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# Optical Character Recognition (Unicode block)

**Optical Character Recognition** is a <u>Unicode block</u> containing signal characters for OCR and MICR standards.

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## **Block**

Optical Character Recognition								
Range	U+2440U+245F (32 code points)							
Plane	BMP							
Scripts	Common							
Symbol sets	OCR controls							
Assigned	11 code points							
Unused	21 reserved code points							
Source standards	ISO 2033							
Unicode version history								
<b>1.0.0</b> (1991)	11 (+11)							
Chart								
Code chart (https://www.unicode.or g/charts/PDF/U2440.pdf)								
Note: [1][2]								

	Optical Character Recognition [1][2] Official Unicode Consortium code chart (https://www.unicode.org/charts/PDF/U2440.pdf) (PDF)															
	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	Е	F
U+244x	J	Н	Y	Н	I	M	1:	,,,	li•	•••	//					
U+245x																

#### **Notes**

- 1. As of Unicode version 14.0
- 2. Grey areas indicate non-assigned code points

## **Subheadings**

The Optical Character Recognition block has three informal subheadings (groupings) within its character collection: OCR-A, MICR, and OCR. [3]

#### **OCR-A**

The OCR-A subheading contains six characters taken from the OCR-A font described in the ISO 1073-1:1976 standard: U+2440 
☐ OCR HOOK, U+2441 ☐ OCR CHAIR, U+2442 ☐ OCR FORK, U+2443 ☐ OCR INVERTED FORK, U+2444 ☐ OCR BELT BUCKLE, and U+2445 ☐ OCR BOW TIE. The OCR bow tie is given the informative alias "unique asterisk".

#### **MICR**

The MICR subheading contains four punctuation characters for <u>bank cheque</u> identifiers, taken from the <u>magnetic ink character recognition</u> E-13B font (codified in the ISO 1004:1995 standard): U+2446 \*\* OCR BRANCH BANK IDENTIFICATION, U+2447 \*\* OCR AMOUNT OF CHECK, U+2448 \*\* OCR DASH, and U+2449 \*\* OCR CUSTOMER ACCOUNT NUMBER.

The latter two characters are misnamed: their names were inadvertently switched when they were named in the 1993 (first) edition of ISO/IEC 10646, [4] a mistake which had been present since Unicode 1.0.0. [5] Although their formal names remain unchanged due to the Unicode stability policy, they both have corrected normative aliases: U+2448 is MICR ON US SYMBOL, and U+2449 is MICR DASH SYMBOL (the standard notes that "the Unicode character names include several misnomers").

These symbols had previously been encoded by the ISO-IR-98 encoding defined by <u>ISO 2033</u>:1983, in which they were simply named symbol one through symbol four. [7] All four characters have informative aliases in the Unicode charts: "transit", "amount", "on us", and "dash" respectively.

## **OCR**

The OCR subheading consists of a single character: U+244A \ OCR DOUBLE BACKSLASH.

## **History**

The following Unicode-related documents record the purpose and process of defining specific characters in the Optical Character Recognition block:

Version	Final code points <sup>[a]</sup>	Count	<u>L2</u> ID	WG2 ID	Document
					(to be determined)
1.0.0	U+2440244A	11	L2/10-416R (https://www.unicode.org/L2/L2010/10416.htm)		Moore, Lisa (2010-11-09), "Consensus 125-C39", UTC #125 / L2 #222 Minutes, "Create two formal aliases, U+2448 MICR ON US SYMBOL and U+2449 MICR DASH SYMBOL for Unicode 6.1."
				N4103 (https:// www.un icode.or g/wg2/d ocs/n41 03.pdf)	"T.3. Optical Character Recognition", Unconfirmed minutes of WG 2 meeting 58, 2012-01-03

a. Proposed code points and characters names may differ from final code points and names

# References

- 1. "Unicode character database" (https://www.unicode.org). The Unicode Standard. Retrieved 2016-07-09.
- 2. "Enumerated Versions of The Unicode Standard" (https://www.unicode.org/versions/enumeratedversions.h tml). *The Unicode Standard*. Retrieved 2016-07-09.

- 3. "Unicode Code Charts: Optical Character Recognition" (https://www.unicode.org/charts/PDF/U2440.pdf) (PDF). *The Unicode Standard, Version 6.3*. Retrieved 27 February 2014.
- 4. ISO/IEC JTC 1/SC 2/WG 2 (2012-01-03). "T.3. Optical Character Recognition". <u>Unconfirmed minutes of WG 2 meeting 58 (https://www.unicode.org/wg2/docs/n4103.pdf)</u> (PDF). p. 29. SC2 N4188 / WG2 N4103. "These Magnetic Ink Character Recognition (MICR) symbols are used by banks on checks. The names of these characters were inadvertently mixed up in the 1993 edition of ISO/IEC 10646."
- 5. "3.8: Block-by-Block Charts" (https://www.unicode.org/versions/Unicode1.0.0/CodeCharts2.pdf) (PDF). *The Unicode Standard*. version 1.0. Unicode Consortium.
- Freytag, Asmus; McGowan, Rick; Whistler, Ken (2017-04-10). <u>Known Anomalies in Unicode Character Names</u> (https://www.unicode.org/notes/tn27/tn27-4.html) (4 ed.). <u>Unicode Consortium</u>. Unicode Technical Note #27.
- 7. ISO/TC97/SC2 (1985-08-01). ISO-IR-98: E13B Graphic Character Set (https://www.itscj-ipsj.jp/ir/098.pdf) (PDF). ITSCJ/IPSJ.

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