# Talk With The Hand!

## The Radiotelegraph Morse Code (for Kids of All Ages)

### What is Morse Code?

Morse code is a way of sending messages across long distances. It uses patterns of dots and dashes to send the letters, numbers and punctuation. The code was originally used to communicate over telegraph wires. Samuel F. B. Morse, the inventor of the first practical electric telegraph, created the code around 1840, but he had quite a bit of help from Alfred Vail, one of his business associates. After wireless (the forerunner of radio) was invented, it was natural to use Morse code there, too, since by then a large number of operators were already familiar with it. The code patterns for some of the letters were changed when Morse code began to be used on the European continent, and that version of Morse code, called "Continental" Morse or more often, "International" Morse code, is the version used by radio operators around the world.



*The form of a modern telegraph key like this is still true to its century-and-a-half old roots  -photo courtesy of Milestone Technologies, used with permission www.mtechnologies.com*

The Morse code sending instrument, then and now called a "key," was almost the same for both wired telegraphy and radiotelegraphy, but the receiving instruments were different. For "landline" telegraphy, a device called a "sounder" made a clicking noise when the key was pressed down at the distant end of the circuit and another click when the key was released. The sounder used coils of wire which magnetically attracted an iron bar while the key was depressed.
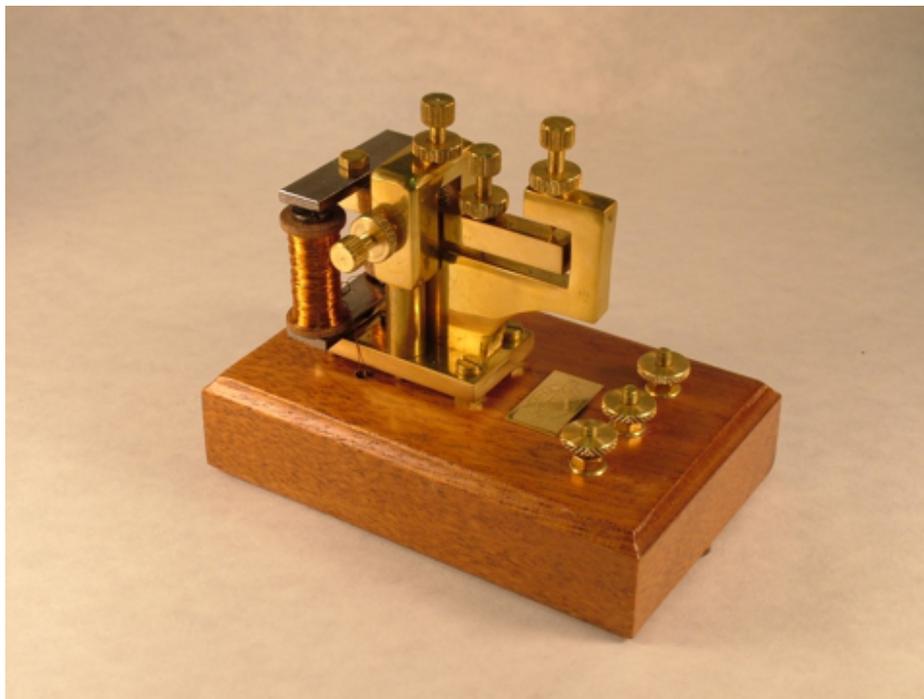
*A modern reproduction telegraph sounder -photo courtesy of Milestone Technologies, used with permission*
[www.mtechnologies.com](www.mtechnologies.com)

When spark-gap wireless came into being, the sounder was replaced with headphones, and they would make a hissing or sizzling noise when the key was down. When wireless became radio, the sound became a steady musical tone, maybe heard through a loudspeaker. It takes some practice for an experienced radio operator to make sense of the old fashioned sounder and its clickety-clacking!

Once Morse code began being sent over radio, people started thinking about the dots and dashes in a different way. They thought the dots sounded like "dits" and the dashes sounded like "DAHs." It seems to take a bit longer to say DAH than to say dit, and, since the dashes take more time to send than the dots, that worked out just fine and is still the way we think about it.

Learning Morse code by associating the characters with the sounds they make is the best way to become proficient.  Memorizing them as dots and dashes makes the brain have to do an extra step in order to recognize the characters, which makes the process of "copying" the code take longer.

## HOW IS MORSE CODE USED TODAY?

Until very recently, radiotelegraph Morse code was still being used by some government agencies, like the Navy and the Coast Guard, but they don't use it much anymore. They have changed to more "modern" methods of communication, and now Amateur Radio operators are the most visible group of Morse code users. Even though these "ham" operators also have access to the more modern ways, and even though Morse code proficiency is no longer required to get a license, many hams still prefer to use the good old fashioned Morse code, for good reasons:

* Morse code was the original digital means of communication and is still today the only digital signaling method that can be understood by both people and computers.

* Morse code can be sent using the simplest and most inexpensive radio equipment.

* Watt for Watt, a Morse code signal can travel farther than a voice signal and still be understood when conditions do not allow voice transmissions to be understood.

* You can send Morse code using a whistle, car horn, or a flashlight to summon help during an emergency.

* Using Morse code, you can exchange information and carry on a simple communication via ham radio with somebody who doesn't even know your language.  (How? Just Google "Q Code" and you'll find out!)

Considering all of this, it's little wonder that Morse code continues to find an enthusiastic home within the community of ham radio operators.  Here is an assortment of organizations promoting Morse code on the airwaves:

* CWops - The CW Operators' Club ( www.cwops.org )

* FISTS - The International Morse Code Preservation Society ( www.fists.org )

* NAQCC - The North American QRP CW Club ( www.naqcc.info )

* SKCC – The Straight Key Century Club ( www.skccgroup.com )


# WHY NOT GIVE IT A TRY!

On the next page is a chart of the Morse code alphabet.  Why not write down the patterns for the letters that make up your initials?  If the people who've made this paper available to you have set up a code practice station you can try sending them.  It's fun and easy, and you will have the satisfaction of using a medium of communication that's been around since 1840 and still going strong!

Even if you take away nothing else from this demonstration, you need to remember the most important Morse code combination:  SOS, which is the universal distress call for emergency assistance.  It is:

S – di-di-dit

O – DAH-DAH-DAH

S – di-di-dit


It is sent more or less as one continuous string:   di-di-dit DAH-DAH-DAH di-di-dit.  Depress and release the key quickly to send a dit.  Hold the key down about three times as long to send a DAH.

Practice it, and remember it.  Some day, it might save your life!   And if we've got your curiosity up, check out this link and discover more about the exciting, fascinating world of Amateur Radio:

www.arrl.org/what-is-ham-radio

Maybe you'll get your ham radio license and we'll get a chance to "work" you on the air some day using Morse code!  Now, here's that chart with the dits and DAHs for each letter of the alphabet:

# The International Morse Code English-Language Alphabet:

| | | |
|---|---|---|
| *A- di-DAH | *B- DAH-di-di-dit | *C- DAH-di-DAH-dit |
| *D- DAH-di-dit | *E- dit | *F- di-di-DAH-dit |
| *G- DAH-DAH-dit | *H- di-di-di-dit | *I- di-dit |
| *J- di-DAH-DAH-DAH | *K- DAH-di-DAH | *L- dI-DAH-di-dit |
| *M- DAH-DAH | *N- DAH-dit | *O- DAH-DAH-DAH |
| *P- di-DAH-DAH-dit | *Q- DAH-DAH-di-DAH | *R- di-DAH-dit |
| *S- di-di-dit | *T- DAH | *U- di-di-DAH |
| *V- di-di-di-DAH | *W- di-DAH-DAH | *X- DAH-di-di-DAH |
| | *Y- DAH-di-DAH-DAH | *Z- DAH-DAH-di-dit |

# What is the Future of Morse Code?

"Newer" isn't always the same as "better." In fact, "newer" isn't always "faster" either.  On April 16, 2005, in Sydney, Australia, veteran Morse operators demonstrated that their "old fashioned" code was quicker than modern text-messaging, and in the US on May 13, 2005, there was a contest on Jay Leno's television program between two ham radio operators using Morse code and two text-messaging teenagers. One of the teenagers was said to be a champion high-speed text-messager. The hams communicating with Morse code were quicker than the text-messagers in three rehearsals and the televised contest. And the hams weren't even sending and receiving at their top speed!

At the same time that some Western countries are replacing Morse code with newer (which in this case means "more expensive") modes of communication, Morse code is still being promoted in many other places in the world. In Eastern Europe especially, young people are encouraged to learn Morse code. They compete with each other to see who can send and receive the quickest, and code proficiency is one very important part of the group of activities they call "radiosport."

Even though Morse code is 170 years old, it will continue to have a future for people who want to communicate easily, cheaply, and effectively.