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Information processing — 8-bit single-byte coded graphic character sets —

Part 8:
Latin/Hebrew alphabet

Traitement de l'information — Jeux de caractères graphiques codés sur un seul octet
Partie 8: Alphabet Latin/Hébreu

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Contents

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8859-8 was prepared by the European Computer Manufacturers Association as Standard ECMA-121 and was adopted, under a special "fast-track" procedure, by Technical Committee ISO/TC 97, *Information processing systems*, in parallel with its approval by the ISO member bodies.

ISO 8859 consists of the following parts, under the general title *Information processing — 8-bit single-byte coded graphic character sets:*

- *Part 1: Latin alphabet No. 1*
- *Part 2: Latin alphabet No. 2*
- *Part 3: Latin alphabet No. 3*
- *Part 4: Latin alphabet No. 4*
- *Part 5: Latin/Cyrillic alphabet*
- *Part 6: Latin/Arabic alphabet*
- *Part 7: Latin/Greek alphabet*
- *Part 8: Latin/Hebrew alphabet*

Introduction

ISO 8859 consists of several parts. Each part specifies a set of up to 191 graphic characters and the coded representation of each of these characters by means of a single 8-bit byte. None of these characters are "non-spacing". The use of control functions, such as BACKSPACE or CARRIAGE RETURN for the coded representation of composite characters is prohibited by ISO 8859. Each set is intended for use for a group of languages.

Information processing — 8-bit single-byte coded graphic character sets —

Part 8:
Latin/Hebrew alphabet

1 Scope

This part of ISO 8859 specifies a set of 153 graphic characters identified as Latin/Hebrew alphabet.

This set of graphic characters, the Latin/Hebrew alphabet, is intended for use in data and text processing applications and may also be used for information interchange.

This set is suited for multiple-language applications involving the Latin and the Hebrew scripts. It allows handling of data and text expressed in Hebrew.

This set of graphic characters is suitable for use in a version of an 8-bit code according to ISO 2022 or ISO 4873.

2 Conformance

A set of graphic characters is in conformance with this part of ISO 8859 if it comprises all graphic characters specified herein to the exclusion of any other and if their coded representations are those specified by this part of ISO 8859.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8859. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8859 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 646 : 1983, *Information processing — ISO 7-bit coded character set for information interchange.*

ISO 2022 : 1986, *Information processing — ISO 7-bit and 8-bit coded character sets — Code extension techniques.*

ISO 4873 : 1986, *Information processing — ISO 8-bit code for information interchange — Structure and rules for implementation.*

ISO 6429: 1988, *Information processing — ISO 7-bit and 8-bit coded character sets — Control functions for coded character sets.*

4 Definitions

For the purpose of this part of ISO 8859 the following definitions apply:

4.1 bit combination; byte: An ordered set of bits that represents a character or is used as a part of the representation of a character.

4.2 character: A member of a set of elements used for the organization, control or representation of data.

4.3 coded character set; code: A set of unambiguous rules that establishes a character set and the one-to-one relationship between each character of the set and its coded representation.

4.4 code table: A table showing the character allocated to each bit combination in a code.

4.5 graphic character: A character, other than a control function, that has a visual representation normally handwritten, printed or displayed, and that has a coded representation consisting of one or more bit combinations.

NOTE — In ISO 8859 a single bit combination is used to represent each character.

4.6 graphic symbol: A visual representation of a graphic character.

4.7 position: That part of a code table identified by its column and row co-ordinates.

5 Notation, code table and names

5.1 Notation

The bits of the bit combinations of the 8-bit code are identified by b_8, b_7, b_6, b_5, b_4, b_3, b_2 and b_1, where b_8 is the highest-order, or most-significant bit and b_1 is the lowest-order, or least-significant bit.

The bit combinations may be interpreted to represent numbers in binary notation by attributing the following weights to the individual bits:

Bit	b_8	b_7	b_6	b_5	b_4	b_3	b_2	b_1
Weight	128	64	32	16	8	4	2	1

Using these weights, the bit combinations of the 8-bit code represent numbers in the range 0 to 255.

In this part of ISO 8859, the bit combinations are identified by notations of the form xx/yy, where xx and yy are numbers in the range 00 to 15. The correspondence between the notations of the form xx/yy and the bit combinations consisting of the bits b_8 to b_1, is as follows:

— xx is the number represented by b_8, b_7, b_6, and b_5, where these bits are given the weights 8, 4, 2 and 1 respectively;

— yy is the number represented by b_4, b_3, b_2 and b_1 where these bits are given the weights 8, 4, 2 and 1 respectively.

5.2 Layout of the code table

An 8-bit code table consists of 256 positions arranged in 16 columns and 16 rows. The columns and the rows are numbered 00 to 15.

The code table positions are identified by notations of the form xx/yy, where xx is the column number and yy is the row number.

The positions of the code table are in one-to-one correspondence with the bit combinations of the code. The notation of a code table position, of the form xx/yy, is the same as that of the corresponding bit combination.

5.3 Names and meanings

This part of ISO 8859 assigns at least one name to each character. In addition, it specifies a graphic symbol for each graphic character. By convention only capital letters, the graphic symbols of small letters and hyphens are used for writing the names of the characters.

The names chosen to denote graphic characters are intended to reflect their customary meaning. However, except for SPACE (SP), NO-BREAK SPACE (NBSP) and SOFT HYPHEN (SHY), this part of ISO 8859 does not define and does not restrict the meanings of graphic characters. Neither does it specify a particular style or font design for imaging graphic characters.

5.3.1 SPACE (SP)

This character may be interpreted as a graphic character, a control character or as both. As a graphic character it has the visual representation consisting of the absence of a graphic symbol.

5.3.2 NO-BREAK SPACE (NBSP)

A graphic character the visual representation of which consists of the absence of a graphic symbol, for use when a line break is to be prevented in the text as presented.

5.3.3 SOFT HYPHEN (SHY)

A graphic character that is imaged by a graphic symbol identical with, or similar to, that representing HYPHEN, for use when a line break has been established within a word.

6 Specification of the coded character set

This part of ISO 8859 specifies 153 characters allocated to the bit combinations of the code table.

6.1 Characters of the set and their coded representation

Table 1 — Character set — Coded representation

Bit combination	Name
02/00	SPACE
02/01	EXCLAMATION MARK
02/02	QUOTATION MARK
02/03	NUMBER SIGN
02/04	DOLLAR SIGN
02/05	PERCENT SIGN
02/06	AMPERSAND
02/07	APOSTROPHE
02/08	LEFT PARENTHESIS
02/09	RIGHT PARENTHESIS
02/10	ASTERISK
02/11	PLUS SIGN
02/12	COMMA
02/13	HYPHEN, MINUS SIGN
02/14	FULL STOP
02/15	SOLIDUS
03/00	DIGIT ZERO
03/01	DIGIT ONE
03/02	DIGIT TWO
03/03	DIGIT THREE
03/04	DIGIT FOUR
03/05	DIGIT FIVE
03/06	DIGIT SIX
03/07	DIGIT SEVEN
03/08	DIGIT EIGHT
03/09	DIGIT NINE
03/10	COLON
03/11	SEMICOLON
03/12	LESS-THAN SIGN
03/13	EQUALS SIGN
03/14	GREATER-THAN SIGN
03/15	QUESTION MARK
04/00	COMMERCIAL AT

Table 1 — *(continued)*

Bit combination	Name
04/01	CAPITAL LETTER A
04/02	CAPITAL LETTER B
04/03	CAPITAL LETTER C
04/04	CAPITAL LETTER D
04/05	CAPITAL LETTER E
04/06	CAPITAL LETTER F
04/07	CAPITAL LETTER G
04/08	CAPITAL LETTER H
04/09	CAPITAL LETTER I
04/10	CAPITAL LETTER J
04/11	CAPITAL LETTER K
04/12	CAPITAL LETTER L
04/13	CAPITAL LETTER M
04/14	CAPITAL LETTER N
04/15	CAPITAL LETTER O
05/00	CAPITAL LETTER P
05/01	CAPITAL LETTER Q
05/02	CAPITAL LETTER R
05/03	CAPITAL LETTER S
05/04	CAPITAL LETTER T
05/05	CAPITAL LETTER U
05/06	CAPITAL LETTER V
05/07	CAPITAL LETTER W
05/08	CAPITAL LETTER X
05/09	CAPITAL LETTER Y
05/10	CAPITAL LETTER Z
05/11	LEFT SQUARE BRACKET
05/12	REVERSE SOLIDUS
05/13	RIGHT SQUARE BRACKET
05/14	CIRCUMFLEX ACCENT
05/15	LOW LINE
06/00	GRAVE ACCENT
06/01	SMALL LETTER a
06/02	SMALL LETTER b
06/03	SMALL LETTER c
06/04	SMALL LETTER d
06/05	SMALL LETTER e
06/06	SMALL LETTER f
06/07	SMALL LETTER g
06/08	SMALL LETTER h
06/09	SMALL LETTER i
06/10	SMALL LETTER j
06/11	SMALL LETTER k
06/12	SMALL LETTER l
06/13	SMALL LETTER m
06/14	SMALL LETTER n
06/15	SMALL LETTER o
07/00	SMALL LETTER p
07/01	SMALL LETTER q
07/02	SMALL LETTER r
07/03	SMALL LETTER s

Table 1 — *(continued)*

Bit combination	Name
07/04	SMALL LETTER t
07/05	SMALL LETTER u
07/06	SMALL LETTER v
07/07	SMALL LETTER w
07/08	SMALL LETTER x
07/09	SMALL LETTER y
07/10	SMALL LETTER z
07/11	LEFT CURLY BRACKET
07/12	VERTICAL LINE
07/13	RIGHT CURLY BRACKET
07/14	TILDE
10/00	NO-BREAK SPACE
10/01	This position shall not be used
10/02	CENT SIGN
10/03	POUND SIGN
10/04	CURRENCY SIGN
10/05	YEN SIGN
10/06	BROKEN BAR
10/07	PARAGRAPH SIGN
10/08	DIAERESIS
10/09	COPYRIGHT SIGN
10/10	MULTIPLICATION SIGN
10/11	LEFT ANGLE QUOTATION MARK
10/12	NOT SIGN
10/13	SOFT HYPHEN
10/14	REGISTERED TRADE MARK
10/15	LINE ABOVE
11/00	DEGREE SIGN
11/01	PLUS-MINUS SIGN
11/02	SUPERSCRIPT TWO
11/03	SUPERSCRIPT THREE
11/04	ACUTE ACCENT
11/05	MICRO SIGN
11/06	PILCROW SIGN
11/07	MIDDLE DOT
11/08	CEDILLA
11/09	SUPERSCRIPT ONE
11/10	DIVISION SIGN
11/11	RIGHT ANGLE QUOTATION MARK
11/12	VULGAR FRACTION ONE QUARTER
11/13	VULGAR FRACTION ONE HALF
11/14	VULGAR FRACTION THREE QUARTERS
11/15	This position shall not be used
12/00	This position shall not be used
12/01	This position shall not be used
12/02	This position shall not be used
12/03	This position shall not be used
12/04	This position shall not be used
12/05	This position shall not be used
12/06	This position shall not be used
12/07	This position shall not be used

Table 1 — *(continued)*

Bit combination	Name
12/08	This position shall not be used
12/09	This position shall not be used
12/10	This position shall not be used
12/11	This position shall not be used
12/12	This position shall not be used
12/13	This position shall not be used
12/14	This position shall not be used
12/15	This position shall not be used
13/00	This position shall not be used
13/01	This position shall not be used
13/02	This position shall not be used
13/03	This position shall not be used
13/04	This position shall not be used
13/05	This position shall not be used
13/06	This position shall not be used
13/07	This position shall not be used
13/08	This position shall not be used
13/09	This position shall not be used
13/10	This position shall not be used
13/11	This position shall not be used
13/12	This position shall not be used
13/13	This position shall not be used
13/14	This position shall not be used
13/15	DOUBLE LOW LINE
14/00	HEBREW LETTER ALEPH
14/01	HEBREW LETTER BET
14/02	HEBREW LETTER GIMEL
14/03	HEBREW LETTER DALET
14/04	HEBREW LETTER HE
14/05	HEBREW LETTER WAW
14/06	HEBREW LETTER ZAIN
14/07	HEBREW LETTER CHET
14/08	HEBREW LETTER TET
14/09	HEBREW LETTER YOD
14/10	HEBREW LETTER TERMINAL KAPH
14/11	HEBREW LETTER KAPH
14/12	HEBREW LETTER LAMED
14/13	HEBREW LETTER TERMINAL MEM
14/14	HEBREW LETTER MEM
14/15	HEBREW LETTER TERMINAL NUN
15/00	HEBREW LETTER NUN
15/01	HEBREW LETTER SAMECH
15/02	HEBREW LETTER AYIN
15/03	HEBREW LETTER TERMINAL PE
15/04	HEBREW LETTER PE
15/05	HEBREW LETTER TERMINAL ZADE
15/06	HEBREW LETTER ZADE
15/07	HEBREW LETTER QOPH
15/08	HEBREW LETTER RESH
15/09	HEBREW LETTER SHIN
15/10	HEBREW LETTER TAW

Table 1 — *(concluded)*

Bit combination	Name
15/11	This position shall not be used
15/12	This position shall not be used
15/13	This position shall not be used
15/14	This position shall not be used
15/15	This position shall not be used

6.2 Code table

The code table (table 2) shows the characters listed at the position in the code table corresponding to the specified bit combination.

The shaded positions correspond to bit combinations that do not represent graphic characters. Their use is outside the scope of this part of ISO 8859; it is specified in other International Standards, for example ISO 646 or ISO 6429.

The 38 cross-hatched positions indicate bit combinations that are reserved for future standardization (see clause 8).

7 Designation of the character set

The graphic characters of this part of ISO 8859 constitute a single coded character set. However, when this character set is implemented together with other coding standards such as ISO 2022 or ISO 4873, the code table (table 2) of this part of ISO 8859 shall be considered to consist of the following components:

— The character SPACE represented by bit combination 02/00.

— A 94-character G0 graphic character set represented by bit combinations 02/01 to 07/14.

— A 96-character G1 graphic character set represented by bit combinations 10/00 to 15/15.

When required by other coding standards, for example ISO 2022 or ISO 4873 the following pair of escape sequences shall be used:

ESC 02/08 04/02

ESC 02/13 04/08

to designate the G0 and the G1 sets, respectively. According to ISO 2022 the character SPACE does not require designation.

8 Bit combinations not to be used

Bit combinations 10/01, 11/15 to 13/14 and 15/11 to 15/15 are reserved for future standardization and shall not be used. The corresponding positions are cross-hatched in the code table (table 2).

Any allocation of characters to these positions is incompatible with this part of ISO 8859.

Table 2 — Code table of Latin/Hebrew alphabet

b_4 b_3 b_2 b_1	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
0 0 0 0	00			SP	0	@	P	`	p			NBSP	°			א	נ
0 0 0 1	01			!	1	A	Q	a	q				±			ב	ס
0 0 1 0	02			"	2	B	R	b	r			¢	²			ג	ע
0 0 1 1	03			#	3	C	S	c	s			£	³			ד	ף
0 1 0 0	04			$	4	D	T	d	t			¤	´			ה	פ
0 1 0 1	05			%	5	E	U	e	u			¥	µ			ו	ץ
0 1 1 0	06			&	6	F	V	f	v			¦	¶			ז	צ
0 1 1 1	07			'	7	G	W	g	w			§	·			ח	ק
1 0 0 0	08			(	8	H	X	h	x			¨	¸			ט	ר
1 0 0 1	09			)	9	I	Y	i	y			©	¹			י	ש
1 0 1 0	10			*	:	J	Z	j	z			×	÷			ך	ת
1 0 1 1	11			+	;	K	[	k	{			«	»			כ		
1 1 0 0	12			,	<	L	\	l	|			¬	¼			ל		
1 1 0 1	13			-	=	M	]	m	}			SHY	½			ם		
1 1 1 0	14			.	>	N	^	n	~			®	¾			מ		
1 1 1 1	15			/	?	O	_	o				¯			=	ן		