ANNEX A
(to Recommendation T.61)

Code extension procedures

A.1 The basic Teletex service makes use of an 8-bit coded character set, which is implicitly designated and invoked as a default condition according to § 3.3.1.4.

A.2 This 8-bit code contains the primary set of graphic characters as G0 set in positions 2/1 to 7/14, the supplementary set of graphic characters as G2 set in positions 10/1 to 15/14, the primary set of control characters in positions 0/0 to 1/15 and the supplementary set of control characters in positions 8/0 to 9/15. The characters constituting these basic sets are described in this Recommendation.

A.3 For enhancement of the basic Teletex service the following code extension facilities will be provided:

a) designation and invocation of control sets C0 and C1 by means of the relevant escape sequences

b) designation of up to four graphic character sets called G0, G1, G2 and G3;

c) invocation of the designated graphic sets, by means of locking and/or non-locking shift functions

The shift functions used are:

LS0, LS1, LS1R, LS2, LS2R, LS3, LS3R, SS2, SS3.

According to ISO Standard 2022 the bit combination following SS2 or SS3 represents a character from columns 2 to 7, except positions 2/0 and 7/15, of a code table. All characters in columns 8 to 15 are excluded from assignment to the bit combinations following SS2 or SS3. The use of a single shift function does not affect the current status established by one or more of the locking-shift functions.

There are seven locking-shift functions used exclusively for graphic set extension. Each invokes an additional set of 94 graphic characters into columns 2 to 7 or into columns 10 to 15.

The single shift functions, the locking-shift functions and the related G-sets are shown in Table A-1/T.61.

A.4 The shift functions are defined in § E.3.2.3 and coded as specified in § E.4.2.3.

The use of shift functions is implicitly negotiated by specifying the character sets during the negotiation procedure of terminal capabilities in the control procedures of Recommendation T.62. All terminals supporting graphic character code extension techniques must support shift functions LSO, LS2R and SS2 in order to invoke the Teletex primary and supplementary graphic character sets within a page.

A.5 For the designation and invocation of control sets the following escape sequences are used:

C0 set ESC 2/1 F

C1 set ESC 2/2 F

The symbol F denotes the final bit combination of an escape sequence.

The final characters F have to be provided by CCITT and ISO.

A.6 For the designation of CCITT/ISO registered graphic character sets the escape sequence formats shown in Table A-2/T.61 are used.

FIGURE A-1/T.61, p. 1

H.T. [T4.61]
TABLE A-1/T.61
Allocation of shift functions to the graphic character sets

Graphic character set	{ 2/1 to 7/14	{ 10/1 to 15/14	2/1 to 7/14
G0	LS0	—	—
G1	LS1	LS1R	—
G2	LS2	LS2R	SS2
G3	LS3	LS3R	SS3

Tableau A-1/T.61 [T4.61], p. 2

H.T. [T5.61]
TABLE A-2/T.61
Escape sequence formats for designation of CCITT/ISO registered graphic character set

Graphic character set	{ single-byte set	multiple-byte set
G0	ESC 2/8 F	ESC 2/4 F
G1	ESC 2/9 F	ESC 2/4 2/9 F
G2	ESC 2/10 F	ESC 2/4 2/10 F
G3	ESC 2/11 F	ESC 2/4 2/11 F

Note 1 — The symbol F denotes final bit combination of an escape sequence.

Note 2 — The final characters F have to be provided by CCITT and ISO.

Table A-2/T.61 [T5.61], p.

A.7 For the designation of *Dynamically redefinable character sets* (DRCS) the escape sequence formats shown in Table A-3/T.61 are used.

A.8 Escape sequences for the designation of graphic character sets, and the associated shift functions for invoking these graphic sets, as well as the escape sequence for the designation and invocation of the control sets, may appear at any position within the text.

A.9 The final character F for the basic Teletex character sets are:

— Primary control set 04/05

— Supplementary control set 04/08

— Primary graphic set 07/05

— Supplementary graphic set 07/06

H.T. [T6.61]

TABLE A-3/T.61

Escape sequence formats for designation of dynamically

redefinable character sets

Graphic character set	single-byte DRCS	multiple-byte DRCS
G0	ESC 2/8 2/0 F	ESC 2/4 2/8 2/0 F
G1	ESC 2/9 2/0 F	ESC 2/4 2/9 2/0 F
G2	ESC 2/10 2/0 F	ESC 2/4 2/10 2/0 F
G3	ESC 2/11 2/0 F	ESC 2/4 2/11 2/0 F

Note 1 — The final character F denotes the final bit combination of an escape sequence.

Note 2 — The character F should be in the range 4/0 to 7/14 and should be assigned by the user. It is recommended that these final characters be allocated sequentially starting with 4/0.

Tableau A-3/T.61 [T6.61], p. 4

ANNEX B

(to Recommendation T.61)

Use of diacritical marks

B.1 The supplementary set contains 13 diacritical marks that are used in combination with the letters of the basic Latin alphabet in the primary set to constitute the coded representations of accented letters and umlauts. These diacritical marks, and their coded representations, are:

Acute accent 12/2

Grave accent 12/1

Circumflex accent 12/3

Diaeresis or umlaut mark 12/8

Tilde 12/4

Caron 12/15

Breve 12/6

Double acute accent 12/13

Ring 12/10

Dot 12/7

Macron 12/5

Cedilla 12/11

Ogonek 12/14

Note — In the 1980 version of this Recommendation code 12/9 was allocated to represent the umlaut mark. The use of this facility is discouraged. Its removal is foreseen in the future.

B.2 Figure B-1/T.61 specifies the combinations of diacritical marks and basic letters that are defined in this Recommendation in its left part and also indicates the special alphabetic characters used, in the right part.

Fig. B-1/T.61 [T7.61], p.5 (a traiter Tableau MEP)(ITALIENNE)

ANNEX C
(to Recommendation T.61)

Identification system

C.1 For the purpose of this Recommendation, a system was developed that allows for the identification and description of each graphic character or control function. The system is shown in Figure C-1/T.61

C.2 Each identifier consists of two letters and two digits.

C.3 The first letter indicates the alphabet, the language, etc.

C.4 The second letter indicates the letter of an alphabet or, in the case of a nonalphabetic graphic character or a control function, the group of characters or control functions.

C.5 The first digit indicates whether the letter in the second position is an accented one, whether the diacritical mark is above or below the letter, etc. It has no special meaning in the case of the first letter being a C, N or S.

C.6 The second digit indicates whether the letter is a capital or a small one (even or odd). If the first letter is a C, N or S, this digit being even or odd has no significance.

C.7 The numbering is used in a consistent manner so that each diacritical mark is always given the same number.

C.8 The numbering principle is shown in Table C-1/T.61.

H.T. [T8.61]
TABLE C-1/T.61
Numbering principle for alphabetic characters

Item	Small	Capital
No diacritical mark	01	02
Acute accent	11	12
Grave accent	13	14
Circumflex accent	15	16
Diaeresis or umlaut mark	17	18
Tilde	19	20
Caron	21	22
Breve	23	24
Double acute accent	25	26
Ring	27	28
Dot	29	30
Macron	31	32
Cedilla	41	42
Ogonek	43	44
Diphthong or ligature	51	52
Special form	61, 63, etc.	62, 64, etc.
Diaeresis with acute accent	33	—

Tableau C-1/T.61 [T8.61], p. 6

Figure C-1/T.61, p. 7

ANNEX D

(to Recommendation T.61)

Format of control sequences

This annex is for information only and does not form part of the requirements laid down by this Recommendation; instead, it provides explanations of the format of control sequences. It consists of non-contiguous extracts from the ISO Standard 6429. For ease of cross-reference to that standard the original numbering scheme has been retained in preference to allocating a new set of consistent paragraph numbers. To ensure accurate interpretation of detailed meanings, reference should be made to ISO 6429.

The double codings of parameters, intermediates and finals of a control sequence, and the operand of a single-shift character (as mentioned in Section 10 of the ISO extract) are not allowed in the Teletex service. In addition 7-bit coding is not relevant in the Teletex service.

Extract from ISO Standard 6429:

‘‘5.1.2 *Control functions represented by control sequences*

A control sequence consists of CONTROL SEQUENCE INTRODUCER (CSI) followed by one or more characters which identify the control function and, if applicable, represent the parameters of the control function. The control function CSI itself is an element of the C1 set.

The format of a control sequence shall be:

$$\text{CSI } P_1 . \,|\,|\; P_n \; I_1 . \,|\,|\; I_m \; F$$

where:

a) CSI is represented by ESC 5/11 in a 7-bit code and by bit combination 9/11 in an 8-bit code (see § 5.2).

b) $P_1 . \,|\,|\; P_n$ correspond to parameter values and are represented by bit combinations of column 3; these bit combinations are omitted if the control function has no parameter, and may be omitted if the default parameter value is to apply.

c) $I_1 . \,|\,|\; I_m$ are Intermediate characters represented by bit combinations of column 2 which, together with the bit combination representing the Final character **F** , identify the control function; these bit combinations are omitted if the control function is identified only by the bit combination representing the Final character F.

Note — The number of Intermediate characters is not limited by this International Standard (ISO 6429); in practice, at the most, one Intermediate character will be sufficient since over one thousand control functions may be identified using not more than one Intermediate character.

d) F is the Final character; it is represented by a bit combination of column 4, 5, 6 or 7 (except 7/15); it terminates the control sequence and, together with the Intermediate characters, if present, identifies the control function (however, see § 10).

The occurrence of any bit combinations which do not conform to the above format is an error condition for which recovery is not specified by this International Standard (ISO 6429).

The Final characters (either used alone or together with Intermediate characters) are classified in two categories:

i) the control functions identified by a Final character represented by a bit combination of columns 4, 5 and 6 are either standardized or reserved for future standardization;

ii) the control functions identified by a Final character represented by a bit combination of column 7 (except 7/15) are not standardized and are available for private (or experimental) use.

There are two types of parameters: numeric and selective (see § 5.4).

The bit combinations of columns 4, 5 and 6 representing the Final characters and the bit combinations representing the Intermediate characters are specified in Table 2 and Table 3.’’

‘‘5.4 *Parameter representations*

A control sequence may contain a string $P_1. | | P_n$ representing one or more parameters to complete the specification of the control function.

The string of bit combinations representing $P_1. | | P_n$ contained in a control sequence is called the parameter string. It consists of bit combinations of column 3 and is interpreted as follows:

— If the first bit combination of the parameter string is in the range 3/0 to 3/11, the parameter string is interpreted according to the format described below.

— If the first bit combination of the parameter string is in the range 3/12 to 3/15, the parameter string is available for private (or experimental) use. Its format and meaning are not defined by this International Standard (ISO 6429).

5.4.1 *Parameter string format*

A parameter string shall have the following format:

a) a parameter string consists of one or more parameter sub-strings;

b) each parameter sub-string consists of one or more bit combinations from 3/0 to 3/9, representing the digits zero to nine;

c) parameter sub-strings are separated by one bit combination 3/11;

d) bit combination 3/10 is reserved for future standardization as an additional parameter separator;

e) bit combinations 3/12 to 3/15 shall not be used;

f) in each parameter sub-string, leading bit combinations 3/0 are not significant and may be omitted;

g) if the parameter string starts with the bit combination 3/11, an empty parameter sub-string is assumed preceding the separator; if the parameter string terminates with the bit combination 3/11, an empty parameter sub-string is assumed following the separator; if the parameter string contains successive bit combinations 3/11, empty parameter sub-strings are assumed between the separators;

h) if the control function has more than one parameter, and some parameter sub-strings are empty, the separators (bit combination 3/11) must still be present. However, if the last parameter sub-string(s) is empty, the separator preceding it may be omitted (see Annex B — Coding examples);

j) an empty parameter sub-string or a parameter sub-string which consists of bit combinations 3/0 only represents a default value which depends on the control function.

5.4.2 *Types of parameters*

In a control sequence representing a control function with parameters, each parameter sub-string corresponds to one parameter, and represents the value of that parameter. The number of parameters is either fixed of variable, depending on the control function. If the number of parameters is variable, neither the maximum number of values nor the order in which the corresponding actions are performed are defined by this International Standard (ISO 6429).

5.4.2.1 *Numeric parameters*

In a control sequence representing a control function with numeric parameters, each parameter sub-string which has a value other than a zero represents a quantity in decimal notation.

5.4.2.2 *Selective parameters*

In a control sequence representing a control function with selective parameters, each parameter sub-string whilst expressed by digits, is not quantitative i.e. does not represent a quantity in decimal notation. Each value corresponds to one of the actions the control function can perform.

A particular parameter value may have the same meaning as a combination of two or more separate values.’’

‘‘10 *Transformation between 7-bit and 8-bit coded representations*

The control functions defined in this International Standard (ISO 6429) can be coded in a 7-bit code as well as in an 8-bit code: both forms of coded representation are equivalent and in accordance with ISO 2022.

However, when data containing these control functions are transformed from a 7-bit to an 8-bit representation or vice versa, the transformation algorithm specified in ISO 2022 may produce results which are formally in disagreement with this International Standard (ISO 6429).

In order to make allowance for such unintended but unavoidable deviations, the format rules are extended in the manner described below.

In an 8-bit code, the bit combination of columns 10 to 15 (except 10/0 and 15/15) are permitted to represent:

a) parameters, intermediates and finals of a control sequence;

b) the contents of a control string;

c) the operand of a single-shift character.

In these situations, the bit combinations in the range 10/1 to 15/14 have the same meanings as the corresponding bit combination in the range 2/1 to 7/14.’’

ANNEX E
(to Recommendation T.61)

Standardized options

E.1 *General*

E.1.1 This annex contains detailed definitions that shall be used to implement Teletex standardized options included in the Teletex repertoire of graphic characters and control functions.

E.2 *Definitions*

E.2.1 The definitions contained in § 2 shall apply unless explicitly amended.

E.2.2 Additional definitions are for further study.

E.3 *Teletex character repertoire*

E.3.1 *Teletex optional repertoire of graphic characters*

E.3.1.1 *Registered character sets*

E.3.1.1.1 Japanese Kanji terminal optional graphic character repertoire.

Japanese graphic character set for information interchange (JIS C 6226-1983) used as a G0 set.

Japanese Industrial Standard.

E.3.1.1.2 Chinese ideogram terminal optional graphic character repertoire.

Chinese graphic character set for information interchange (GB 2312-80 set No. 58 in ISO Register) used as a G1 set.

E.3.1.1.3 *Greek primary set of graphic characters*

E.3.1.1.3.1 The code table of the Greek set, shown in Figure E-1/T.61, consists of the most frequently used Greek alphanumeric characters and punctuation marks. The bit combination 02/00 is used for SPACE and 07/15 is used for DELETE.

Figure E-1/T.61, p. 8

E.3.1.1.3.2 *Greek alphabetic characters*

H.T. [1T9.61]

ID	Graphic	Name or description	Set	Position
GA01	α	small letter Alpha	G0	6/1
GA02	A	capital letter Alpha	G0	4/1
GA11	ά	{		
small letter Alpha with accent				
}	G2	4/2 G0 6/1		
GA12	Ά	{		
capital letter Alpha with accent				
}	G2	4/2 G0 4/1		
GB01	β	small letter Beta	G0	6/2
GB02	B	capital letter Beta	G0	4/2
GG01	γ	small letter Gamma	G0	6/3
GG02	Γ	capital letter Gamma	G0	4/3
GD01	δ	small letter Delta	G0	6/4
GD02	Δ	capital letter Delta	G0	4/4
GE01	ε"	small letter Epsilon	G0	6/5
GE02	E	capital letter Epsilon	G0	4/5
GE11	έ	{		
small letter Epsilon with accent				
}	G2	4/2 G0 6/5		
GE12	Έ	{		
capital letter Epsilon with accent				
}	G2	4/2 G0 4/5		
GZ01	ζ	small letter Zeta	G0	6/6
GZ02	Z	capital letter Zeta	G0	4/6
GE61	η	small letter Eta	G0	6/7
GE62	H	capital letter Eta	G0	4/7
GE63	η	small letter Eta with accent	G2	4/2 G0 6/7
GE64	H	{		
capital letter Eta with accent				
}	G2	4/2 G0 4/7		
GT61	θ	small letter Theta	G0	6/8
GT62	Θ	capital letter Theta	G0	4/8
GI01	ι	small letter Iota	G0	6/9
GI02	I	capital letter Iota	G0	4/9
GI11	ί	small letter Iota with accent	G2	4/2 G0 6/9
GI12	Ί	{		
capital letter Iota with accent				
}	G2	4/2 G0 4/9		
GI17	i	{		
small letter Iota with diaeresis				
}	G2	4/8 G0 6/9		
GI18	Ϊ	{		
capital letter Iota with diaeresis				
}	G2	4/8 G0 4/9		
GI33	ί	{		
small letter Iota with accent and diaeresis				
}	G2	4/0 G0 6/9		
GK01	κ	small letter Kappa	G0	6/10
GK02	K	capital letter Kappa	G0	4/10
GL01	λ	small letter Lambda	G0	6/11
GL02	Λ	capital letter Lambda	G0	4/11
GM01	μ	small letter Mu	G0	6/12
GM02	M	capital letter Mu	G0	4/12
GN01	ν	small letter Nu	G0	6/13
GN02	N	capital letter Nu	G0	4/13
GX01	ξ	small letter Xi	G0	6/14
GX02	Ξ	capital letter Xi	G0	4/14
GO01	ο	small letter Omicron	G0	6/15
GO02	O	capital letter Omicron	G0	4/15
GO11	ό	{		
small letter Omicron with accent				

}	G2	4/2 G0 6/15		
GO12 capital letter Omicron with accent	Ό	{ 4/2 G0 4/15		
}	G2			
GP01	π	small letter Pi	G0	7/0
GP02	Π	capital letter Pi	G0	5/0
GR01	ρ"	small letter Rho	G0	7/1
GR02	P	capital letter Rho	G0	5/1
GS01	σ	small letter Sigma	G0	7/3
GS02	σ"	capital letter Sigma	G0	5/3
GS03	s	small letter final Sigma	G0	7/2

Tableau [1T9.61], p. 9

ID	Graphic	Name or description	Set	Position
GT01	τ	small letter Tau	G0	7/4
GT02	T	capital letter Tau	G0	5/4
GY01	υ	small letter Upsilon	G0	7/5
GY02	Y	capital letter Upsilon	G0	5/5
GY11	ú	{		
small letter Upsilon with accent				
}	Y	4/2 G0 7/5		
GY12	υY	{		
capital letter Upsilon with accent				
}	G2	4/2 G0 5/5		
GY17	u	{		
small letter Upsilon with diaeresis				
}	G2	4/8 G0 7/5		
GY18	Y	{		
capital letter Upsilon with diaeresis				
}	G2	4/8 G0 5/5		
GY33	ú	{		
small letter Upsilon with accent and diaeresis				
}	G2	4/0 G0 7/5		
GF01	ϕ	small letter Phi	G0	7/6
GF02	Φ	capital letter Phi	G0	5/6
GH01	χ	small letter Khi	G0	7/7
GH02	X	capital letter Khi	G0	5/7
GP61	ψ	small letter Psi	G0	7/8
GP62	iΨ	capital letter Psi	G0	5/8
GO61	ω	small letter Omega	G0	7/9
GO62	Ω	capital letter Omega	G0	5/9
GO63	ω	{		
small letter Omega with accent				
}	G2	4/2 G0 7/9		
GO64	Ω	{		
capital letter Omega with accent				
}	G2	4/2 G0 5/9		

Tableau [2T9.61], p. 10

Coded representations of letters with diacritical marks are constituted of letter codes from the Greek primary set in combination with diacritical marks codes from positions 12/00 to 12/15 of the supplementary set (Figure 2/T.61 code table).

Bit combination equivalent to empty position 12/00 of the supplementary set in Figure 2/T.61 code table is used to represent the diacritical mark ‘‘Diaeresis with acute accent’’. (Identification SD33, graphic symbol .‘.) that shall be transmitted in the Greek Teletex service.

E.3.1.1.3.3 Figure E-2/T.61 specifies the possible combinations of diacritical marks from the supplementary set and letters of the Greek primary set that are defined in this Recommendation.

E.3.1.1.4 The use of additional sets is for further study.

Figure E-2/T.61 [T10.61], p.

E.3.1.2 *Dynamically redefinable character sets (DRCS)*

DRCS will be used by Japanese Kanji terminal and Chinese ideogram terminal to extend their character repertoire. Japanese Kanji character patterns and Chinese ideogram character patterns will be loaded into a terminal by procedures described in Recommendation T.62, and shall be designated and invoked as described in Annex A of this Recommendation.

A definition for **DRCS** is as follows:

A DRCS is a set of graphic characters whose exact shape is specified and transmitted at the time of use. Such characters may be alphabetic, special symbols or picture element symbols. Once loaded, a DRCS is regarded as a member of a library that can be designated by appropriate ESC sequences as a G0, G1, G2 or G3 set.

ESC I 2/0 F designates such a set, where I will take a value from 2/8 . | | 2/11 to indicate whether the set is to be used as a G0, G1, G2 or G3 set respectively.

Sixty-three sets may be identified by means of such four character sequences. This should be enough for most requirements but a third or more intermediate character can be inserted between the 2/0 character and the final character if more sets are needed. See ISO Standard 2022.

Sequences with 2/0 as the second intermediate character and with 2/0 to 2/7 as the first Intermediate character are reserved for future standardization.

Multiple-byte graphic sets may also be dynamically redefinable. ECS 2/4 I 2/0 F designate such a set when it is to be a G1, G2 or G3 set, where I takes the same value and has the same meaning as in the preceding paragraphs. However, when such a set is to be a G0 set, it shall be designated by ESC 2/4 2/0 F.

Note 1 — This class of escape sequence is exceptional because the allocation of final (and possible intermediate) character is not done by the ISO Registration Authority but by the user. It is recommended that final characters be allocated sequentially, starting with 4/0.

Note 2 — There is a need for this particular escape sequence as distinct from the normal three character sequence used to represent registered sets. This escape sequence implies an exact description of the shape or font of the characters.

E.3.2 *Teletex optional repertoire of control functions*

Note — For the definition of optional control functions and the associated optional parameter values, the appropriate ISO standard should be considered.

E.3.2.1 *Format effectors*

Identifier	Abbreviation	Name and definition
CF20	RLF	*Reverse line feed*

A format effector that moves the active position to the corresponding character position on the preceding line, defined by the current value of the vertical spacing (see SVS).

Note — In order to use RLF, it is first necessary to negotiate the use of an optional supplementary control character set containing RLF (in addition to those characters shown in Figure 3/T.61 using the control procedures of Recommendation T.62. Designation and invocation of this control character set may appear at any position in the text. For further details see Annex A.

The escape sequence for this control set is ESC 2/2 F.

This control set was not assigned an escape sequence *Final* bit combination during the 1981-84 Study period since no identifiable use for RLF could be found. The need for RLF is for further study.

E.3.2.2 *Presentation control functions*

Identifier Abbreviation Name and definition CP01 PFS *Page format selection*

(Definition: see § 3.3.3)

The meaning of the parameter value is:

As defined for the basic Teletex service.

0: vertical basic page format ;

1: horizontal basic page format ;

2: vertical A4 page format;

3: horizontal A4 page format;

4: reserved for future option;

5: reserved for future option;

6: vertical ISO 3535/A4 page format;

7: horizontal ISO 3535/A4 page format;

8: vertical North American legal size page format;

9: horizontal North American legal size page format;

10: vertical ISO A4 page format (for use by Chinese ideogram and Japanese Kanji terminals);

11: horizontal ISO A4 page format (for use by Chinese ideogram and Japanese Kanji terminals);

12: vertical ISO B5 page format (for use by Chinese ideogram and Japanese Kanji terminals);

13: horizontal ISO B5 page format (for use by Chinese ideogram and Japanese Kanji terminals);

14: vertical ISO B4 page format (for use by Chinese ideogram and Japanese Kanji terminals);

15: horizontal ISO B4 page format (for use by Chinese ideogram and Japanese Kanji terminals);

CP03 SGR *Select graphic rendition*

(Definition: see § 3.3.3)

The meaning of the parameter value is:

0: default rendition ; cancels the effect of any preceding occurrence of SGR; if no parameter is present, the default parameter value applies;

1: bold or increased intensity;

3: italicized;

4: underlined ;

9: crossed-out (characters still legible but marked as being deleted);

22: normal intensity (not bold);

23: not italicized;

24: not underlined;

26: proportional spacing character pitch may be used. See Note 1 below. When proportional spacing character pitch is invoked, the parameter value of the SHS function shall specify the nominal character pitch;

29: not crossed-out.

Note 1 — Parameter value 26 specifies that the text that follows may be presented with proportional spacing at the recipient's option. For interworking with devices not capable of proportional spacing, no line or part of a line of text should contain more characters than are permitted by the current pitch value specified by the most recent occurrence of SHS.

Note 2 — Parameters shall be separated by bit combination 3/11. See Annex D, § 5.4.1.

Note 3 — A terminal's capability to support proportional spacing shall be indicated by including an SGR sequence, with parameter value 26 only, in the Recommendation T.62 procedure for exchanging non-basic terminal capabilities.

Note 4 — Several parameter values can be used in combination, in order to obtain, for example, underlined italics.

Note 5 — The default parameter value cannot be used in combination with any other parameter value.

CP04 SHS *Select horizontal spacing*

(Definition: see § 3.3.3)

The meaning of the parameter value is:

0: 10 characters per 25.4 mm;

1: 12 characters per 25.4 mm;

2: 15 characters per 25.4 mm;

3: 6 characters per 25.4 mm;

4: 3 characters per 25.4 mm;

5: 9 characters per 50.8 mm;

6: 4 characters per 25.4 mm.

Note 1 — Parameter value 3 may only be used with page formats specified by PFS parameter values 10 to 15.

Note 2 — Parameter values 5 and 6 may only be used with page formats specified by PFS parameter values 10 to 15 for Chinese ideogram terminal.

CP05 SVS *Select vertical spacing*

(Definition: see § 3.3.3)

The meaning of the parameter value is:

0: 6 lines per 25.4 mm ;

1: 4 lines per 25.4 mm ;

2: 3 lines per 25.4 mm ;

3: 12 lines per 25.4 mm ;

4: 8 lines per 25.4 mm;

5: 6 lines per 30.0 mm;

6: 4 lines per 30.0 mm;

7: 3 lines per 30.0 mm;

8: 12 lines per 30.0 mm.

CP06 SPD *Select presentation direction*

A presentation control function with one selective parameter which specifies the character path and line progression, until these directions are respecified by another occurrence of SPD.

The meaning of the parameter value is as follows:

0: character path from left to right, line progression from top to bottom;

1: character path from top to bottom, line progression from right to left when page is orientated for viewing. See Table E-1/T.61.

The default value of the parameter is 0.

Note 1 — An occurrence of SPD is only effective at the beginning of a page, i.e. SPD has no effect in the middle of a page.

Note 2 — Some Japanese and Chinese characters use different patterns for vertical writing from those used for horizontal writing. Table E-2/T.61 and Table E-3/T.61 show the difference between horizontal and vertical writing character patterns.

Note 3 — The perceived effects of SPD on the other control function are shown in Table E-4/T.61.

Note 4 — Figure E-3/T.61 shows an example of a page format using PFS parameter values 10, 12 and 14, with SPD parameter values 0 and 1.

Note 5 — SPD may only be used with page formats specified by PFS parameter values 10 to 15.

CP07 GSM *Graphic size modification*

GSM is a presentation control function with two numeric parameters. Its use causes the height and/or width of the character font to be modified until a subsequent occurrence of GSM in the data stream, or a page boundary is reached.

The meaning of the parameter values are:

n | specifies the character dimension in the direction of the line progression as a percentage of the default font size.

m | specifies the character dimension in the direction of the character path as a percentage of the default font size.

The order of the parameters is GSM (*n* , *m*) and the default value of *n* and *m* is 100. Permitted values of parameters n and m, and the effect that these values have on the character spacing (as specified by SHS) and size, are as follows.

For horizontal writing (SPD 0):

GSM 100, 50 causes character spacing and width to be halved.

GSM 100, 100 has no effect.

GSM 100, 200 causes character spacing and width to be doubled.

For vertical writing (SPD 1):

GSM 100, 100 has no effect.

GSM 100, 200 causes character spacing and height to be doubled.

Note 1 — GSM affects only those characters which follow it in the data stream, not those previously received.

Note 2 — GSM may only be used with page formats specified by PFS parameter values 10 to 15.

CP08 SCO *Select character orientation*

SCO is a presentation control function which is used to establish the amount of rotation of the following graphic character string. The established value remains in effect until the next occurrence of SCO.

The parameter values are:

0: 0°

2: 90°

6: 270°

The default value of the parameter is 0.

The initial position of the graphic characters corresponds to the rotation angle of 0°.

Rotation is positive, i.e. anti-clockwise and applies to the normal presentation of the graphic characters along the character path. The direction of the character path depends on the parameter of SELECT PRESENTATION DIRECTIONS (SPD).

Note — For Chinese ideogram terminals, the center of character rotation is the center of the character cell.

H.T. [T11.61]

TABLE E-1/T.61

Intended viewing orientation of a page

{	{	
	0	1
10, 12, 14	portrait	landscape
11, 13, 15	landscape	portrait

TABLEAU E-1/T.61 [T11.61], p. 12

FIGURE E-3/T.61, p. 16

E.3.2.3 *Code extension control functions*

Identifier Abbreviation Name and definition CE03 ESC *Escape*

A code extension control function which is used to provide coded representations for additional control functions.

CE04 SS2 *Single shift 2*

A code extension control function which is used in conjunction with ESCAPE to extend the graphic character set of an 8-bit code.

SS2 is a non-locking shift function which invokes one character of the currently designated G2 set.

CE05 SS3 *Single shift 3*

A code extension control function which is used in conjunction with ESCAPE to extend the graphic character set of an 8-bit code.

SS3 is a non-locking shift function which invokes one character of the currently designated G3 set.

CE07 LS0 *Locking shift 0*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS0 is a locking shift function which invokes the currently designated G0 set into positions 2/1 to 7/14.

CE08 LS1 *Locking shift 1*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS1 is a locking shift function which invokes the currently designated G1 set into positions 2/1 to 7/14.

CE09 LS1R *Locking shift 1 right*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS1R is a locking shift function which invokes the currently designated G1 set into position 10/1 to 15/14.

CE10 LS2 *Locking shift 2*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS2 is a locking shift function which invokes the currently designated G2 set into positions 2/1 to 7/14.

CE11 LS2R *Locking shift 2 right*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS2R is a locking shift function which invokes the currently designated G2 set into positions 10/1 to 15/14.

CE12 LS3 *Locking shift 3*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS3 is a locking shift function which invokes the currently designated G3 set into positions 2/1 to 7/14.

CE13 LS3R *Locking shift 3 right*

A code extension control function which is used in conjunction with other locking shift functions and with ESCAPE to extend the graphic character set of an 8-bit code.

LS3R is a locking shift function which invokes the currently designated G3 set into positions 10/1 to 15/14.

E.3.2.4 *Optional miscellaneous control function*

Identifier Abbreviation Name and description CM04 IGS *Identify graphic subrepertoire*

A control function with one selective parameter which is used to indicate to the receiving terminal that a particular subrepertoire of the total repertoire of graphic characters is to be used in the subsequent text. The identification of the graphic subrepertoire may be changed at any point in the text. The selection parameter may be of any value from 0-9999.

The parameter value identifies the subrepertoire according to the register of subrepertoires. The subrepertoire that is assumed to be identified when this control function is omitted is the entire Teletex basic repertoire of graphic characters.

If any subrepertoire has been explicitly identified, it shall be restated prior to the first character of text on each subsequent page (i.e. prior to Form Feed).

E.4 *Coded representations*

E.4.1 *Optional graphic character sets*

E.4.1.1 *Registered character sets*

E.4.1.1.1 Japanese graphic character set for information interchange (set No. 87 in ISO Register) used as a G0 set.

Designation sequence: ESC 2/4 4/2.

E.4.1.1.2 Chinese graphic character set for information interchange (set No. 58 in ISO Register) used as a G1 set.

Designation sequence: ESC 02/04 02/09 04/01.

E.4.1.1.3 *Greek primary set of graphic characters*

Designation sequences:

ECS 02/08 x/x Greek primary set to G0

ECS 02/09 x/x Greek primary set to G1

ECS 02/10 x/x Greek primary set to G2

ECS 02/11 x/x Greek primary set to G3

Note — The final character x/x is awaiting international registration.

E.4.1.2 *Dynamically redefinable character sets (DRCS)*

Designation sequence: see Annex A.

E.4.2 *Optional control functions*

E.4.2.1 *Format effectors*

Identifier	Abbreviation	Coded representation
CF20	RLF	8/13

E.4.2.2 *Presentation control functions*

Identifier	Abbreviation	Coded representation

CP06	SPD	CSI P_1. | | P_n02/00 05/03
CP07	GSM	CSI P_1. | | P_n02/00 04/02
CP08	SCO	CSI P_1. | | P_n02/00 06/05

Additional control functions are for further study.

E.4.2.3 *Optional code extension control functions*

Identifier	Abbreviation	Coded representation
CE03	ESC	1/11
CE04	SS2	1/9
CE05	SS3	1/13
CE07	LS0	0/15
CE08	LS1	0/14
CE10	LS2	1/11 6/14
CE12	LS3	1/11 6/15
CE09	LS1R	1/11 7/14
CE11	LS2R	1/11 7/13
CE13	LS3R	1/11 7/12

E.4.2.4 *Optional miscellaneous control function*

Identifier	Abbreviation	Coded representation
CM04	IGS	CSI $P_1 .		P_n$ 02/00 04/13

ANNEX F
(to Recommendation T.61)

Example of underlining

The following examples demonstrate the presentation of permissible combinations of underline and other characters of the basic Teletex repertoire. They also demonstrate the interaction between underline (coded as either a *Non-spacing underline* character or as the control function *Select graphic rendition*) and the control functions PLU and PLD.

Example 1 :

a b SGR(4) c d PLU e f PLD PLD g h PLU i j SGR k l

yields: ab cd ef gh ij kl (See Notes 1 and 2 below.)

Example 2 :

a b SGR(4) c d SGR(0) PLU SGR(4) e f SGR(0) PLD k l

yields: ab cd ef kl

Example 3 :

a b SGR(4) c d PLU SGR(4) e f SGR(0) PLD k l

yields: ab cd ef kl

Example 4 :

a b \u(em c \u(em d \u(em PLU e PLD \u(em PLD g PLU \u(em i \u(em j k l

yields: ab cd e g ij kl (See Note 1 below.)

Example 5 :

a b \u(em c \u(em d PLU \u(em e \u(em f PLD k l

yields: ab cd ef kl

Note 1 — See § 3.1.7 for guidance on the presentation of underline in situations where a possibility of overlap exists.

Note 2 — This example also demonstrates the use of an SGR without a parameter value.