

HOW TO SEND AND RECEIVE INTERNATIONAL MORSE CODE

"Get the Message Through"

Drums throbbing in the jungle . . . the flash and boom of cannon at sea . . . puffs of smoke rising from a mountain top . . . bonfires blazing in the night . . . Paul Revere's signal lanterns in the Old North Church tower . . . these are just a few of the means that men throughout history have used to "get the message through" in peace and war.

Of all the ingenious methods of communication that have ever been devised, the International Morse Code is the simplest and surest. If you know the Morse Code, you can tap out secret messages with your finger to a friend in the same room, qualify as a First Class Scout, and earn the Signaling Merit Badge.

Radio operators skilled at sending and receiving Morse Code are key members of most airliners and every steamship on the seven seas. The nation's railroads could not operate without a "nervous system"—a vast network of telegraph communication.

Morse Code is a Language

All in all, a knowledge of code is likely to be more useful to you than mastery of Latin, Greek, French or Spanish. For International Morse Code is a language, and the purpose of these records is to teach you to speak and understand it.

Code language is made up of long and short sounds. The long sounds are called *dahs*, and the short sounds are called *dits*. By putting these dits and dahs together in various ways, we form all 26 letters of the alphabet, and the numbers from one to zero. Even before you know all the 36 signals, you can start putting letters together to make words and messages.

These Records Use Tested Methods

During World War II, The Armed Forces worked out the best and fastest methods of teaching code that have ever been used anywhere. All the tricks they used to get a working knowledge of code into the heads of radio operators fast have been included in these records.

The best way to learn a new language is to hear it spoken frequently, and to speak it yourself. That is the way you will learn code language from these records—by listening to the signals, trying to understand what you hear, and imitating the sound of the correct characters on your own key.

Do not try to learn code by looking at any chart of dots and dashes, or dits and dahs. That is learning by sight. The best way to learn code is by listening to it—by hearing.

Learn through Listening

Before you start to practice code, play side No. 1 through just to get the feel of it. After the introduction you will hear a signal, then a short silence, then an instructor's voice will tell you what letter or number the signal stands for. During the silence between the signal and its correct identification, try to guess what it means.

Seven Easy-to-Learn Groups

On these records, the alphabet, numbers, punctuation and procedure signs (prosigns) have been broken down into seven easy-to-learn groups. When you know the seven letters in group 1 perfectly, learn to send them by imitating the signal you hear on the record. With these seven characters you can send and receive simple messages. When you have learned the next group, play the records over from the beginning for review.

Lesson Groups

Group 1 (Record 1—Side 1)

E T A O I N S

Here are some words using the letters in group 1:
IS NO IT TO SET SIT TENT TONE NONE TOE
SEA NEAT TEN ONE SENT SEAT STONE TIN
SON INTO STAIN TEA ANT TOAST SEASON
EASE NET. SET TEA AND TOAST ON A STONE
SEAT.

Group 2 (Record 1—Side 2—Part 1)

H R D L U C 5

From groups 1 and 2, you can make words like these: HEAT TREAT TOLD TALE SHOULD CAN
SHOUT LEAN TREAD TOUCH CAT RAT SAT HAT
HAD HARD CARD CORNER UNCLE SCOUTS
RUNNER COOL LATE LOON LOOSEN LISTEN
OLD TOLD SNORE CORE HILL HALE HOLE NUT
CUT CUR ROAST ROLLED NOR CAST USE
NOOSE. SHOUT THE SCOUT TALE UNCLE AND
LET NO ONE SNORE.

Group 3 (Record 1—Side 2—Part 2)

M P F W V O

When you can receive this group, you'll know 18 letters of the alphabet and 2 numbers. Now you can send almost any message. Here are a few of the words you can make: MEAT PEAT FEET MAT PAT FAT
WHEAT WHERE EVER WHEN MEN MUCH
FLOAT MULCH VICTOR MUD FURL WHIRL
CRUM CRUMPETS PUNISH FUN PUN WORD
PUMPER TELEPHONE MORSE WOOD WORD
PONEY VILLAIN WHAT WILL FILL FIND MINE
PINE CLEW CLIP CLEAVE LEAVE HEAVE. And don't forget to use the numbers. SOME VILLAIN HAS LEFT THE MEAT HOME.

Group 4 (Record 2—Side 1—Part 1)

Y B G J Q 4

Now all you have to do is leave out words using the letters K, X, and Z which are in the next group. NOW YOU SEE HOW EASY THE CODE IS TO LEARN.

Group 5 (Record 2—Side 1—Part 2)

K X Z 1 2 . ,

Group 6 (Record 2—Side 2—Part 1)

3 6 7 AR CQ

Group 7 (Record 2—Side 2—Part 2)

8 9 AS R IMI K

The characters tied together with a bar, as well as R and K, are called prosigns. See PROCEDURE SIGNS AND SYMBOLS.

How to Begin

Before you begin code practice, get a ruled tablet and several sharp pencils. Make yourself comfortable at a table or desk near the record player, and start the first record on side No. 1. When you hear the code signal, print the letter or number you think the sound stands for on the top line of the paper. Then, when you hear the voice give the correct meaning, print it directly *under* your guess, on the second line, if your guess was wrong.

First you hear the code signal. You decide it means a certain letter. You print that letter on the *top* line. Then you hear the voice give the correct letter. If you were wrong, put the correct letter on the second line, beneath your guess. If your guess was right in the first place, leave the space underneath it blank.

Once in a while a signal will catch you flatfooted.

YOUR GUESS	9989	OYCBY
YOU GUESSED WRONG	9	O C V
SKIP A LINE	MUV44	RG O
		G O P

You won't have any idea what it stands for. When that happens, leave the top line blank. Then, when the voice identifies the signal correctly, write it on the *second* line.

When the two top lines are filled up, skip a line and continue in the same way on the fourth line of the paper.

Keep your Score

After each record is completed, count the number of letters you had to print on the bottom lines, either because you guessed wrong or didn't put anything down at all. This total will be your score for the "run." As you get better at picking the correct signal, your score will go down, as in golf or the card game of rummy. If you want to save these practice sheets, you can get a bird's-eye view of your overall progress at learning code by comparing early scores with your latest ones.

Print It Right

The diagram below shows the best and fastest way to print letters and numbers. Develop a knack for this kind of printing, because as you get better and better at copying code, the signals will be coming at you faster and faster.

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y
Z				

1	2	3	4	5
6	7	8	9	0

You Can't Help Learning

Everybody knows how the words and tune of a hit song stick in the memory when it is played constantly on a nearby radio or juke box. The same kind of "learning through listening" applies to code. If you play these records often enough, even while you are busy working at something else in the same room, the signals and their correct meanings will eventually sink in, and become a part of you without any effort to remember them.

Learning to Send Code

Like learning to play baseball or football, learning to send code requires timing, co-ordination, and plenty of practice. As soon as you are familiar with the sound of the characters, you can start sending practice.

To do this, you will need a practice key and buzzer. These record sets are sold in combination with practice keys by your Boy Scout supply store.

Find a Buddy

You will make faster progress in learning to send code if you can find a buddy to practice with. After you have learned the first few groups by heart, stretch a wire from your key to his buzzer, and another wire from his key to your buzzer. Then you can begin to send simple messages back and forth. He will get practice copying code when you are sending, and vice versa.

Pointers for Sending Practice

The best way to learn to send is to imitate a good signal. Model your own sending after the properly formed characters you hear on these records. Listen

to the signal, then try to imitate it on your key during the following silence.

Take a position at the key that is natural and comfortable for you, modeling yourself after one of these photographs.

All the positions shown illustrate good ways to operate the key. The operator in Figure 1 prefers to send with his index finger on top of the button, using the thumb and third finger as guides at the side. Compare Figure 2, where the index finger slightly overlaps the edge of the key button. In Figure 3, the operator touches the top of the key button with the tips of the first two fingers. The thumb and fourth fingers are at the sides of the button to guide and control it.

Beginning Practice

Begin your practice by sending a series of dits to develop timing and get the feel of the key. Try hard to space the dits equally. In practice, it is important that you copy from the model furnished by the records. Send as smoothly as you can, and increase speed as you feel your muscles limbering up. The dits will be rough and tend to "stutter" if you try to send too fast. When you hit a smooth, steady swing, try a series of I, S, and H.

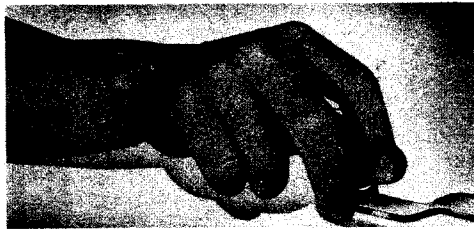


FIGURE 1

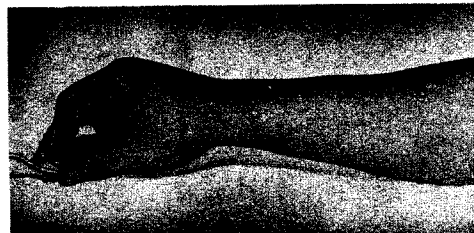


FIGURE 2

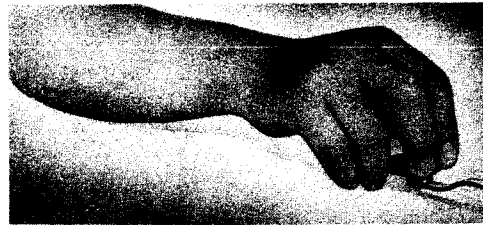


FIGURE 3

When you have mastered sending dits, try a string of dahs, again imitating the long sounds you hear on the records. Work on regular spacing, and remember that the space *between* dahs should be no longer than the space between dits. When you are satisfied that your dahs are properly spaced, start imitating the signals in Group 1. In the silence between signal and voice repeat the record signal on your key.

Procedure Signs and Symbols

The traffic in every radio and telegraph net is regulated by certain "traffic rules." These are the procedure signs, called "prosigns" for short, used to call other operators into the net, to identify the sending station, to ask for repeats of messages not clearly received, etc. The few procedure signs you need to know in order to work with a buddy in learning code are given below:

Prosign	Meaning
$\overline{\text{CQ}}$	"Are you listening? I want to send a message."
K	"Go ahead—I am ready to receive your message."
$\overline{\text{AS}}$	"Wait—I will be ready to finish in a moment."
$\overline{\text{IMI}}$	"Repeat."
R	"Message received completely."
$\overline{\text{AR}}$	"Signing off—no more traffic."

Notice that prosigns consisting of more than one letter are not spaced, but are run together in one sound. This is the reason for the horizontal line above the printed sign.

Note to Scoutmasters

The following hints are intended to help you use these records when planning a Boy Scout program that features signaling activities.

Troop Meeting

Scoutcraft: Open your first meeting by explaining the Code-Voice Method as described in this album. Play Record 1—Side 1, then repeat the signal part of Side 1 until everyone knows the characters. The Scouts should follow instructions given under HOW TO BEGIN. When everyone knows the characters E T A O I N S, send words made up from these letters.

Proceed group by group in this way. Review the previous groups learned before going on to the next.

Patrol Corner: Review the characters you have learned by practicing with a key, or whistle.

Games: Make a game of learning. Using code in your games will make everyone want to learn. There are a lot of games built around Code. You'll find them in the Handbook for Scoutmasters, Handbook for Boys, Boys' Life, and Scouting.

Weekly Patrol Meetings: Every Scout ought to have his own key, and every Patrol should have at least one key as well as an album. Review the groups learned at Troop meetings, then practice sending. Follow the instructions given under LEARNING TO SEND CODE.

RAYBRUN CODE-VOICE METHOD

Reg. U. S. Pat. Office

National Supply Service Division

Boy Scouts of America

2 Park Avenue

New York 16, N. Y.