

LEARNING MORSE IS NOT SO DIFFICULT

This article, written from the viewpoint of practical experience, will help you master the Morse Code, and open up a new language for you. You must pass a test in Morse when you sit the P.M.G.'s examination for your Amateur Operator's Certificate of Proficiency.

The Morse code is essentially a sound language, therefore the only way to learn it is by sound. It follows, therefore, that the "opposites" method and others of a similar type are not the best. By their use, the student learns to "see" Morse symbols as they are heard, and pictures so many dots and dashes on paper, instead of relying on the rhythmic sound of each symbol. He is then faced with the necessity of converting his visual picture into a sound picture before he can achieve any real speed. The logical thing, therefore, is to concentrate on sound right from the start.

Before attempting to "take" Morse or send it, the student must first memorise the code. Printed herewith is a copy of the Morse code. It will be observed that the letter itself is written after the actual sound. The student should learn that "d' dah" means "a" and not that "a" is "d' dah."

The first step is to memorise the code by singing each letter—then say the letter, e.g.:

"d' dah (pause) a"

"dah d' d' dit (pause) b"

"dah d' dah dit (pause) c"

Dashes are called "dah," and dots are called either "d" or "dit," depending on their relative position in the symbol, e.g., if a symbol ends in a dot, the dot is called "dit." If the dot precedes a dah or another dot, it is called "d."

Generally speaking, the rules for spacing are as follows:

The "dit" is the unit upon which the spacing is made.

1. Dah=3 dits.
2. Space between any two elements of a letter=1 dit.
3. Space between any two letters or figures forming one group=3 dits.
4. Space between groups or words = 5 dits.

The whole code should be sung through, slowly at first, and, then, as each symbol "sticks" in the memory, speed will automatically increase. By this method, it is possible to learn how each symbol would sound on a buzzer or oscillator, even though the student has never heard one.

When the student has memorised the code, even at a slow speed, he will have passed the most difficult stage. It does not require much work. A quarter of an hour each day will embed it in the memory, but the person who really wants to learn the code as quickly as possible would put more time into it—and learn much faster.

The ideal method of carrying on from here is to get some operator to send to you at a rate equivalent to 20 words a minute, but with a long break between each letter. By taking this

type of Morse, even though some of it will be missed, the beginner will hear each symbol at its correct speed, and in its correct rhythm.

The Wireless Institute of Australia currently provides code practice for beginners in two ways; code practice sessions over the air, and a library of pre-recorded tapes available for a nominal charge.

The code practice sessions are broadcast seven nights a week on two frequencies, 3550KHz and 144.5MHz. The transmissions emanate from various sites, normally the home station of the volunteer operator chosen for the particular night. Most of these are located within a 50-mile radius of Sydney. The 3550KHz session runs from 7.30 p.m. to 8 p.m. and the 144.5MHz session from 8 p.m. to 8.30 p.m. The call sign is VK2BWI.

The code practice tapes are available to all prospective amateurs, whether members of the W.I.A. or not. There is a charge of 30c to cover outwards postage, etc., while the student is required to pay the return postage. The loan period allowed is one month. Tapes are graded according to the speed which the user has reached, and when asking for tapes, the sending speed required should be indicated.

Inquiries regarding tapes should be addressed to:

Mr E. Hodgkins (VK2EH),
Mangrove Road,
Narara,
N.S.W. 2251.

In the early stages of training the

student should try as far as possible to receive code groups in preference to plain language. The reason for this procedure is that with reception of plain language the beginner involuntarily starts to "journalise" and the system is defeated.

To illustrate the point: If the sentence, "He went away," is being sent, he would receive, "He went aw . . ." and before the "ay" was sent the student would have written it down.

Other traps for the beginner are such words as "formed-forming" and "stayed-staying," where "ed" has been written down before the final part of the word is sent, and often the wrong suffix is added.

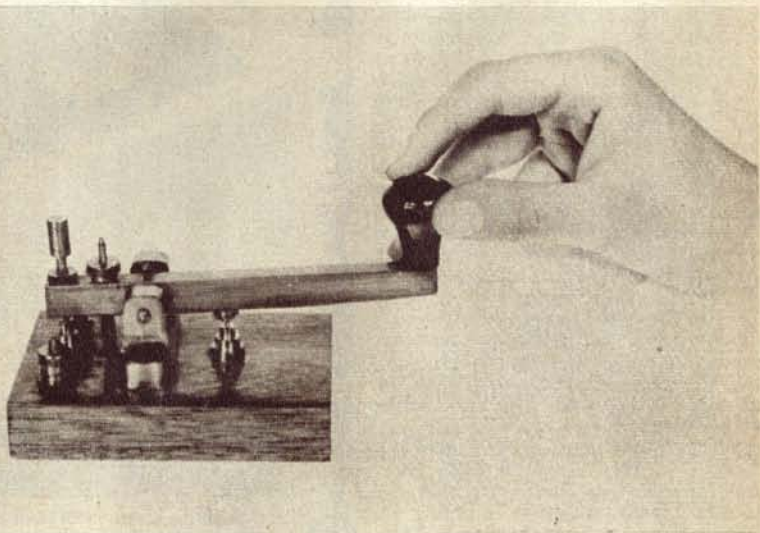
Code groups are groups of five letters with five dots' space between them. By using these for practice, the student does not know which letter is coming next. Later on, these groups may also contain figures, but it is advisable for the student to master the letter groups first.

At the bottom of the alphabet are shown the 10 primary figures used in Morse. These are not as hard to master as at first may appear. To begin with, the 26 letters of the alphabet are made up of from one to four units. The figures all have five units and to determine from figure 1 to figure 5 merely count the dits. That will be the number. The balance of the five units is made up of "dahs," so that the figure 2 has 2 "dits," followed by the three "dahs" necessary to make the units up to five.

From 6 to 0 is exactly the opposite. By counting the number of "dahs" appearing, we have either 6, 7, 8, 9, or 0. The balance here is made up of dits.

For example, if "dah dah d' d' dit" was sent, merely say: "Six, seven d' d' dit" (to yourself), and write down 7.

After mastering the alphabet and the figures, the student may now



Good keying habits should be established from the start. Shown above is the correct way to hold the key for the method recommended in this article.

spend some time on plain language. This is done in ordinary handwriting, but care must be taken to ensure clear, legible characters in the early stages, so that when speed does come the student will not tend to scrawl.

After some practice it will be possible to keep one letter behind the sender, so that if the word "coming" is being sent the student will be writing "c" as the "o" is being sent and at the end of the word, while the operator is pausing before the next word, the student will be writing the "g."

Experienced operators are able to write several letters behind the transmitting operator and even work three or more words behind without being troubled.

Once the student has mastered the rhythm of Morse signals by receiving practice, he may take the key. But it is useless for him to try and send unless he knows how each symbol should sound.

The good Morse operator sits upright in his chair, with both feet flat on the floor. The left hand is placed comfortably on the table in readiness for turning a page.

There are many different methods of keying, but one of the most successful is that which was adopted by the RAAF. The method was to hold the key between the ball of the thumb and the forefinger. The second finger was placed on the right of the key towards the bottom.

Then, instead of pressing down with either the fingers or the whole arm, the wrist was held horizontal and dropped whenever a symbol was made. The upward and downward movement of the wrist was the method of keying.

This method is recommended because it reduces "arm fatigue" over long periods of operating.

The tendency is, however, to stray from this method and attempt to "nerve send." The student is advised to pay particular attention that this does not happen and that slovenly habits do not creep on him and ruin his operating.

Many people will argue that the "wrist-movement" method is cumbersome and that it is impossible to reach any high speeds. Countless operators have disproved this theory by passing the 30-wpm rate by "wrist" action alone.

Of course, as speed increases, the wrist action becomes less noticeable, but the beginner should allow his wrist to drop the full distance while sending at low speeds. By "following through," even though contact is made by the first movement of the wrist, greater key control is obtained.

The key chosen for practice should be a good quality one, particularly if it is likely to become a standard item in the ham shack after a licence is granted. Keys do not appear to be in very good supply at the moment, although some dealers have indicated that some good quality imported types may be available later. In the meantime, the disposals sources may have a few to offer.

Electrical contact is made by the front stop of the key and its anvil. The distance between these two points is called the "GAP," and should be equal to the thickness of a sheet of notepaper folded once. The spring tension is supplied by the spring at the back of the key, and should be just tight

THE MORSE ALPHABET

SOUND	MEANING	SOUND	MEANING
d' dah	A	dah dit	N
dah d' d' dit	B	dah dah dah	O
dah d' dah dit	C	d' dah dah dit	P
dah d' dit	D	dah dah d' dah	Q
dit	E	d' dah dit	R
d' d' dah dit	F	d' d' dit	S
dah dah dit	G	dah	T
d' d' d' dit	H	d' d' dah	U
d' dit	I	d' d' d' dah	V
d' dah dah dah	J	d' dah dah	W
dah d' dah	K	dah d' d' dah	X
d' dah d' dah	L	dah d' dah dah	Y
dah dah	M	dah dah d' dit	Z

MORSE FIGURES

SOUND	MEANING	SOUND	MEANING
d' dah dah dah dah	1	dah dah d' d' dit	7
d' d' dah dah dah	2	dah dah dah d' dit	8
d' d' d' dah dah	3	dah dah dah dah dit	9
d' d' d' d' dah	4	dah dah dah dah dah	0
d' d' d' d' dit	5	d' dah d' dah d' dah	dot
dah d' d' d' dit	6	dah dah d' d' dah dah	comma
		d' dah d' dah dit	end

PRACTICE GROUPS

APR6Y	R5KYQ	N3UGL	4BGUZ	LMO9Y
LYQG7	F6CQS	AXN3O	B9HMY	PUXX8
DX2VO	PBUA4	SOF4U	9COGF	HNU3Z
OPLMI	MY6QS	TOQMO	PKU7N	BRG6L
QP3BY	CD5HM	R4BWD	IN8FS	YE2GJ
IUOTZ	V9LP4	XF7UB	Z5GTO	TUDIZ
IY7JP	LIRPV	LP2LD	6LUIP	AC8FB
K4KVB	NU3RX	A8FYK	PDQRV	DOYBG
UF9LQ	P8GYD	GU3FB	2LUXN	G4QFS
Y6YUT	SK3RM	SRIOK	P8BRG	Z7GUT

Here are some difficult groups. Correct spacing is essential otherwise the result of your sending will be meaningless.

686BD	SHIEH	TOMMO	GOOGD	B6LAI
FINDT	LREB6	5HH54	JAMIE	TUTU
JYQYQ	LPPFQ	6B5HL	FLYPQ	XPANY
ZMIZG	YKTNM	WATEM	JWTAM	GTNME

enough to cause the key to return to the open position after the key is pressed, but not too tight to cause actual operating fatigue.

When operating, keep the fingers arched and the muscles loose.

The beginner should sing through the alphabet and lower his wrist to keep in time with the units.

Some common faults with beginners are:

1. Slurred characters.
2. Clipped dashes.
3. Bad spacing.
4. Running words together.
5. Sending too fast.

From this stage on, all that is needed is practice and more practice. A little each day is worth more than a lot once a week. Handbooks on Morse will carry the student further on in the subject but, if he is prepared to work, the data given in this article will put him in the speed category in the matter of a few weeks.

Taken on an average, the hardest letters for the beginner to memorise are:

DBFGWLQYKRPX.

The practice chart shown here has been compiled to place emphasis on these letters. Send the groups from left to right, and then, for variation, read downwards in columns.

Remember that practice makes perfect. Make up your own chart, stressing the letters that YOU find most difficult. Keep at it until you have mastered them.

We would stress again the importance of listening to the code at every opportunity. Get yourself a short wave receiver, and look round the short waves for commercial stations sending at a reasonable speed. You can often strike such stations sending code groups at often less than 20 words per minute, frequently repeating each group after it has been sent. This is good practice, because you have an opportunity to check on your first attempt.

As you progress, you can pick out a station sending at a higher speed. Do not develop the complex of despair if you find yourself receiving only portion of what you hear. Take this philosophically, trying to develop an attitude of mind which refuses to be "rattled."