

## Learning the Morse Code by David B. Farris, K5NT

Morse code transmissions are called "CW", which stands for Continuous Wave. In poor conditions, or when using low power and/or simple antennas, CW gets through better than most voice modes. This makes it very useful in emergency communications. I have been working CW for 67 years, and if I am in contact with another ham of equal skill, we can exchange information very rapidly. We do this by sending cleanly, and using standard abbreviations.

People who do not know the Morse Code (and that's just about everybody) think that it is made up of dots and dashes. Wrong! It is actually made up of short sounds and long sounds. It's music you hear, not symbols you see. The short sounds are called Dits (sounds like the word "Bits"), and the long sounds are called Dahs. The letter a in Dah is pronounced like the a in the word father.

Morse code is easily learned by vocalizing it, which uses several senses at the same time for reinforcement. This is where the concept of long and short sounds shows its real value. Your brain, your voice, and your hearing are all working together to build a permanent database that will enable you to understand Morse code as you would another language. It is another language like signing is to the deaf, and braille is to the blind.

If a Dit is followed either by another short sound or a long sound, we drop the "t" and just say "Di". For example, three short sounds together would be pronounced as Di Di Dit. Note that we brought back the t sound for the last Dit. The long sound is always pronounced Dah.

Here's an example. The letter A is Di Dah. You learn this by saying to yourself the name of the letter, and then vocalizing the sound of it. In this case you would say "A Di Dah".

Doing this out loud is preferable. Doing it silently works well though it may take a little longer to learn the letters. When I was a teenager, I would spell out the advertising signs on the buses I rode. I did it silently because I didn't want people looking at me funny. All signs, books and magazines become my practice materials.

Here are the five vowel sounds:

A Di Dah  
E Dit  
I Di Dit  
O Dah Dah Dah  
U Di Di Dah

With a few consonants, you can spell many words. Here are five that are among the most used in the English language:

T Dah  
N Dah Dit  
S Di Di Dit  
R Di Dah Dit  
H Di Di Di Dit

These are enough letters to get you started. When you think you know them, have a friend say the letter and then you give the sound. Then, have the friend give you the code and you respond with the letter. Make up as many words as you can with these letters, then spell them out verbally. If you want to spell out a particular word in your practice that uses a letter you haven't come to yet, just learn it and begin using it.

Here are five more letters. Work with them as you did with the first group, then create words as work with them as before. In your study, add new letters one at a time. When you become comfortable with the new one, add another.

B Dah Di Di Dit  
C Dah Di Dah Dit  
D Dah Di Dit  
F Di Di Dah Dit  
G Dah Dah Dit

Here are five more. Keep going the same way.

J Di Dah Dah Dah  
K Dah Di Dah  
L Di Dah Di Dit  
M Dah Dah  
P Di Dah Dah Dit

Here are the last six:

Q Dah Dah 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

The structure of letters seems random, but numbers have a pattern that is easily learned:

1 Di Dah Dah Dah Dah  
2 Di Di Dah Dah Dah  
3 Di Di Di Dah Dah  
4 Di Di Di Di Dah  
5 Di Di Di Di Dit  
6 Dah Di Di Di Dit  
7 Dah Dah Di Di Dit  
8 Dah Dah Dah Di Dit  
9 Dah Dah Dah Dah Dit  
0 Dah Dah Dah Dah Dah

Note that numbers have five characters rather than the maximum of four like the letters. Since you will be copying information sent by the other station, you will know when a number is coming because of the information he/she has sent before, and you will readily recognize it.

There are combinations for commonly used abbreviations. Here are three you will use frequently:

Period	Di Dah Di Dah Di Dah
Comma:	Dah Dah Di Di Dah Dah
Question Mark	Di Di Dah Dah Di Dit. (This is also means "Please Repeat")

There are others, and you can look them up as you need them.

All of this was K-12. Now it's time to go to college! This is the fun part.

Buy a telegraph key of the most basic design. These are called Hand Keys, or Straight Keys. You will also need an audio generating device called a Code Practice Oscillator. There are many choices online. Dealers like Ham Radio Outlet (HRO) and others have them, and there are frequently good keys on eBay. Consider buying a high quality key and a separate oscillator. You will use the key in your station for the rest of your life. Paying a little extra for quality is never a mistake!

Here's how you use this setup:

Adjust the key so that the tension is comfortable and the gap between the switch contacts is small. Put the batteries in the oscillator, and hook it to the key. Instructions may have come with them..

Then, begin sending the letters as you vocalize them. You are still working with the same senses, but you have added the the physical action of sending and the new sound of the code practice oscillator that you hear in harmony with your own voice.

Work with your friend as you have before, but begin using the code practice oscillator.

When this new procedure becomes easy and familiar, stop vocalizing and rely on the sound of the code practice oscillator alone.

Now, you are copying code!

Begin listening to the W1AW code practice transmissions. Various speeds are sent in the practice sessions, and daily practice will rapidly increase your copying ability. The frequencies and schedule can be found on the ARRL website, [www.arrl.org](http://www.arrl.org).

In the beginning, you will want to write down what you are hearing word-for-word. Pretty soon you will just be taking notes, only writing down things like the date, call, signal report, operator's name, etc.

When your mental database is complete and you are copying code, at first you will hear letters. Then you will begin hearing phrases, and then words. Before long you will understand what you are hearing without mentally translating it. You will just know what it says, and it will be just like hearing someone speaking to you. It will be effortless!

That's about it. Enjoy CW and teach it to others. It was the very first method used to send and receive information by radio, and is fun and valuable today. ZUT!

161.

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(161 is 73+88. ZUT is the unofficial military signal meaning "CW Forever". Thanks to the Coast Guard.CW Operators for creating it, and to W9EBE for bringing it to my attention.