETS 300 073, ETS 300.074 and ETS 300 075.

3 Definitions

See ETS 300 072, ETS 300 073, ETS 300.074 and ETS 300 075.

4 Coding structure

Two VPCEs are used for the TFI: US 2/0 and US 2/1.

5 Coding

To request the terminal profile the code US 2/0 4/0 is transmitted to the terminal.

The terminal will reply with US 2/0 followed by a series of bytes from columns 4 to 7 of the code table (profiles and capabilities), or by a series of bytes from columns 4 and 5 of the code table, (representing the parts of the SRM to which the terminal conforms) terminating with the code 4/0 except when the Escape code (7/15) is used (see section 5.2).

To determine whether the terminal can execute a particular VPDE, the service transmits the code US 2/0 followed by the header of the VPDE and terminated by US 2/1 to the terminal. The terminal replies with either US 2/0 2/0 indicating it can execute the VPDE or with US 2/0 2/1 indicating it cannot execute the VPDE.

5.1 Conformance to the SRM

The following codes have been assigned for identifying parts of the SRM.

4/0	Terminator	
4/1	Alphamosaic	(ETS 300 072)
4/2	Geometric	(ETS 300 073)
4/3	Photographic	(ETS 300 072)
4/4	Define DRCS	(ETS 300 072)
4/5	Define Colour	(ETS 300 072)
4/6	Define Format	(ETS 300 072)
4/7	Transparent data	(ETS 300 074)
4/8	Reset	(ETS 300 072)
4/9	Processable Data	(ETS 300 075)
4/11	Timing Control	(ETS 300 072)

A terminal conforming to parts 1, 4, 5, 6, 8 and 10 would transmit:

US 2/0, 4/1, 4/4, 4/5, 4/6, 4/8, 4/10, 4/0.

If different levels of conformance are defined in the future (as for the Geometric display or Processable Data) then the level of conformance may be indicated by one or more bytes from column 3 of the code table following the relevant byte from column 4.

For the Geometric mode (primary byte 4/2) the following sub levels will be defined:

3/0 - 3/7 reserved

3/8 - 3/15 sub-levels to be defined are for further study.

A terminal which conforms to parts 1, 2 (sub-level coded 3/9), 4, 5, 6, 8, and 10 would transmit:

US 2/0, 4/1, 4/2, 3/9, 4/4, 4/5, 4/6, 4/8, 4/10, 4/0.

The sub-levels of Processable Data are for further study.

5.2 Profiles

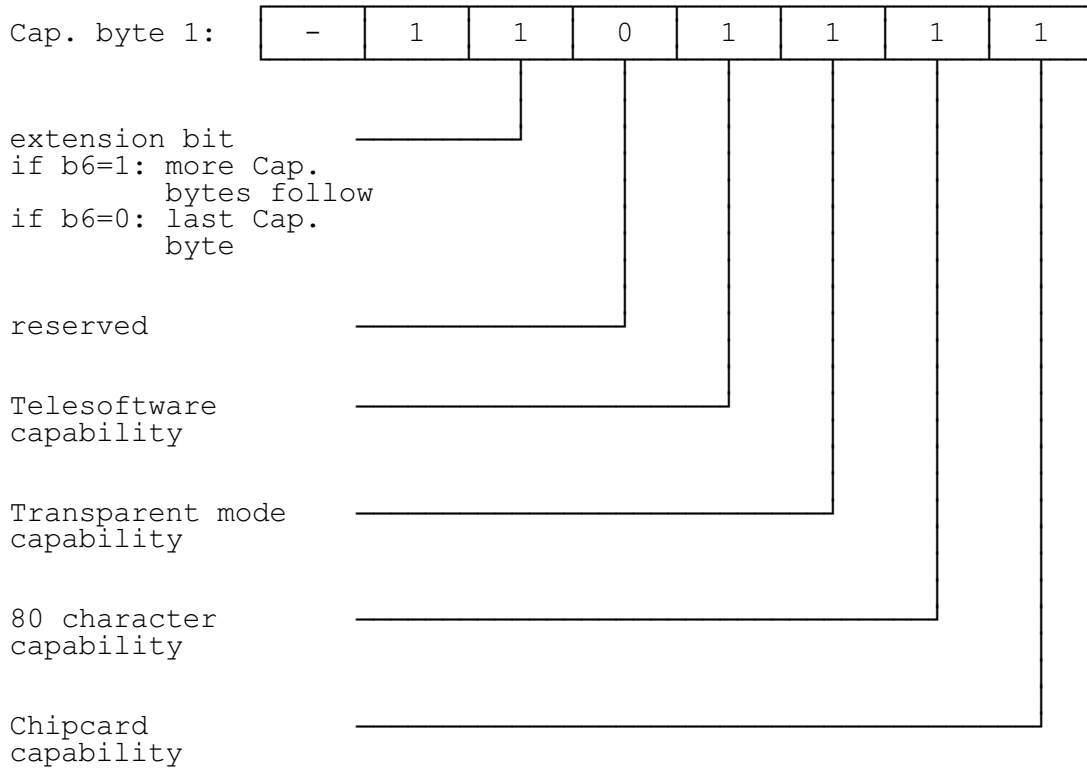
The following codes for terminal profiles have been assigned:

6/0	Alpha-mosaic profile 1 of Annex C of ETS 300 072
6/1	Alpha-mosaic profile 2 of Annex C of ETS 300 072
6/2	Alpha-mosaic profile 3 of Annex C of ETS 300 072
6/3	Alpha-mosaic profile 4 of Annex C of ETS 300 072
6/4 - 6/7	Reserved for Alpha-mosaic profiles
6/8	Geometric profile x1 (ETS 300 073)
6/9	Geometric profile x2 (ETS 300 073)
6/10 - 6/15	Reserved for future Geometric profiles
7/0 - 7/7	Reserved for Photographic profiles
7/8 - 7/12	Reserved for special profiles
7/13	Reserved for plane delimitations
7/14	ASCII profile introducer. The following byte from columns 4 - 7 specifies the ASCII capabilities:

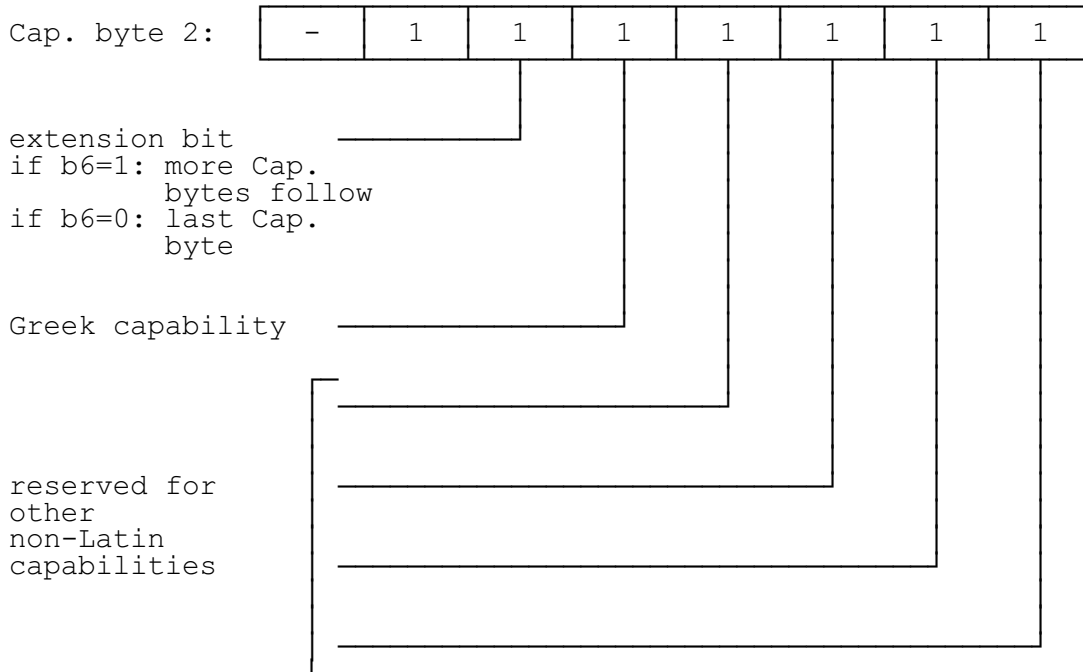
The following ASCII capabilities have been reserved:

4/1	reserved for VT52
4/2	reserved for VT100
4/3	reserved for VT220
4/4	reserved for Teletype
4/5 - 7/13	reserved
7/14	allocated for private use

7/15	Escape code. The following bytes (Cap. bytes) from columns 4 -7 specify additional terminal capabilities by using a bitwise identification (Cap. bits) in the following way:
------	--



NOTE: The processable Data bit and the Transparent Data bit are used to identify the use of these data types associated with the Profiles. Section 5.1 gives codes that are used to identify SRM conformance to ETS 300 074 (Transparent Data) and ETS 300 075 (Processable Data).



The end of the TFI sequence is determined either by the code 4/0, or by the last Cap. byte (extension bit set to 0).

If a terminal supports more than one alphamosaic, ASCII, geometric, photographic or special profile, it may send the codes assigned to each profile it supports. If a terminal sends more than one code for the same display mode it must be capable of handling the switching sequences defined in Annex c, section 5.

The first alphamosaic profile will identify the preferred profile.

Examples:

a) US 2/0 6/1 4/0: alphamosaic profile 2

b) US 2/0 6/0 6/9 7/15 4/6 =

-	1	0	0	0	1	1	0
---	---	---	---	---	---	---	---

 :

alpha-mosaic profile 1 with geometric profile x2, transparent mode and 80 character capability.

5.3 Ability to execute a particular VPDE

The service transmits the code US 2/0 followed by the VPDE header, (without the US code), and terminates the header with a US 2/1.

If the service requires to know whether the terminal can execute 8 by 10 dot DRCS, it transmits the following codes to the terminal:

US, 2/0, 2/3, 2/0, 4/9, US, 2/1

(drcs header)

If the terminal can execute 8 by 10 dot DRCS it replies with an acknowledgement, i.e. the code US 2/0 2/0.

If it cannot, it replies with the code US 2/0 2/1.

5.4 Sound capabilities

NOTE: The following has been reserved for sound capability identification. The exact definition of sound videotex requires further study.

Conformance code (first octet):

- 5/0: Sound capability, block mode
- 5/1: Sound capability with framing (CEPT T/TR 01-03, CCITT Recommendation H.221).

The conformance code may be followed by zero, one or more couples of octets indicating the type of coding and the audio bitrate.

Algorithm identification (second and even octets):

- 3/0: PCM A-law described in CCITT Recommendation G.711
- 3/1: PCM mu-law described in CCITT Recommendation G.711
- 3/2: ADPCM described in CCITT Recommendation G.722
- 3/3: sub-band ADPCM described in CCITT Recommendation G.722.

Bitrate audio coding (third and odd octets):

- 3/0: 8 Kbits/s
- 3/1: 16 Kbits/s
- 3/2: 24 Kbits/s
- 3/3: 32 Kbits/s
- 3/4: 40 Kbits/s
- 3/5: 48 Kbits/s
- 3/6: 56 Kbits/s
- 3/7: 64 Kbits/s

For example a terminal which conforms to parts 1, 2, 3 and which handles the sound capability with no framing, using PCM 64 Kbits or ADPCM 32 Kbits, would transmit:

US 2/0, 4/1, 4/2, 4/3, 5/0, 3/0, 3/7, 3/2, 3/3, 4/0.

6 Defaults

If no response is received from a terminal within a specified time (depending upon the transmission network being used), then the basic terminal used within that network is assumed.

History

Document history	
November 1990	First Edition
March 1996	Converted into Adobe Acrobat Portable Document Format (PDF)