

# Telegraph code

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A **telegraph code** is a character encoding used to transmit information through telegraphy machines. The most famous such code is Morse code.

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## Manual telegraph codes

Morse code can be transmitted and received with very simple electrical equipment, such as the electrical telegraph invented in 1816. Morse code represents each letter of the alphabet as a series of "dots and dashes" (short and long bursts of electronically-generated noise). The speed of sending is directly related to the length of the shortest (dot) element: a dash is three dots long, an inter-character gap is the same length (3 dots), and inter-word and sentence gaps should be 5 or 7 dots long (change from earlier standard – 5 dots). The speed of sending is also referred to as words per minute, and is classically based on the 'paris' formula - as 'paris' is considered to be an average length word. See main article on Morse Code.

Morse code can even be used to transmit Chinese characters. There already existed dictionaries which numbered the Chinese characters. It is simply a case of sending the numbers by Morse Code, and these numbers are then looked up in the dictionary at the receiving end.

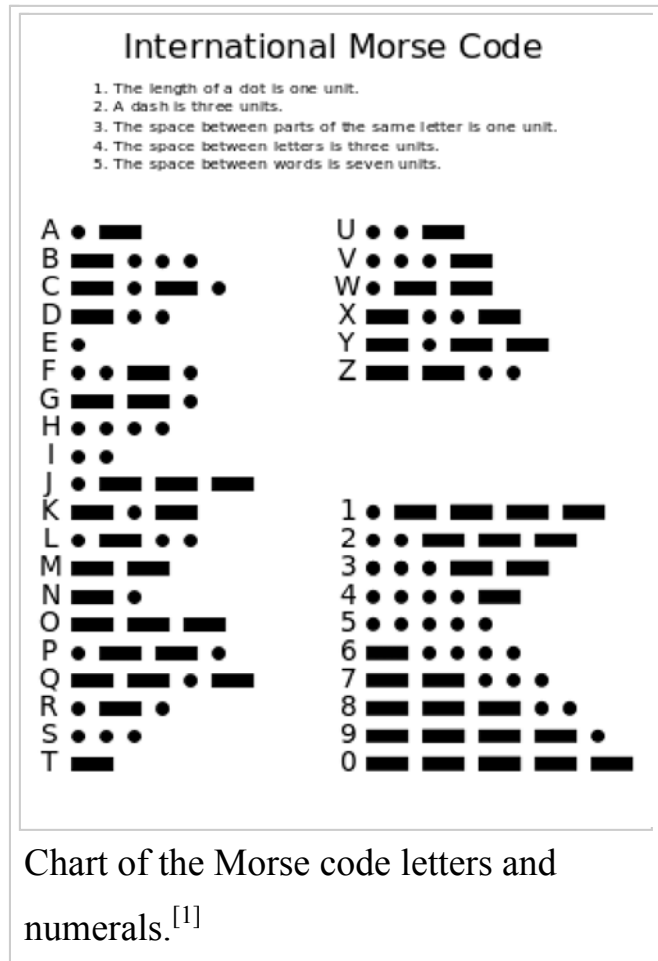
In practice, this is a slow process, unless done by an expert Chinese telegrapher who can remember all the numbers of the approximately 5,000 characters in common use.

## Automatic telegraph codes

Manufacturers developed teleprinters to allow typed messages to be transmitted and received without Morse code training. At the time, hardware costs depended on the length of the longest code. With an alphabet of 26 uppercase letters, the code had to be at least 5 bits long. To reduce hardware cost, teleprinter manufacturers adopted the fixed-length 5 bit Baudot code (rather than trying to use variable-length Morse code).

Users were not satisfied with the limited character set available in Baudot code. Demand for lowercase letters and more punctuation marks led to teleprinters with a 6-bit TeleTypeSetter (TTS) code, and later, 7-bit ASCII code.

(Demand for accented vowels led to the 8-bit ISO 8859-1. Demand for Cyrillic, Hebrew, Arabic, Greek, and other letters led to many variations of ISO 8859. Demand for using more than one of these sets of letters at the same time led to the 16 bit Unicode. Demand for Chinese characters led to 20-bit Unicode, which clearly is impossible for any typewriter like formed character mechanical teleprinter, although dot-matrix printers can print Chinese characters.)



# International Code of Signals (radiotelegraph)

In 1931, the International Code of Signals, originally created for ship communication by signalling using flags, was expanded by adding a collection of five-letter codes to be used by radiotelegraph operators.

## See also

- Commercial code (communications)
- Chinese telegraph code
- Great Western Railway telegraphic codes

## References

1. "International Morse code Recommendation ITU-R M.1677-1". *itu.int*. International Telecommunication Union. October 2009. Retrieved 23 December 2011.

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