Newcomers and Elmers Net: Morse Code Instruction Resources
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- It is fun to use
- It can be used even when it is impossible to communicate using other modes
- It conserves the already crowded amateur bands
- It requires less complex equipment to get on-the-air

Morse code is most popular among amateur radio operators, although it is no longer required for licensing in most countries. Pilots and air traffic controllers usually need only a cursory understanding. Aeronautical navigational aids, such as VORs and NDBs, constantly identify in Morse code. Compared to voice, Morse code is less sensitive to poor signal conditions, yet still comprehensible to humans without a decoding device. Morse is therefore a useful alternative to synthesized speech for sending automated data to skilled listeners on voice channels. Many amateur radio repeaters, for example, identify with Morse, even though they are used for voice communications.

For emergency signals, Morse code can be sent by way of improvised sources that can be easily "keyed" on and off, making it one of the simplest and most versatile methods of telecommunication. The most common distress signal is SOS or three dots, three dashes and three dots, internationally recognized by treaty.

Morse code speed is measured in words per minute (wpm) or characters per minute (cpm). Characters have differing lengths because they contain differing numbers of dots and dashes. Consequently words also have different lengths in terms of dot duration, even when they contain the same number of characters. For this reason, a standard word is helpful to measure operator transmission speed. "PARIS" and "CODEX" are two such standard words.[14] Operators skilled in Morse code can often understand ("copy") code in their heads at rates in excess of 40 wpm.

Today among amateur operators there are several organizations that recognize high speed code ability, one group consisting of those who can copy Morse at 60 wpm.[16] Also, Certificates of Code Proficiency are issued by several amateur radio societies, including the American Radio Relay League. Their basic award starts at 10 wpm with endorsements as high as 40 wpm, and are available to anyone who can copy the transmitted text. Members of the Boy Scouts of America may put a Morse interpreter's strip on their uniforms if they meet the standards for translating code at 5 wpm.

Aviation

In aviation, instrument pilots use radio navigation aids. To ensure that the stations the pilots are using are serviceable, the stations all transmit a short set of identification letters (usually a two-to-five-letter version of the station name) in Morse code. Station identification letters are shown on air navigation charts. For example, the VOR based at Manchester Airport in England is abbreviated as "MCT", and MCT in Morse code is transmitted on its radio frequency. In some countries, during periods of maintenance, the facility may radiate a T-E-S-T code (— · · · · —) or the code may be removed, which tells pilots and navigators that the station is unreliable. In Canada, the identification is removed entirely to signify the navigation aid is not to be used.[17][18] In the aviation service Morse is typically sent at a very slow speed; in the U.S. this is about 5 words per minute. Pilots do not actually have to know Morse to identify the transmitter because on aeronautical charts, the sound sequences are written out next to the transmitter's symbol. Some modern navigation receivers automatically translate the code into displayed letters.

Morse code as an assistive technology

Morse code has been employed as an assistive technology, helping people with a variety of disabilities to communicate. Morse can be sent by persons with severe motion disabilities, as long as they have some minimal motor control. An original solution to the problem that caretakers have to learn to decode has been an electronic typewriter with the codes written on the keys. Codes were sung by users; see the voice typewriter employing morse or votem, Newell and Nabarro, 1968.

Morse code can also be translated by computer and used in a speaking communication aid. In some cases this means alternately blowing into and sucking on a plastic tube ("sip-and-puff" interface). An important advantage of Morse code over row column scanning is that, once learned, it does not require looking at a display. Also, it appears faster than scanning.

People with severe motion disabilities in addition to sensory disabilities (e.g. people who are also deaf or blind) can receive Morse through a skin buzzer.[citation needed].

In one case reported in the radio amateur magazine QST,[24] an old shipboard radio operator who had a stroke and lost the ability to speak or write could communicate with his physician (a radio amateur) by blinking his eyes in Morse. Another example occurred in 1966 when prisoner of war

Jeremiah Denton, brought on television by his North Vietnamese captors, Morse-blinked the word TORTURE. In these two cases interpreters were available to understand those series of eye-blinks.

Learning methods

People learning Morse code using the Farnsworth method are taught to send and receive letters and other symbols at their full target speed, that is with normal relative timing of the dots, dashes and spaces within each symbol for that speed. The Farnsworth method is named for Donald R. "Russ" Farnsworth, also known by his call sign, W6TTB. However, initially exaggerated spaces between symbols and words are used, to give "thinking time" to make the sound "shape" of the letters and symbols easier to learn. The spacing can then be reduced with practice and familiarity.

Another popular teaching method is the Koch method, named after German psychologist Ludwig Koch, which uses the full target speed from the outset, but begins with just two characters. Once strings containing those two characters can be copied with 90% accuracy, an additional character is added, and so on until the full character set is mastered.

In North America, many thousands of individuals have increased their code recognition speed (after initial memorization of the characters) by listening to the regularly scheduled code practice transmissions broadcast by W1AW, the American Radio Relay League's headquarters station.

In the United Kingdom many people learned the Morse code by means of a series of words or phrases that have the same rhythm as a Morse character. For instance, "Q" in Morse is dah-dah-di-dah, which can be memorized by the phrase "God save the Queen", and the Morse for "F" is di-di-dah-dit, which can be memorized as "Did she like it."

A well-known Morse code rhythm from the Second World War period derives from Beethoven's Fifth Symphony, the opening phrase of which was regularly played at the beginning of BBC broadcasts. The timing of the notes corresponds to the Morse for "V"; di-di-di-dah and stood for "V for Victory" (as well as the Roman numeral for the number five).

How to recognize characters - One of the first things beginners want to do when deciding to learn Morse code is to turn to a reference book and look at the unique dit (dot) and dah (dash) pattern for each character. Don't do this! It adds another step in the mental decoding process. Instead, find a convenient Tool that lets you learn the patterns by listening to the unique sound for each character rather than decoding a sequence of dits and dahs

first and then translating that sequence into the character it represents. Once learned in this manner, you will immediately recognize the characters. This is similar to how you read. If you see the word "HELLO" you don't first decode it into the letter sequence H, E, L, L, O; you simply recognize it as hello.

Typical code practice example. - There are several kinds of practice session formats that are commonly employed. One method is to generate a fixed number of random characters in a group. The disadvantage of the fixed length grouping is that one learns to expect a pause (space) after each specific number of characters. Later, in a typical QSO (Ham radio conversation) words of different length will cause a loss of concentration and the next word will be missed, or even the next several words. The same distraction occurs if random characters or words are used in the learning process. When the text has meaning there is a tendency to read what is being copied and to anticipate the following word. It is better to practice with real sentences to learn to avoid the reading distraction.

Koch Method
Basically you start off learning the code at the speed you would like to achieve. Unlike the Farnsworth method which seeks to reduce the gap between the letters as you become more efficient, Koch came up with the idea that you should start off just learning two letters at full speed and add an additional letter once you reach 90% proficiency until you have mastered them all. Since you are only learning one new letter or figure at a time, your frustration is significantly reduced.

Farnsworth Method
The Farnsworth format is commonly used when sending code. Characters are formed at a fast speed while the spaces between characters are lengthened so words occur at a slower speed. For example, a character speed of 15 words per minute sent at a word speed of 5 words per minute produces 25 characters in a minute.

Practice Methods
How to Practice

The following are some recommendations that should help you learn Morse code quickly and efficiently.
- Don't practice in long sessions - short 15 or 30 minute sessions each day is preferable
- Use the Farnsworth method
- Don't visualize the dits and dahs - listen to the collective sound of the characters

- Write down each character as you hear it
- Don't fret if you miss a character, move on leaving a blank on your copy sheet
- Don't try to read what you are copying
- Practice using typical QSOs

Resources
http://www.ac6v.com/morseprograms.htm