

A Morse alphabet

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Abstract

A compact alphabetic form of the Morse code is constructed following some simple rules. It is mostly useful in learning the Morse code and using it in writing form.

1 Introduction

Morse code has been very helpful in basic long-distance communications, amateur communications, emergency or improvised calls due to the simplicity of the basic characters it uses. Its main disadvantage though is the difficulty in learning and using it in more casual situations, where normal alphabetic writing is preferred.

We present a restating of the Morse code in an alphabet form which can be used in writing and for learning purposes. Being able to cursively read and write Morse code would improve its learning. The Morse alphabet below is essentially a compact graphical form of the Morse code.

The alphabet is constructed from the International Morse code [1] by applying the following transformations:

1. Replace dots with vertical lines;
2. Keep dashes as horizontal lines;
3. Elements of a character are ordered vertically, in an up-to-down direction; neighbouring dots (vertical lines) are written from left to right.

Some characters have a second, more compact form in which the elements are arranged both left-to-right and up-to-down; this happens for letters C, F and L.

The alphabet composed of Morse symbols is presented in Figure 1. Punctuation marks have been represented as symbols too by applying the rules above. However, the symbols for punctuation marks are quite clumsy and the normal typographic marks may be used instead in writing.

Char.	Morse code	Morse symbol									
A	.-	⋈	N	-.	⋈	1	.----	⋈	[.]	.-.-.-	⋈
B	-...	⋈	O	---	≡	2	..---	⋈	[,]	---.-	⋈
C	-.-.-	⋈	P	⋈	3	...--	⋈	[:]	---..	⋈
D	---.	⋈	Q	----	⋈	4-	⋈	[?]	..-.-	⋈
E	.		R	...-	⋈	5	⋈	[']	---.-	⋈
F	⋈	S	...-	⋈	6	-----	⋈	[-]	---.-	⋈
G	---	⋈	T	-	—	7	-----	⋈	[/]	---.-	⋈
H	⋈	U	...-	⋈	8	-----	⋈	[(]	---.-	⋈
I	..		V-	⋈	9	-----	⋈	[)]	---.-	⋈
J	.-.-	⋈	W-	⋈	0	-----	⋈	["]	---.-	⋈
K	-.-	⋈	X	---.-	⋈				[=]	---.-	⋈
L	⋈	Y	---.-	⋈				[+]	---.-	⋈
M	--	≡	Z	---.	⋈				[x]	---.-	⋈
									[@]	---.-	⋈

Figure 1: Alphanumeric characters and punctuation marks, their International Morse code and Morse alphabetic symbol. Some characters have two symbols.

≡⋈=⋈⋈| -|≡- ≡+||--|⋈ ||⋈ =≡+|| | ⋈⋈⋈||⋈⋈|⋈.
 SAMPLE TEXT WRITTEN IN MORSE ALPHABET.
 "||| |⋈⋈≡ ≡≡+⋈⋈!"
 "HELLO WORLD!"

Figure 2: Sample texts in Morse alphabet. Different styles can be applied for the font and letter arrangement. Similar characters (E, I, S, H) have to be clearly separated by spaces in order to distinguish them. Since Morse rendering of punctuation marks is quite complex, normal punctuation marks are preferred.

References

[1] International Telecommunication Union, Recommendation ITU-R M.1677-1, International Morse code (2009). http://www.itu.int/dms_pubrec/itu-r/rec/m/R-REC-M.1677-1-200910-I!!PDF-E.pdf