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DISPLAY STANDARDS OF THE FRENCH VIDEOTEX
SYSTEM (ANTIOPE)

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I - SCOPE :

This document describes the display standards of the VIDEOTEX service implemented in France as well for interactive as for broadcast applications. This is independent from the way the various display attributes are encoded and transmitted. It gives necessary elements to design the display processor which is necessary to set up or receive VIDEOTEX pages. This display processor is composed of a page store and a video processor and it is supposed, the page store having been loaded by an external system, the display processor works by itself and displays the content of the page store 50 or 60 times per second. Finally, the following supposes that the display screen is a television receiver or monitor at 625 lines. Modifications related to the 525 lines standards will be indicated explicitly and concern only the maximum number of text rows on the screen.

II - GLOSSARY :

Line : A line is the horizontal sweeping unit of a television picture.

Row (or characters'row) : The word row is used to avoid confusion with the wording line. A characters'row is displayed during several sweeping lines.

Page or screen : set of rows filling the screen of a TV set.

Character : it is a displayed symbol. It is defined by a set of points from a matrix and describing its shape and by the complementary set of points belonging to the background.

III - FORMATS :

III - 1 : Screen format :

The screen is composed of 25 rows. Every row contains 40 characters. The rows are numbered from 0 to 24. The display of row # 0 may be inhibited.

III - 2 Character_format :

Every character uses the same part of 10 consecutive lines of each field.

The row (forty characters) corresponds to a duration of roughly 40 (80 % of the active line) in order to avoid the effects of the oversweep on some consumer receivers.

The horizontal format of the character is not specified. However, if the VIDEOTEX terminal intended for the basic service is implemented with a unique character generator whose format and use are left to the decision of every manufacturer, some VIDEOTEX services intend to use several character sets, among them being service defined alphabets, transmitted in the form of special pages.

The characters are thus transmitted as jointed matrixes having 10 points on each of the 10 lines. In any case, it is preferred that the total number of the points, horizontally, including inter-character spacing, be an even number, in order to enhance the rendering of block-graphic characters (see underneath § 4). In a matrix the points may be either foreground or background.

IV - CHARACTER SETS :

The VIDEOTEX system may use several character sets. The basic set necessary for exploitation in France is composed of an alphabetic set and a blockgraphic set. The listing of alphabetic characters is given in the annex 1, independently of their coding for transmission (121 characters). The block graphic set is composed of twice 64 shapes : every shape is obtained by a division of the character matrix into two parts vertically and three parts horizontally, which makes up 6 zones. Every zone is either foreground or background which defines 64 different shapes where elementary zones are contiguous. A second subset is composed of similar characters where elementary zones are separated by a border belonging to the background.

V - CHARACTER ATTRIBUTES :

A character is defined by its shape, one among those of a given character set, and by its presentation, composed of one or several display attributes. As a general rule, the attribute of a character is defined independently from the context, i. e. every character may have attributes differing from those of following or preceding one. The attributes following this

general rule are said character-defined. In some cases, some attributes are string-defined. It means that the attribute is applied to a character string of a given row and that this string begins with a string delimiter defining the attribute. The string is ended, either at the end of the row or by a new delimiter. The string delimiter is displayed as a full character (all the points of the matrix are foreground).

V - 2 : Listing of the attributes :

- character set
- foreground color
- background color

(8 colors are available. Without any precise colorimetric definition, these colours are known as black, white, blue, green, red, yellow, magenta and cyan).

- simple or double height
- simple or double width
- positive or negative (foreground becomes background and reciprocally).
- flashing (foreground points of the character are alternately displayed in the background and in the foreground colour. Flashing frequency in low (e. g. 1/2 Hz).
- boxing Characters having this attribute may, under certain conditions, appear on the display screen even if this later is reserved to a picture from other services (e. g. from the TV programm).
- conceal The display of the characters having these attributes is inhibited, unless differently specified under the user's control.

V - 3 : Attributes structure :

The attributes structure depends on the kind of character to which it applies. The following table makes this structure appear :

Character set (kind of character)		
<div>String defined</div> <div>Character defined</div>	Alphabetic character	block-graphic character
	foreground color	foreground color
	flashing	flashing
	height	
	width	background color
	polarity	
	background color	
	cancel	
	boxing	
		String delimiter
		foreground color
		background color of the following string
		cancel
		boxing
		NONE

V - 4 : Default options :

At the beginning of a row, when the first character is not a string delimiter, the characters are not concealed nor boxed. The alphabetic characters are on a black background.

VI - DISPLAY ATTRIBUTES OF SCREEN (PAGES) :

These attributes define the page inside a service.

Among these attributes, some are defined by the service and may be modified under user's control while he is using the service. These attributes are called display modes.

Screen may be :

- reserved to a picture other than from VIDEOTEX service (Television mode)
- reserved to a picture other than from VIDEOTEX service at the exception of zones from a VIDEOTEX page having the boxing attribute.
These zones appear boxed in or superimposed on the main picture.
- reserved to the VIDEOTEX image ; when, in a page, some zones have the "boxing" attribute, they are not processed in a different way than the remaining of the screen.
- with display of row zero inhibited
- with conceal enabled : in this case, concealed zones appear on the screen as an uniform background.
- revealed : these concealed zones are processed as if they were not concealed.

VII - LISTING OF FIGURES AND ANNEXES :

Figure : representation of block graphic characters

Annex 1 : minimum character set necessary for the exploitation of the VIDEOTEX service in France.

Annex 2 :

Annex 2 : information about the possibilities of extension of the French minimum alphabetic set to EBU or CEPT countries where official alphabet is latin alphabet.

Annex 3 : information about page attributes, now defined by the service and which may make up options specific to certain makes of VIDEOTEX terminals.

ANNEX 1 :

Minimum alphabetic character set for the exploitation of the VIDEOTEX service in France :

The alphabet characters necessary for the exploitation of the VIDEOTEX service in France are the following 121 signs :

26 upper case letters

A - Z

26 lower case letters

a - z

10 figures

0 - 9

1 space

(SP)

22 ponctuation signs

! punctuation marks
" quotation mark
= square or number sign
% per cent
& and sign
' apostrophy
() open and closed
) parenthesis
★ star
+ plus
- minus

. point
, comma
/ slash
: colon
; semi-colon
> greater than
< lower than
? interrogation mark
= equal
° degree
± plus minus

13 lower case accented letters used
in French

à é ù é â ê î ô û ë ð œ ç

13 upper case accented letters

8 complementary graphics signs

↑ → ↓ ← arrows
/ inverted slash
| vertical bar
— upper or down
— horizontal bar

2 currency signs

£ \$

ANNEX 2 :

Information about the possible extensions of the basic French character set to enable the use of french VIDEOTEX terminals in CEPT or EBU countries.

Are given here only the variations in regard to the French requirement and this, classified by linguistic groups.

United Kingdom and Ireland :

3 special signs : 1/2 1/4 3/4 (compatibilited with Teletext)

Some special characters are used in Ireland and in Celtic countries of the U. K. All these signs are found in latin countries except for the Wales which uses also :

- 2 lower case ŵ, ŷ
- 2 upper case W Y

Northern and German countries :

- 8 lower case ä ü ö å ø ß æ ÿ
- 7 upper case Ä Ü Ö Å Ø Æ IJ

- (+ Iceland 2 lower case Þ ß
- 2 lower case ð þ

Latin countries :

- 9 lower case á, í, ï, ó, ò, ú, ñ, â, õ
- 9 upper case Á, Í, Ì, Ó, Ò, Ú, Ñ, Æ, Õ
- 2 punctuation marks ¡ ¢

Turky :

- 3 lower case ı, ğ, ş
- 3 upper case İ, Ğ, Ş

(The İ may be at the display level confused with the spanish inverted exclamation mark)

Yugoslavia :

Are quoted here only the letters not yet encountered above

- 8 lower case *č, ć, š, ž, ǎ, đ*
- 7 upper case *Č, Ć, Š, Ž, Ā, Đ*

(The croatian *đ* may be confused with the icelandic *ð* at the display level)

Without taking into account the possible equivalence, the maximum number of extra signs is 67. Otherwise, Yugoslavia, whose croatian latin alphabet is the official one uses also official languages (Serbian and Macedonian) using a non latin alphabet. Taking into account these languages 24 lower case and 19 upper case (unaccented) letters are to be added to the preceeding lists plus, for the macedonian, two couples of accented letters.

ANNEX 3 :

Screen attributes may be defined under user's control for other applications. They are not, however, part fo the VIDEOTEX Service.

One may consider, for instance :

- display of an index used to compose
- display of a VIDEOTEX pages
- use of row zero to display local informations (time, alarms,
number of wanted page, summany of various user's controls...)