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EQUIPMENT

Minimal specifications for the bilingual (Arabic/Latin) teleprinter

Supplement 1 to
ITU-T S-series Recommendations

(Extract from the *Blue Book*)

Supplement 1 to ITU-T S-series Recommendations

Minimal specifications for the bilingual (Arabic/Latin) teleprinter

Source

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FOREWORD

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Minimal specifications for the bilingual (Arabic/Latin) teleprinter[1]

1   Introduction

The bilingual (Arabic/Latin) teleprinter is an apparatus that, through applying the five unit code, can print, transmit and receive letters and characters in both Arabic and Latin on the international telex network using the International Alphabet No. 2 (See Tables 1 and 2).

In order to fulfil the requirements of printing Arabic text in its correct form and to ensure the necessary automatic control for the operation of such a teleprinter, its design should utilize the most up-to-date, latest technology such as having an intelligent element (micro-processor).

2   Modes of the bilingual teleprinter

The bilingual teleprinter has two modes:

a)   *Latin mode*

The Latin mode is the same mode as the Latin teleprinter now in use.

b)   *Arabic mode*

In order to transmit, receive and print the Arabic texts, figures and special signs, the direction of printing, contrary to the Latin mode, is from right to left.

The code combinations, formats and keys of the numerals, special signs and the seven functions are identical to those in the Latin teleprinter.

3   Home position

In the bilingual teleprinter, the home position is always Latin, i.e., on operating the teleprinter in the initial communication, it begins automatically with the Latin mode.

4   The seven functions

The combinations applied in the International Alphabet No. 2 for the seven functions in the Latin mode (WRU, bell, carriage return, line feed, letter-shift, figure-shift and space) and the single combination 32 are to be applied identically in the Arabic mode.

5   Switching from Latin mode to Arabic mode and vice versa

To switch the bilingual teleprinter from mode to mode, the following groups of combinations are dedicated:

–   From Latin to Arabic: 29-30-32-29
–   From Arabic to Latin: 29-32-30-29

Each of these groups should have an individual key on the board. Pressing such a key causes automatically the generation and transmission of the relevant combinations as well as making the proper direction of the printing according to the mode.

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[1] This equipment is used in countries in Arab Telecommunication Union (ATU) only.

Table 1 – Distribution of Arabic and Latin letters and symbols on the keyboard

Temporary shift key

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Table 2 – Distribution of letters and symbols over the code combinations

CCITT – No. 2			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Letters case			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	<	/	⁞A....	⁞1....	SPC	
Figures case			–	?	:	✠	3				8	⌂	(	)	.	,	9	0	1	4	'	5	7	=	2	/	6	+	<	/	A....	1....		
Code element		1	●	●		●	●	●				●	●						●		●		●		●	●	●	●			●	●		
		2	●		●				●		●	●	●	●				●	●	●			●	●	●					●	●	●		
		3			●			●		●	●		●		●	●		●	●		●		●	●		●	●					●		●
		4		●	●	●		●	●			●	●		●	●	●			●			●		●				●		●	●		
		5		●				●	●				●	●		●	●	●			●		●	●	●	●	●				●	●		
Arabic letters	Temp shift			ِ	ظ	ُ	ئـ			ة		َ	أ	ؤ	ذ			ـ			ئ					ض			>	/	واحد	يلل	مسافة	
	Letters case		ق	خ	ط	ل	ء	ر	ن	ت	ز	م	ا	و	د	ث	ع	س	ج	هـ	ي	ح	ف	غ	ك	ص	ب	ش						
CCITT – No. 2			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

6 Call initiation and termination

Regarding call initiation and termination, the principles applied in the bilingual teleprinter are identical to those applied in the Latin teleprinter.

7 Indicatif answerback

The bilingual teleprinter has two answerbacks. The first is to be applied in the Latin mode whilst the second is to be applied in the Arabic mode. Each answerback consists of 20 combinations.

8 Local position

A separate key should be provided to the bilingual teleprinter for local operation.

9 Line capacity

In any line, the number of printed positions (letters, figures or special signs) should not exceed 69 characters whether in Arabic mode or Latin mode.

If the ultimate capacity (69 characters) is attained, the carriage return and line feed should be automatically effected.

Upon reaching space No. 59, of the line, a signal should be given (visual and/or audible) to notify the user that only 10 spaces remain to be employed.

10 The Bell signal

As in actual procedure of the Latin teleprinter, the pressing of the bell key in both Arabic or Latin mode induces printing giving the appropriate sound signal and transmitting the character dedicated for it in the teleprinter.

11 The Keyboard – General specifications

a)   The keyboard is of the 4 rows type.

b)   Each letter (Latin or Arabic) regardless of the number of written shapes, has only one key.

c)   The formats and keys dedicated for figures are identical irrespective of whether the teleprinter is in the Arabic or the Latin mode. Their distribution should be analogous to the keyboard of the Latin teleprinter.

d)   Each of the combinations (27, 28, 30, 31, 32) should have an individual key. Such a key is to be used in both modes (Arabic and Latin).

e)   There is no need to apply the high shift key (30) or the low shift key (29) upon moving from the letter shift to the figure shift and vice versa.

12 Distribution of the letters and signs on the keyboard

The distribution of the Arabic and Latin letters and signs on the keyboard should be done according to Table 1.

13 Distribution of the letters and signs on the combinations

a)   The distribution of the Arabic and Latin letters and signs will be shown in Table 2.

b)   Pressing the key of one of the letters (ة, ذ, ض, ظ and ى) the combination No. 32 is automatically generated followed by the combination of the appropriate letter. These two

combinations may be preceded automatically by combination 29 as described in item d) below.

c)   If the teleprinter is in the letter shift low and it is required to get a letter or a character located in the temporary shift other than those mentioned in item b) above, the pressing of the key of the temporary level followed by pressing a key relevant to a letter or a character of the complementary group of the Arabic letters induces automatically the generation of the combination No. 32, followed by the combination of the relevant letter or character.

d)   If the teleprinter is in the high shift, the application of the temporary shift induces at first switching to the low shift and then to the application of the combination of the temporary shift automatically.

e)   The pressing of the key of the temporary shift by itself does not induce transmission of any combinations.

f)   After effecting a letter or a character located on the temporary shift, the teleprinter comes back automatically to the letter shift (low).

g)   When the teleprinter is in the Latin mode, the key of the temporary shift is not effective.

14   Requirements relevant to the intelligent element when the teleprinter is in the Arabic mode

a)   The teleprinter prints the appropriate format of the Arabic letter according to its position in the word.

b)   If the combination No. 11 (low) relevant to the Arabic letter (Alif) follows the combination No. 4 (low) relevant to the Arabic letter (Lam), the combined Arabic letter (لا) will be printed in two spaces and in its correct format.

c)   Upon ending or interrupting the communication, the teleprinter goes back automatically to the home position, i.e., to the Latin mode.

d)   In addition to using the sign (–), i.e., combination No. 1 in the high shift as a negative sign, it is used as a connecting sign for the Arabic letters when it is attached to them.

e)   Actuating the keys relevant to the Arabic short vowels (Fat-hah, Dhammah, Kasrah, Shaddah) is done according to the following procedure:

1)   Actuation of the key of the short vowel follows the actuation of the key of the letter to which the short vowel relates.

2)   The transmission of the short vowel combination follows the transmission of the relating letter combination.

3)   In the printed text, the short vowel apears in the space following the letter to which it relates.

15   Further specifications

Whenever no specific stipulation is mentioned within the items of these specifications, the CCITT Recommendations should be compulsory.

16   The single Arabic teleprinter

a)   The specifications of the single Arabic teleprinter are identical to those of the bilingual teleprinter except for non-existence of the Latin letters, the direction of printing, and the format of the answerback.

b)   The single Arabic teleprinter should be convenient to be operated on the same international telex network as the bilingual teleprinter and should also be convenient to exchange Arabic texts with a bilingual teleprinter in the Arabic mode.

c)   The single Arabic teleprinter should have both Latin and Arabic answerback. The principles of design of these answerbacks are identical to those applied in the design of the answerbacks of the bilingual teleprinter, except for the sign (=) which is substituted by the sign (:) (combination No. 3 high).

d)   At the beginning of the communication and before transmitting the combinations group of changing to Arabic, the Latin answerback is applied.

e)   The single Arabic teleprinter uses the same combinations dedicated for changing from Latin to Arabic and vice versa. A separate key is dedicated for each. Pressing such a key induces automatically the generation, and transmission of the appropriate group.

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