THE RIDER SOUND-n-SIGHT® CODE COURSE

by Lewis Robins and Reed Harris

A new tested method of learning code — the "REINFORCED LEARNING" system, that enables anyone to learn radio code faster and easier than ever before possible.

INSTRUCTION BOOK

The Rider *Sound-n-Sight Code Course* is available in three different groups—Novice, Advanced, and Complete. The contents of each are as follows:

Novice Course (REC-08): covers 0-8 words per minute, record sides 1-6; instruction book; set of 47 flash cards.

Advanced Course (REC-920): covers 9-20 words per minute, record sides 7-12; instruction book (use only those portions that apply to code speeds of 9 words per minute or more).

Complete Course (REC-020): covers 0-20 words per minute, record sides 1-12; instruction book; set of 47 flash cards.

The Rider *Sound-n-Sight Code Course* is designed, basically, to provide instruction up to 20 words per minute. The recordings are to be played at 33⅓ rpm. If, however, it is so desired, code speeds greater than 20 words per minute may be obtained by playing record Sides 10, 11, and 12 at 45 rpm. The following table indicates the approximate code speed obtained.

	33⅓ rpm code speed	*45 rpm code speed*
Record Side 10	15 wpm	20.25 wpm
Record Side 10	16 wpm	21.6 wpm
Record Side 11	17 wpm	22.95 wpm
Record Side 11	18 wpm	24.3 wpm
Record Side 12	19 wpm	25.65 wpm
Record Side 12	20 wpm	27 wpm

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Dedicated to Professor Fred S. Keller, Lt. Thomas G. Clinton, USN, and all the officers and men of the United States Navy who helped make this course possible.

PREFACE

Here is a way to learn the International Morse Code which you can really enjoy. In test after test, we have discovered that a relaxed student can use this pleasant new system to make himself (or herself) a good radio operator in a matter of hours.

The secret is the use of new psychological principles, which make up what we call the "Reinforced Learning" system. Instead of laboring for long hours at a repetitious series of dull printed drills to learn just a few characters each day, Reinforced Learning lets your mind learn the way it really wants to—quickly and easily.

This course is based upon the results of psychological experiments conducted in the laboratories of Columbia University. Using the improved learning methods which developed as a result of these experiments, we have built this new and different Morse code course.

Extensive tests, many made in the Armed Forces, have produced such exceptional results that even we have been surprised. In Navy tests at Norfolk, Va., men who had never copied code before and who served in such jobs as cook, welder, carpenter, mechanic, and hospital orderly had no trouble mastering the Morse code in less than eight hours.

We acknowledge with warm thanks the debt we owe to Professor Fred S. Keller of the Department of Psychology, Columbia University, who over a period of years developed the underlying principles which provide the foundation on which this new training method is built.

The authors have studied psychology at Columbia University, and served as "human guinea pigs" in advanced psychological testing. Both have taken part in specialized training in the armed forces and in business. The material used here is therefore based on sound theory, practical testing, and known operating requirements.

We wish you success in taking the course.

Lewis Robins
Reed Harris

April 1959

1. learning to receive

Introduction to Reinforced Learning

In 1957, the authors were asked to find out why military students in communications schools were having difficulty learning to receive Morse code. Intensive study and experimentation revealed that those students who had difficulty mastering the code really had trouble "hearing" the correct sound patterns for each signal. Thus, when DIT DAH was sent the poor student heard this signal as DIT DIT. It was obvious that if the student "heard" the sound incorrectly it was impossible for him to receive the code with accuracy. The ability to hear the sounds correctly is called *audio perception.*

After the discovery of the audio-perception factor in Morse code learning, an experiment was tried to determine whether students who were having difficulty could easily learn to copy code once they heard the sound patterns for each signal correctly. The results of the experiment supported the authors' belief that they could.

It was concluded that mastery of the code would be faster for all students if they first learned to hear the sounds correctly. A new course of instruction was prepared for use in the military services based on this principle.

The new method was tested with several hundred students. Results showed that students learned more easily and in far less time using the new system than had been possible under older standard methods.

Your Rider *Sound-n-Sight Code Course* takes advantage of this new concept in Morse code learning. Sides 1 and 2 of your recordings have been designed to teach you to hear the sounds correctly.

After learning the sounds, the second phase of code learning is identification of each letter, number, and punctuation mark. Thus, you must learn that *dit dah is* "A" and *dit dit* is "I," etc. Most code courses

require the student to memorize these characters. Reinforced Learning has been called "learning without memorizing." Your Rider code course will not require you to study lists of signals for hours and hours. Instead, it makes use of certain psychological principles discovered by Professors Fred S. Keller at Columbia and B. F. Skinner at Harvard. A set of 47 flash cards are provided which, when used in tests with several hundred students, demonstrated that within three to five hours all students could identify correctly all the letters, numbers, and puctuation marks.

After learning to hear the sounds correctly, using Sides 1 and 2 of your recordings, and learning to identify all the letters, numbers, and punctuation marks, using your flash cards, the next step is to put the two skills together so that when a signal is sent, you can respond by writing or typing the correct character. On record Side 3, the Rider *Sound-n-Sight Code Course* combines the two skills. In the many tests of this new method, students have demonstrated that having mastered the sounds and the identification of the characters, they can easily put the two skills together and copy code at 3 words per minute (wpm) with 95% accuracy.

The average length of time in which to achieve a speed of 3 wpm using the Rider *Sound-n-Sight Code Course* is less than eight hours of instruction.

The Morse Code Plateau

At some time you may have heard your "ham" friends refer to a Morse code learning plateau, or the times when the student doesn't seem to be making any progress. Professor Keller has called this plateau a "phantom" which disappears if correct training practices are used to teach the student to copy at high speeds.

Your Rider *Sound-n-Sight Code Course* provides several minutes of practice material for each advance speed, beginning at 3 words per minute and with very specific instructions on how to make the best use of this practice material. Unbelievable as it may seem to those who have learned to copy code using other methods, demonstrations of your Rider *Sound-n-Sight Code Course,* for advanced-code learning, proved that students increase in speed on the average of 1 word per minute per day, while practicing for only one hour each day.

Using this course, you will be able to complete the requirements for Novice class license in about 13 hours of instruction, for General class license in about 20 hours, and for Amateur Extra class license in about 40 hours.

REQUIREMENTS FOR AMATEUR OPERATOR LICENSES

Class	*Requirements*
Novice	5 words per minute
General	13 words per minute
Amateur Extra	20 words per minute

The most important thing to bear in mind is that these results can be achieved only if the instructions are followed exactly. The slightest change, however insignificant it may seem, may just be enough to upset the psychological structure upon which this course is carefully based. Therefore, DON'T RUSH. As you discover how easy it is to learn, you may be tempted to advance faster than the recommended schedule. The Reinforced Learning method assumes that your mind continues to learn even when you are not actually practicing. By pushing too hard, you will only prevent what you have already learned from "sinking in."

You are now ready to begin your Morse code learning. Lesson 1 will begin below.

Good Luck!

Lesson 1

Learning the Sounds of the Letters

Sides 1 and 2 of your recordings are for use in learning to hear correctly the sounds of the various signals. Detailed instructions will be found at the beginning of Side 1. However, before beginning, you may want to read these simple instructions.

Briefly, we have recorded three groups of 52 signals on Sides 1 and 2. Each group contains all 26 letters of the alphabet, used twice in random order. After each signal is sent, there will be a three-second pause during which you will be instructed to write down the sound pattern you heard. Thus, if you heard a *dit,* draw a dot (·) on your paper and if you heard a *dah,* draw a dash (—).

The three-second pause will be followed by an announcement of the correct sound pattern. If your written answer agrees with the instructor's announcement (the voice on your record), do nothing but wait for the next signal. However, if your answer disagrees with the instructor's announcement, draw a circle around your incorrect response. At the end of the run, you will be told to count your circled responses and to record your score on the Progress Chart.

The Progress Chart

At the end of this book you will find your personal Progress Chart. The Reinforced Learning system has shown that a student should never "just" practice without knowing whether he's making any improvement. Therefore, we have made provision after each training run for your score to be recorded on a Progress Chart, so that you can measure your improvement for every minute spent in training. Instructions for filling out the Chart are given, and before listening to Side 1 of your recording it would be advisable to become familiar with them.

Passing Scores

From the experience with several hundred students, we have established certain "passing scores" which *must* be attained before a student advances to the next lesson. The passing score for each run of 52 characters is three or less errors. It is most important that you not advance to Lesson 2 before achieving a passing score. Thus, if you make four or more errors on the first group, go on to the second group of 52 letters. If you make four or more errors on the second group, go on to the third group (on the first half of Side 2). If you make four or more errors on the third group, start over with the first group.

How many hours a day should I practice? Several extensive experiments conducted during World War II for the Armed Forces disclosed that two hours of daily practice in Morse code will achieve the same results as seven or eight hours. We therefore suggest that you practice not more than two hours per day. As a matter of fact, one hour of daily practice is sufficient to achieve quick results.

What if I fail to achieve a passing score my first day of training? Don't be discouraged if you fail to achieve a "passing score" on Lesson 1 during your first day of training. This is a common occurrence. If you fail to achieve a passing score at the end of two hours of practice, it is better to wait a day before continuing. As has been already pointed out, the Reinforced Learning system assumes that learning goes on when you are not actually practicing. In case after case, we find that a student who had difficulty achieving a passing score on the first day of training will pass on the first run he takes a day later.

Instructions for Lesson 1

You are now ready to begin Lesson 1. Here's all you do.

1. Place Side 1 of your recordings on the turntable.

2. Have pencil and paper handy.
3. Have your Progress Chart handy.

Turn on your phonograph, sit back and relax, and you will hear the instructions for learning the sounds.

Lesson 2

Learning the Sounds of Numbers and Punctuation Marks

On the last half of Side 2 of your recordings, a run of numbers and punctuation marks was recorded for your use in learning their correct sounds.

Follow the same procedure as in Lesson 1. The run contains 42 signals. Passing score is a run with three or less errors.

Be sure to record your score on the Progress Chart at the end of each run of Lesson 2 (last half of Side 2).

Lesson 3

Learning to Identify the Letters

Take out the set of flash cards[1] that has been included in your Rider *Sound-n-Sight Code Course*. Separate the letter cards from the numeral and punctuation cards. During Lesson 3 you will learn to identify the letters. Punctuation marks and numbers will be learned in Lesson 4.

NOW, TURN SOME OF THE CARDS OVER.

Notice that there is a printed signal at the bottom of each of the cards and on the reverse side a word that identifies the correct letter for the signal. Now return the cards to the deck.

Using the cards is going to be a kind of game. Experience has shown that, following the instructions exactly, within three to five hours you will have learned to identify all the signals correctly.

It is most important that you follow the instructions exactly.

Here's all you do. First, make certain that the deck of flash cards has the signals facing upwards. Then, shuffle the flash cards. Remember to include only the letters. Now, look at the printed signal at the bottom of the first card. Guess what letter it might be. *Make any guess*

[1] The words used on the reverse side of the card to indicate the correct letter are the internationally accepted phonetic equivalent of the letters and are used by communications personnel throughout the world. The use of phonetic equivalents leaves no doubt as to the identification of a particular letter.

and don't worry if you make an error.

After making your guess, *look at the back of the card* to see if you were correct. If you were right, place your card in one pile; if you were incorrect, place it in another. Then, go on to the next card and guess again. Follow this procedure until you have completed a run through all the cards.

Remember to put all those you guess correctly in one pile and those you guess wrong in another. When you have completed the run of 26 cards, count the cards you were unable to identify correctly and record your number of errors in the proper place on your Progress Chart.

On this first run you may make as many as twenty-six errors. *That is nothing to worry about.* Chances are, on the second run you may make only twenty-four errors, and you will improve each time. This game has been so designed that it takes three to five hours to learn all the signals.

Be sure to take a one-minute break after every second run.

Passing Score

Passing score is three consecutive runs with *zero* errors. It is important that you achieve a passing score before you advance.

Remember to shuffle the cards after each run. *Don't* try to *memorize* the signals. Just take a guess, flip the card to see if you were correct, and then go on to the next one.

Lesson 4

Learning to Identify Numbers and Punctuation Marks

Using the "Number and Punctuation Mark" flash cards, follow the same procedures as in Lesson 3. Passing score on Lesson 4 is three consecutive runs with *zero* errors.

Be sure to record your number of errors at the end of each run on your Progress Chart.

Lesson 5

Identifying the Sounds

Place Side 3 on your phonograph.

You may remember that in Lesson 1, after hearing each signal, you wrote down the sound, and three seconds after the signal was sent,

At the end of the run, be sure to record your number of errors on the Progress Chart.

Passing Scores

Passing score on Lesson 5 is a run with three or less errors. Do not advance to Lesson 6 until you have achieved a passing score.

Warning: If you make more than fifteen errors, it would be best to return to Lessons 1 and 2, if most of your errors are caused by mistaking the sounds. If most of your errors are caused by mistaking the identification, return to Lessons 3 and 4. If you have any difficulty with Lesson 5, a little extra practice in the early lessons will quickly cure your trouble.

Lesson 6

Copying Code at 3 Words Per Minute

The second half of the third side of your recordings contains a run of 100 signals at a speed of 3 words per minute. All the letters, numbers, and punctuation marks are included.

During Lesson 6, there will be no announcement of the correct character after each signal is sent. Instead, determine your number of errors at the end of the run by comparing your answers with the correct answers printed in the Answer Chart. Count your number of errors and record your score on the Progress Chart. Passing score is two consecutive runs with four or less errors. Don't worry if you make errors or miss a character. Just go on to the next one.

Lesson 7

Advanced Training for Speed and Accuracy

When you are able to copy code with 95% accuracy at a speed of three words per minute, you will have mastered the most difficult part of Morse code learning. Advanced training involves nothing more than learning to copy at higher speeds. The only difference between copying a 12-word-per-minute run and a run at only 3 words per minute is that at the faster speed you have less time in which to write down your response. For instance, at 3 words per minute a signal is sent once approximately every four seconds. Thus you must respond within four seconds or miss the character. At 12 words per minute the signals are sent once approximately every second. Thus when copying 12 words

per minute you will have only one second in which to write down your response.

We mentioned previously that what were once thought to be inevitable plateaus or long periods of no progress in advanced Morse code training were revealed to be "phantoms" and unnecessary. Your Rider *Sound-n-Sight Code Course* uses tested procedures for advanced training, designed to avoid those plateaus. Using these procedures at a military service code school, the authors found that students advanced at the rate of 1 word per minute per day without ever hitting a plateau.

You, too, will be able to copy at high speeds in a matter of days, if you will follow our "Four Rules of Daily Procedure" exactly as directed. We cannot stress too strongly the importance of *not* attempting to alter these procedures. You can be sure that the slightest change will result in your hitting the familiar and frustrating code plateau somewhere along the way. Slow and easy wins this race.

The Four Basic Rules for Daily Procedure

1. *Copy test runs . . . never "just" practice.* To make best use of your practice time, you must know how well you are copying. If you "just" practice and never correct your work, there is no way of knowing how many errors you are making or if you are having difficulty with any particular characters.

Therefore, each of your learning records contains a series of runs . . . the slow speeds and medium speeds (from 4 up to and including 12 wpm) are 100 characters long. The high speeds (13 to 20 wpm) are 200 characters long.

Instead of just practicing, follow these simple steps, which provide a way of easily measuring just how well you are doing at every moment of practice.

a. Copy a run.
b. Correct your work from the Answer Chart given in this book.
c. Record your score on the Progress Chart.

2. *Increase speed—Only 1 word per minute.* Several lengthy code experiments have proved that it is easier to grasp an increase of 1 word per minute than a 2-wpm increase. It is easier to grasp a 2-wpm increase than 3-wpm increase, etc. So . . . do not jump speeds. When you have passed a speed, go to the next recorded speed which is 1 wpm faster. For example, when you achieve passing score at a 4-wpm speed, advance to 5 wpm.

3. *Maximum daily increase in speed—1 word per minute per day.* When you discover how easy it is to copy 4 wpm after passing 3 wpm, your enthusiasm will suggest jumping immediately to 5 wpm. *Restrain the impulse.* Remember, slow and easy wins this race. If you increase at the rate of 1 wpm per day, at the end of a work week you will have increased your speed 5 wpm. Requirements at most code schools call for a weekly increase of only 2 wpm.

Don't push too hard. If on one day you move ahead more than 1 wpm, sooner or later you will hit the familiar code plateau and spend many days without making any progress. Therefore, follow this simple rule and do not increase your speed more than 1 wpm per day.

4. *Passing scores before advancing to the next speed.* Any time you achieve *95% accuracy* (five or less errors per 100 characters) on two consecutive runs, increase your speed 1 wpm. But, follow the rule—never increase your speed more than once during any one day.

If you are less than 80% accurate on the second run at the new speed, go back to the next lower speed which you previously passed with 95% accuracy. Copy several additional runs at the lower speed. *Never copy a speed in which you are less than 80% accurate.*

Recommended Daily Schedule

You don't need more than an hour of practice each day to achieve good results. An hour of concentrated practice will accomplish the same result as seven or eight hours of ordinary practice. Just follow these simple rules.

1. Copy two or three runs at the speed you passed with 95% accuracy the previous day.
2. If you are 95% accurate on these first runs, increase your speed 1 word per minute and copy an additional eight runs at the new speed.
3. If you are less than 80% accurate at the new speed—STOP. Return to the next lower speed. Copy several more runs at this lower speed. *Never* copy a speed at which you are less than 80% accurate.

Remember, slow and easy wins this race. Do not increase your speed until you are 95% accurate on a series of runs. Be sure to record each score on the Progress Chart.

Learning to Copy Code to the Typewriter

As you advance in speed beyond 15 words per minute, you may find it hard to write the characters fast enough to keep up with the code. It is easy to copy code on the typewriter[2] if you follow these simple instructions.

You can begin to copy code on the typewriter at any speed. However, start by copying several runs on the typewriter at a speed *2 words per minute slower than the highest speed you are able to write with 95% accuracy, using pencil.*

If, for example, using a pencil, you can copy 8 wpm with 95% accuracy, begin copying code on the typewriter at 6 words per minute. If you are able to copy at 16 wpm using a pencil, begin copying code on the typewriter at a speed of 14 wpm.

Follow the same basic rules for picking up speed using the typewriter as you previously followed for increasing speed using a pencil. In short, always copy test runs, increase speed at 1 wpm per day only. Passing score at each speed is 95% accuracy on two consecutive runs.

[2] At most code schools, the introduction of typing causes a plateau. By following the above directions, you will avoid this period of no progress.

2. learning to send

Introduction

It is most important that you learn to send code with crisp clarity. No one likes to copy a sloppy sender whose *dits* and *dahs* are slurred or clipped. The clearer the signal you are able to send, the easier it will be for others to copy your message.

Your Rider *Sound-n-Sight Code Course* has been designed to teach you to send with a professional "fist," using the specially prepared recordings. But first, become familiar with the operation of your hand key as explained below and then proceed to Lesson 1.

The Hand Key*

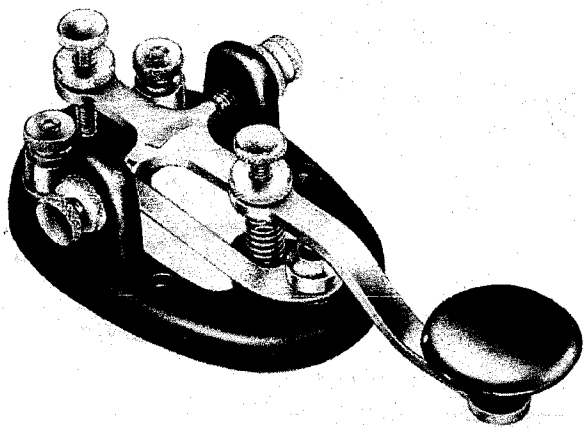
Figure 1 shows a typical hand key. Figure 2 shows the various parts of a typical hand key. The key must be properly adjusted and the contacts properly spaced before it can be used.

The *spring tension screw* (Figure 2) controls the amount of pressure exerted upward by the key against the operator's hand. The amount of tension is an individual preference. However, too much will tend to force the key button up before the *dahs* are completely formed (making them too short), spacing will be irregular and there will be a tendency to skip *dits*. If the spring tension is too weak, the characters will tend to run together and the spaces between characters will tend to be too short.

The *space adjusting screw* should be set to allow a postcard-wide gap between the contacts when the key button is released. The exact gap width varies in accordance with the spring tension selected, so the

*Julius Berens, *Getting Started In Amateur Radio* (New York: John F. Rider Publisher, 1958).

Fig. 1 Typical hand code key. *E. F. Johnson Co.*



two adjustments are usually made concurrently. Contacts that are too close together have an effect on transmission similar to that of weak spring tension; contacts that are spaced too far apart have the same effect as too much spring tension.

The two *trunnion screws* (Figure 2) control alignment of the contact points. If they are too tight, the key lever will bind; if they are too loose, the contacts will have a sidewise play. Both screws should be

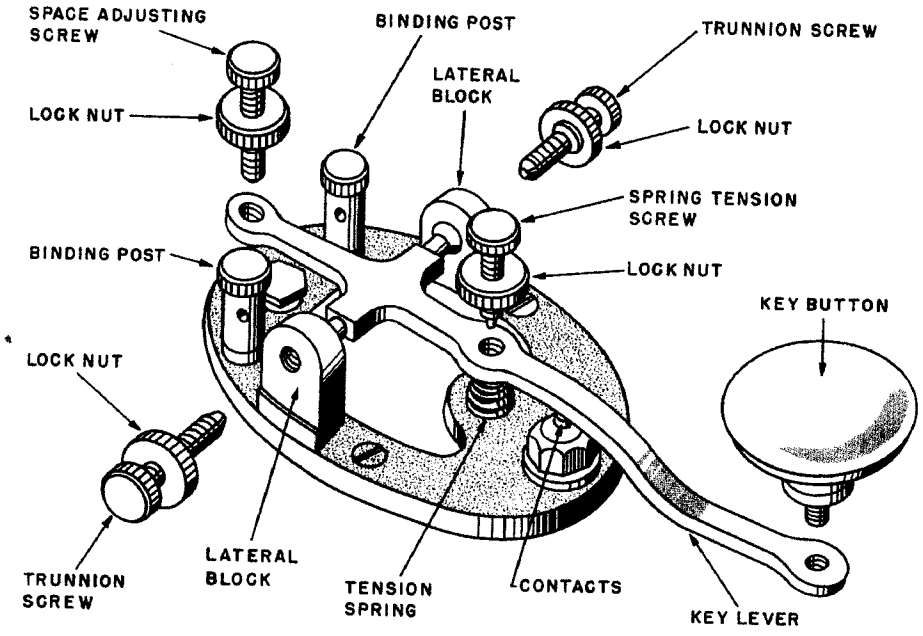


Fig. 2 Details of a typical code key.

set to the same depth. Once they are aligned correctly, no further adjustment is normally required.

At all times make sure the contacts are clean and free from dirt; dirty contact points result in a scratchy signal.

Position of Hand on Hand Key*

The hand position on the hand key is extremely important. Incorrect hand positions will result in a rapid tiring of arm and wrist muscles, and a code transmission that lacks rhythm and is rough and inaccurate. The following pointers should be followed for correct hand position on a hand key.

1. Lay your arm along the table in a natural position so that your fingers reach the key button without straining.

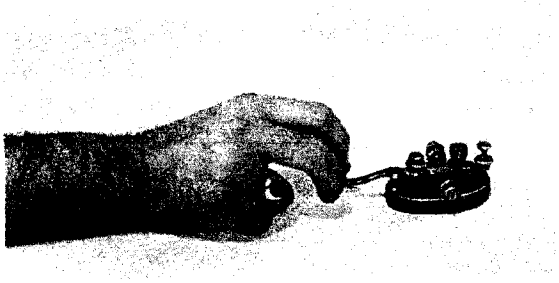


Fig. 3 A good code key hand position.

2. The tip of your index finger, or the tips of your first two fingers, should touch or just overlap the far edge of the key button. (It is important that a code key be wired so that there is no possibility of any electrical shock when accidentally touching the metallic parts of the key.)

3. The thumb and third or fourth fingers should touch the right and left sides of the knob lightly, to guide your hand movements and prevent slapping the key.

4. Allow the large muscles of your arm to do most of the work when sending. Putting strain on the smaller muscles of the wrist or hand may result in temporary fatigue.

Figures 3 and 4 show two views of good hand position. Use these illustrations as a guide.

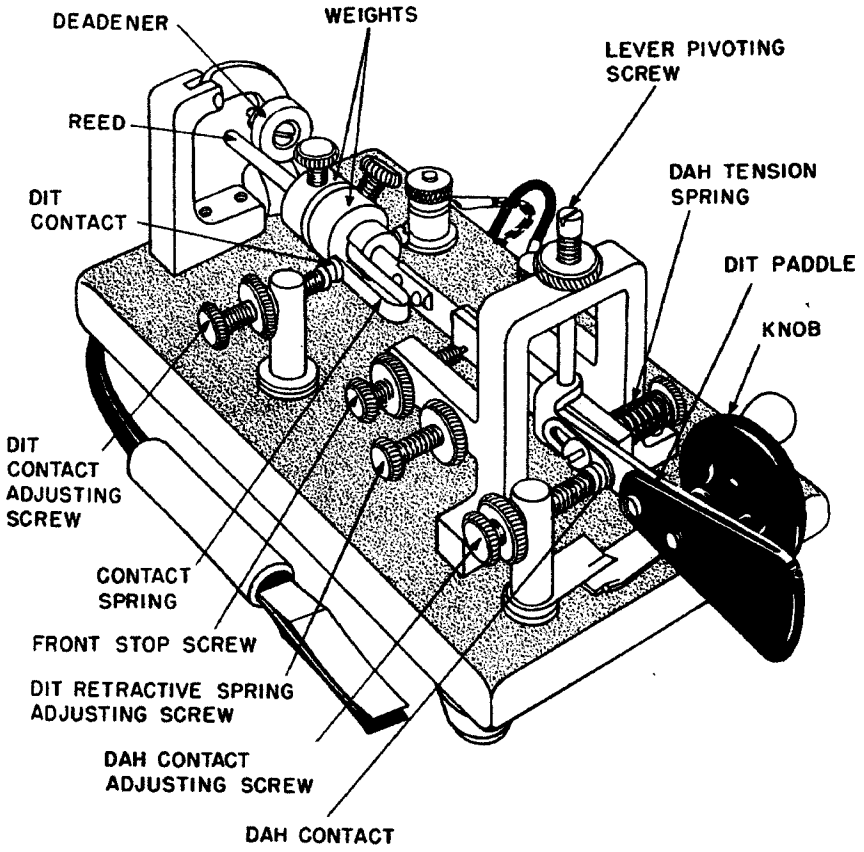


Fig. 5 Typical semi-automatic key (bug). *Vibroplex Co.*

operation, the code signals received have a cleaner, more distinctive tone. The electronic code practice set described below will produce a tone that is typical of the tones received over the air.

The electronic type code practice set is basically a grid-leak oscillator. Pressing the key applies plate voltage to the oscillator tube, starting oscillations through the audio transformer. Figure 6 shows the schematic diagram of this set and Fig. 7 shows the unit after assembly. Note that power is supplied by two batteries; the on-off switch connects the filament battery into the circuit. A 10,000-ohm potentiometer may be inserted in series with the B-plus lead of the 67.5-volt battery. It will vary the loudness of the signal. The table gives all the parts required.

The 1G4 tube, while highly applicable to this code unit, may not be readily available in all areas. If this tube cannot be located, the popular 1U4 makes a splendid substitute. The 1U4 is a pentode, how-

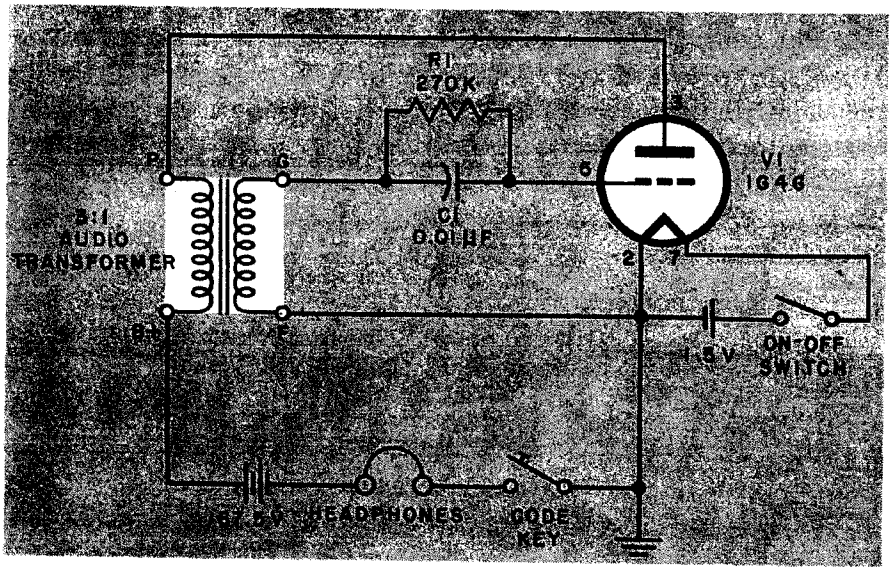


Fig. 6 Schematic diagram of an electronic code practice set.

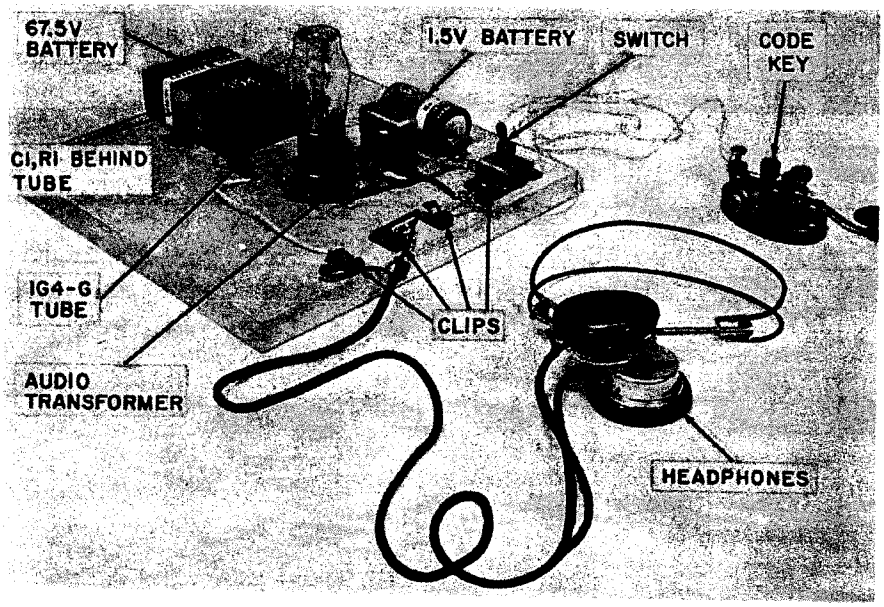


Fig. 7 An electronic code practice set.

ever, and the plate and screen, pins 2 and 3, are tied together so that the tube acts as a triode. The schematic arrangement is shown in Fig. 8.

If the circuit fails to oscillate, check all connections and battery polarities. If these check out, try reversing the primary connections on the feedback transformer.

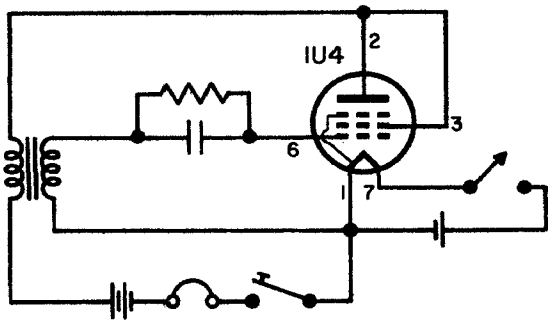


Fig. 8 Using a triode-connected 1U4 in the code oscillator.

Aside from the code oscillator shown, there are a large variety of code oscillators available on the commercial market. Some types are very much like the oscillator just discussed, being designed for listening with a set of headphones. In some instances, this is not adequate. For instance, where code is being taught to a group, it often practical to have a loudspeaker emit the code signals. In addition, there are several code practice units on the market that have provisions for both loudspeaker and headphone operation. Thus, the user should select the type that best fits his needs for learning the code.

Quantity	*Part*
1	Breadboard, approximately ½ x 12 x 12 inches
1	Audio transformer, 3 : 1 (inexpensive)
1	Tube, 1G4-G
1	Tube socket, octal, for wood mounting
1	Resistor, 270K, ½ watt
1	Capacitor, paper, 0.1 μf, 150 volts
1	Battery, 67.5 volts
1	Battery, 1.5 volts
1	Switch, spsts, with wood mounting bracket
1	Code key
1	Headphones, high impedance

COMMON OPERATING ABBREVIATIONS*

AA	All after	NW	Now
AB	All before	OP-OPR	Operator
ABT	About	OT	Old timer
BCL	Broadcast listener	PSE	Please
BK	Break	R	O.K. (all right); received
BN	Between, been		
C	Correct, yes	RCD	Received
CFM	Confirm	RI	Radio inspector
CK	Check	SED	Said
CL	Closing station	SEZ	Says
CQ	Calling any station	SIG	Signature
		SIGS	Signals
CUD	Could	SINE	Sign
CUL	See you later	SKED	Schedule
DE	From, send by	TMW	Tomorrow
DLD-DLVD	Delivered	TNX	Thanks
DX	Distant	TXT	Text
FB	Fine Business, very good	UR(S)	Your(s)
		VY	Very
G	Repeat	W-WD	Word
GA	Go ahead	WA	Word after
GB	Goodbye	WB	Word before
GBA	Give better address	WKD	Worked
		WKG	Working
GE	Good evening	WL	Will
GG	Going	WAT	What
GM	Good morning	WUD	Would
GN	Good night, gone	WX	Weather
HI	Laughter	XMTR	Transmitter
HR	Here, hear	XYL	Wife (or married woman)
HV	Have		
HW	How	YL	Young lady (or women in general)
LID	Poor operator		
MN	Minute		
N	No, not received	73	Best regards
NIL	Nothing	88	Love and kisses
NR	Number, near		

Instructions for Learning to Hand-Send

Place Side 6 of the recordings on your turntable. The second half of Side 6 contains the runs for learning to hand send.

Lesson 1

You are going to hear a series of ten dashes. After each dash is sent, there will be a two-second pause. During the pause, send a *dah* on your hand key. If your *dah* sounds almost exactly like the *dah* you heard, do nothing, just wait for the next signal. If your *dah* did not sound like the recorded sound, that is, if it sounded clipped or too long, call it an error. Keep track of your errors on the fingers of your non-sending hand.

At the end of the run of 10 *dahs* record your number of errors on the Progress Chart. Take a two-minute break and then repeat the run of *dahs* until you can imitate the recorded sounds with less than two errors. Do not begin practicing Lesson 2 until you have achieved a passing score.

Lesson 2

You are going to hear a series of ten *dits*. After each *dit* is sent, there will be a two-second pause. During the pause, send a *dit* on your hand key. If your *dit* does not sound like the recorded *dit*—if it is too short or too long—count it an error and keep track of your errors on the fingers of your non-sending hand.

At the end of the run of 10 *dits*, record your number of errors on the Progress Chart. Take a two-minute break and repeat the run of *dits* until you can imitate the recorded sounds with no errors.
Do not begin Lesson 3 until you have achieved a passing score.

Lesson 3

This is a run of 20 signals. Follow the same procedure as in Lessons 1 and 2. At the end of the run, record your number of errors on the Progress Chart. Passing score is a run with two or less errors. Do not go to Lesson 4 until you have achieved a passing score.

Lesson 4

This is a run of 40 signals. Follow the same procedures as in Lesson 3. At the end of the run, record your number of errors on the Progress Chart. Passing score is a run with three or less errors. Do not go to Lesson 5 until you have achieved a passing score.

Lesson 5

This is a run of 26 signals, and includes each letter in the alphabet in random order. Follow the same procedures. Passing score is a run with two or less errors. At the end of the run, record your score on the Progress Chart. Do not go to Lesson 6 until you have achieved a passing score.

Lesson 6

This is a run of 21 characters, and includes all the numbers and punctuation marks in random order. Passing score is two or less errors. Be sure to record your score on the Progress Chart and do not advance to Lesson 7 until you have achieved a passing score.

Lesson 7

Now that you have learned to send each character accurately, you will want to be able to send at high speeds.

Once again, it is most important not to go too fast. Just follow our instructions and within a matter of days you will be able to send at high speeds.

Put record Side 4 on your turntable. The first section of Side 4 is at 4 words per minute.

Follow the same procedures as in Lessons 1–6. That is, after each signal is sent, send the same signal on your own hand key. Always try to imitate the recorded signals as closely as possible. Keep track of the number of signals which do not sound similar to the recorded signals.

At the end of the run, record your number of errors on the Progress Chart. Passing score is a run with five or less errors.

After achieving a passing score at 4 wpm, increase your speed to 5 wpm by using the 5-wpm speed and repeat the procedure. Each time you achieve a passing score increase the speed 1 wpm. We recommend that you do not increase your speed more than 2 wpm in any one day.

Practicing with Another Student

We strongly recommend the following procedures for effective practice between two students after they have learned to send and receive messages at 8 words per minute:

Never "just" practice. Select some text material which includes letters, numbers, and punctuation marks. Divide the text into runs of 100 characters and then follow this procedure.

1. One student sends a run of 100 characters at a speed of 4 words per minute. The second student receives the run. At the end of the run, the "receiver" compares his work with the text and counts his number of errors.
2. The students reverse positions and take another run.
3. Repeat procedures 1 and 2 until both students are able to receive each other's signals with less than four errors on a run of 100 characters. After a passing score is achieved, increase speed 2 words per minute.

APPENDIX I Progress Chart

The Progress Chart

At the end of each run, record your "number of errors" in the appropriate box on your Progress Chart. Be sure to record each score. In this way, you will have an accurate record of your daily progress.

Never advance to the next lesson until you have achieved a passing score on the previous one.

PART 1

Lesson 1—Learning the sounds of the letters — *Passing Score: 3 errors*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Run No.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Errors																									

Lesson 2—Learning the sounds of the numbers and punctuation marks

Passing Score: 3 errors

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 3—Identifying the letters

Passing Score: 3 consecutive runs with zero errors

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Run No.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Errors																									

Run No.	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Errors																									

Lesson 4—Identifying the numbers and punctuation marks

Passing Score: 3 consecutive runs with zero errors

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Run No.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Errors																									

Lesson 5—Identifying the sounds — *Passing Score: 3 errors*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

3 Words Per Minute (Lesson 6) — *Passing Score: 4 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

4 wpm (run A) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

5 wpm (runs A and B) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

6 wpm (runs A and B) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

7 wpm (runs A and B) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

8 wpm (runs A and B) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

9 wpm (runs A and B) — *Passing score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

10 wpm (runs A, B, and C) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

11 wpm (runs A, B, and C) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

12 wpm (runs A, B, and C) — *Passing Score: 5 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

13 wpm (runs A and B) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

14 wpm (runs A and B) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

15 wpm (runs A and B) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

16 wpm (runs A and B) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

17 wpm (runs A and B) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

18 wpm (runs A, B, and C) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

19 wpm (runs A, B, and C) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

20 wpm (runs A, B, and C) — *Passing Score: 10 errors (two consecutive runs)*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

PART 2

Lesson 1 — *Passing Score: 1 error*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 2 — *Passing Score: 1 error*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 3 — *Passing Score: 2 errors*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 4 — *Passing Score: 3 errors*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 5 — *Passing Score: 2 errors*

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 6 — ***Passing Score: 2 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

Lesson 7 — ***Passing Score: 5 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

4 wpm — ***Passing Score: 5 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

5 wpm — ***Passing Score: 5 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

6 wpm — ***Passing Score: 5 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

7 wpm — ***Passing Score: 5 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

8 wpm — ***Passing Score: 5 errors***

Run No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Errors																									

APPENDIX II Answers

Band 2 -- Lesson 6 (3 wpm) SIDE 3

SDWSZ ADNYE OUQFR VWOKA LIYIN KFTUC

ZVXLI VHGTR TQMBN PXKXE HOREA PBU93

04658 127J Error , . ? - ; : () " Wait End

Band 1 -- run Alpha at 4 wpm SIDE 4

BQMKE RWDYF KWOYA XJEGP CPZHY IPENN

QBSZA ZIOVR XIAFF JVJSL OHRLN SUTGX

07418 52963 CWTUL BUCGD MDMTK VHQU

() ? ; Error - : " . , Wait End

Band 2 -- run Alpha at 5 wpm SIDE 4

GBMMK QUWHK FLSOJ PXCLG DFPSA YZDEN

WQOCZ FNIWY RAEAY OJKXS UHVVN IZTGB

CTTLB IUXHD EJMRV RPLQO 96241 7538

? - " () ; Error : . , Wait End

Band 3 -- run Bravo at 5 wpm SIDE 4

FZMBW QYSHJ PLGMJ () . : , ? Error ; Wait - " End

CJCSG DWDSD AZEYN QUOVR FKOWI LANIY

13984 70265 TKFZC ULXVH VIRTG MQTPN

BXKXO HEAER UBP End

Band 1 -- run Alpha at 6 wpm SIDE 5

WQZUE WJDSK KPIYM GJJHP GFZDD IANNY

CBUAA RBOOY XLZFI XVFV[redacted] CERXL SVSGT

80369 14725 TWQRU NPCKQ MHOTE MHBF

Wait - . : , Error ; ? () " End

Band 2 -- run Bravo at 6 wpm SIDE 5

61305 79842 YKAAG XUTMC XRJOZ MFNNU

KLSQX PDSCS WAGQY XGMFB QUDDO TBPOU

HEKKJ JTFII RZVPN EJHWH ECVWJ ZRBQ

? - " () ; Error : . , Wait End

Band 3 -- run Alpha at 7 wpm SIDE 5

JMRIU XBCTZ TGXSU EAYNI WWQOA YZLGD

SOJUW HGBMR VPHDE TLBVN IQHVO JKYRA

CZFDE NFPSP XCKFL MKQP 80369 14725

" , ? ; () Error Wait . - : End

Band 4 -- run Bravo at 7 wpm SIDE 5

" : . Wait ; , - Error () ? End YKAAG XUTMC XRIOZ

MFNNV KLSQX PDSCS WAGQY YGMFB QUDDO

61305 79842 TBPOU HELLK JTFII RZVPN

EJHWH ECVWJ ZRB End

Band 1 -- run Alpha at 8 wpm SIDE 6

RTYXC ATWUG GCULI YFMWO NOBLZ IXDPS

JYWHD QMQGP HBEMD BUTIS OVREK VKAXF

FARNN PSZJC JHLKV QEZL 61305 79842

- ; ? : Wait , . Error " () End

Band 2 -- run Bravo at 8 wpm SIDE 6

JTAIC XBWMZ GRXLZ 84973 50261 ENFNO

KWBQA IDKPS SYGUD YGQFR HUHMO ; : () - ?

Error " . , Wait End TUPVS HQRLO VTYXI CAVDN

EFZWP JCKKJ MEB End

Band 1 -- run Alpha at 9 wpm SIDE 7

QEZNN PKVKB UTMQG DPSWO NGGCR TYLKV

DARVR EEMDH DQZIX YFMTW UCJHS ZJAXF

ISOPH BJYWO BLULI SCA - ; ? : () Wait , .

Error " End 07418 52963 End

Band 2 -- run Bravo at 9 wpm SIDE 7

URWNN YXJER BNWMZ () ; , . Wait ? : - " Error End

HCBVO GSXTO KEKWP ZAREL XQDHJ YSDPA

09624 71538 ZFITT QGEJF HDYIL LUVMQ

BIAMC SUVOC PGK End

Band 3 -- run Alpha at 10 wpm SIDE 7

QWBNY EKFTB NPMZF DGSWO KGTRR EAKPJ

FRVVX LEHOH SYZAD YINTQ MCJCS DWALI

IVHPB UJMGO UQUCZ XKKN 80369 14725

? - ; : () Wait , . Error " End

Band 4 -- run Bravo at 10 wpm SIDE 7

BEMEN DTVOP UTFQG SPLKO NRGZA TJJKK

60189 27345 VACLR QOMHY DUDIA NFFMW

BCJPW ZFIXY HSVUH RGYSQ BWZLX XCIA

? Wait () , - : . ; " Error End

Band 5 -- run Charlie at 10 wpm SIDE 7

Error () , : " ? , ; - Wait End QKMNE DKJOB LTMBG

DGLWI NGTZR MJLFK FZCVH QEDHH WUZYA

YAETC BCXPS PFARY INVPV RJOSO QWUSX

SUI 18026 93547 End

Band 1 -- run Alpha at 11 wpm SIDE 8

ZOLGA WQSLX GABRZ ENPTJ KPBTF MGSCV

SKVHR XCAKY JWVVZ RLLEO DDQYQ DPXNF

MTUMC EHWHJ FIFHU OUBQ 80369 14725

Error () ? Wait " : . ; , - End

Band 2 -- run Bravo at 11 wpm SIDE 8

BHMCL VMYIU BVKCP 80369 14725 () " : ,

End Error , ; - ? Wait WEUYN NFVXN URZQW

GPHDO BTGSE TOPKK RAAXR EHMQS DJAID

IFZQW TGJJD ZFDLX YVS End

Band 3 -- run Charlie at 11 wpm SIDE 8

TLBGB MLGDW INGTZ RMJLF KFZCV HQEDH

Error () End , ? . " : - ; Wait HWUZY AYAET CBCXP

73192 04658 FPSYR AVNIR VPXSU SOJWQ

OIUXM KQDEN KJO End

Band 4 -- run Alpha at 12 wpm SIDE 8

TGSVS LXREC LVFVX IFZLX YOOBR AAUBC

YNNAI DDZFG PHJJG MYIPK KSDJW EUZQW

52741 96308 ETOHM QKCPN URQWT BHML

; () ? ; Error , : . - Wait End

Band 5 -- run Bravo at 12 wpm SIDE 8

JWVCE HWHJE NPVZR IIFTJ JKKEH UOPBT

ODDUQ BFMGX YQGAW SCSDP XQSLK UNNFM

ZOTRX CMTUX GAAKY 24807 50316 BRZV

? End - " () ; Error : . , End

Band 6 -- run Charlie at 12 wpm SIDE 8

; - Error Wait () : ? , " . End 52741 90683 LFKCX

PSPFN EDFZC ARYKJ OVHQI NVBLT EDHPR

VMGBH WUJOS DGLZY AOQWW INYAE USXGT

ZTCBX UIRMJ QKM End

Band 1 -- run Alpha at 13 wpm SIDE 9

. , " Error ? - () ; : Wait End FKWXJ EPZHE NNZAZ

RXLJV JHRLN SULUB 83517 42690 DMDVH

QBQMW DYOYA GPCYI PQBSI OVAFF SLOTG

XCWTU CGMTK KERZE VKLHJ CJZSP NNRAF

FXAKV KERVO SITUB DMEBH PGOQM DHWYJ

SPDXI ZLBON OWNFY ILUCG GUWAT CXYRT

24897 50316 QFKW " Error . , Wait () : ? ; End

Band 2 -- run Bravo at 13 wpm SIDE 9

JWVCE HWHJE NPZVR IIFTJ KLLEH UOPBT

25897 50316 ODDUQ BFGMY YQGAW SCSDP

XQSLK VNNFM ZOIRX CMTUX GAAKY BRZX

" : ; . , Wait - Error () ? End EPZHE NNAZA RXLJV

JHRLN SULUB 83517 42690 DMDVH QBQMW

DYOYA FPCYI PQBSI OVAFF SLOTG XCWTU

CGMTK KERFW KWXJ ; : - " () ? Error Wait , . End

Band 3 -- run Alpha at 14 wpm SIDE 9

EUZAW KSDJW MYIPK PHJJG DDZFG YNNAI

AAUBC YOOBR IFZLX LVFXP LXREC TGSVS

96308 52741 URQWT QKCPN ETOHM BHMEU

: () ? ; Error , : . - Wait End 50316 24897 GAAKY

CMTUX ZOTRX UNNFM XQSLK SCSPD YQGAW

BFMGX ODDUG UOPBT JKKEH IFTJI NPVRZ

HWHJE JWVCE BRZ ? - " () ; Error : . , Wait End

Band 4 -- run Bravo at 14 wpm SIDE 9

UIRMJ ZTCBX USXGT INYAE AOQWW DGLZY

WUJOX RMBGH EDHPV NVBLT OVHQI ARYKJ

EDFZC PSPFN LFKCX QKZAW 96308 52741

" , ? ; () Wait Error . - : End " : . Wait ; , - Error () End

GAAKY CMTUX ZOIRX MFNNV XQSLK SCSDP

YQGAW BFMGY ODDUQ 60315 24987 UOPBT

KLLEH IIFTJ NPVZR HWHJE JMVCE BRZ

End

Band 1 -- run Alpha at 15 wpm SIDE 10

NNZEQ BKVKP GQMTU OWSPD RCGGN VKLYT

RVRAD HDMEE XIZQD EYMGY SHJCU FXAJZ

HQRSI OWYJB ILULB ACXZE - ; ? : () Wait ,

Error " . End 81470 36925 NNWRU RFJXY

ZMWNG () ; , . Wait ? Error : - " End APDSY 42690

83517 TTITF FJEGQ LIYDH QMVUL CMAIB

COVUS KGP OVBCH OTXSH PWKEK LERAZ

JHDQS

Band 2 -- run Bravo at 15 wpm SIDE 10

NNKER BJVJE BQMLU OVGPC KTGXI FKWMT

RLZAZ TDMHD YPIDW WTFAF HXJEC RXIPZ

HQNSU SOYAV SLOQB UCG 48931 56207

. - ; Wait " , () Error ? : End NPBRZ TTJKE FMGPB

Wait , : " . () Error ? : - End SCSNV KCXRY JWVAK

LEVZR QOPDL 89012 34567 TUNFM JCEHM

IIFWH QBHUO LGAWU ZOIQS XGAQ BKVKP

End

Band 3 -- run Alpha at 16 wpm SIDE 10

AGLOZ XLSQW ZRBAG JTPNE FTBPK CSGMF

RHVKS YKACX ZVVWJ OELLR QYQDD FNXPD

CMUTM JHWHE UHFIF BQUOX 96308 52741

Error () ? Wait " : . ; - , End 96308 52741 () " : ,

. ; - Error Wait ? End NYUEW NXVFN WQZRU

26108 54739 ODHPG ESGTB KKPOT RXAAR

SQMHE DAIJD WQZFI DJJGT XLDFZ LSVY

AGL End

Band 4 -- run Bravo at 16 wpm SIDE 10

BGBLT WDGLM ZTGNI FLJMR VCZFK HDEQH

Error () , ? . " : - ; Wait End YZUWH TEAYA PXCBC

92137 85640 RYSPF RINVA UXSPV QWJOX

MXUIO NEDQK OJK 69043 15872 XFSZJ

BISOA ULIPH BLJYW ZXCAO NNPQE UTKVK

SMQGB WONPD TYGGC RLKVR VREFA DQEMD

MZIXH TWUYF CJHOZ () " ? : ; . , - Wait Error End

Band 1 -- run Alpha at 17 wpm SIDE 11

; - Error Wait () : ? . , " End 14725 38069 XCKFL

NFPSP CZFDE JKYRA IQHCO TLBVN PHDEV

HBGMR SOJUW YZLGD WWQOA EAYNI TGXSU

XBCTZ JRMIU MQKWJ ZRBWH ECVPN EJHII

RZVFT KHELL TBPOU 79842 61305 QUDDO

YGMFB WAGQU YPDSC KLSQX MFNNV XRIOZ

XUTMC YKSAG XCK ? () Error - , ; Wait . : " End

Band 2 -- run Bravo at 17 wpm SIDE 11

EBQMF RFWDY KAWOY XPJDG CYPZH ENPEN

QABSZ ARIOV XFIAF JLVJX ONHRL SXUTG

08147 53296 CUWTL BDUCG MKDMT VQHFL

() ? : Error - ; " . , Wait End 65103 79842 MKBGQ

MLHWU FSKJO CGXPD LZSPF YDANE OQWFZ

CAWIN REYYA KSJOU XIVHQ NZVGT TLCBB

TEXUI DJHRM PVR Error , ; : () " . ? Wait , End

Band 3 -- run Alpha at 18 wpm SIDE 11

KCTMG UXTWC GSTOL FOFAV IPSBQ IGYCP

ADYOY WQMQB HDVDM 04962 78153 BSULU

NJLRH VRJIX ZNAZN EEHZP JFXWK RKEKC

: ; - () - ? Error " . , End RCTYX AGTWU GIULC

YOFMW NZOBL ISXDP JDYWD QPMQG HDBEM

BSUTI OKVRE VFKAX FNARN PCSZJ JVHLK

ZEQ 61530 72984 - : ? ; () Wait , . Error " End

Band 4 -- run Bravo at 18 wpm SIDE 11

JCTAI XZBMW GZRSL 83497 50261 EFNNO

KWBQA ISDKP SDYGU YRGQF HOUHM : ; () - ?

Error " . , Wait End TSUPV HQRLO VITYX CNAVD

EPFZW JJCKK MBE 65130 72984 YCTRA

XVUET GUGIL MOFYN WXLBO IDZSP WDYJQ

HBGQM HEPDM TSUBO IKERV VZKFX RNAFP

NHJZS JLCVK QEZTM . ; Wait " , () Error ? : - End

Band 5 -- run Charlie at 18 wpm SIDE 11

QNEZN PBKVK UGTMQ DOPSW NRGGC TVYLK

DRARV EHEMD DXQZI YEGMT USCJH ZFJAX

IHSOP BOJYW BILUL XAC - : ; ? () " . , Wait

Error End 07418 52963 UNRWN YRXJF

BZNWM () : , . Wait ? Error ; - " End HOCCB OTXSO

KPEKW ZLARE XJQDH YZASD 04962 78153

ZYFIT QFGEJ HLDYI LQUVM BCIAM SCUVO

PKGUX

Band 1 -- run Alpha at 19 wpm SIDE 12

UZQEW XSKJD YPIMJ DZFDG NNAYI AUBAC

OOBYR FZILX VFVLX XRELS GSTTR 96308

27551 RQWUT KCPQN HTOEM MHBTI SWBRZ

- . : , Error ; ? () : Wait End 03156 48027 AAKGY

MTUCX JROZX NNFUM QSLXK CSDSP QGAYW

FMGBX DDUOQ OPBUT KKEJH IFTIJ PVZNR

WHJHE WVCJE UZQ ? - " () ; : . , Error Wait End

Band 2 -- run Bravo at 19 wpm SIDE 12

" , ? ; () Wait Error - : . End 52741 95830 LFKCX

PSPFN EDFZC ARYKJ OCHQI NVBLT VEDHP

RMGBH WUJOS DGLZY AOQWW INYAE USXGT

ZTCBX UIRMJ KQMLF BRZJW VCEHW HJENP

VZRII LLEHK UOPBT 24897 50316 QODDU

BFMGY YQGAW SCSDP XQSLK VNNFM ZOIRX

CMTUX GASKY XSK ? () Error - . , Wait : ; " End

Band 3 -- run Charlie at 19 wpm SIDE 12

UZQEW SDJKW YIPMK HJJPG DZFDG NNAYI

AUBAC OOBYR ZFLIX VFVLX XRELC GSVTS

96308 27541 RQWUT KCPQN HTOEM MHTIS

- . : , Error ; ? () : Wait End 03156 48027 AAKGY

MTUCX JROZX NNFUM QSLXK CSDSP QGAYW

FMGBX ODUQO OPBUT KKEJH IFTIJ PVZNR

WHJHE WVCJE BRZ ? - " () ; Error : . , Wait End

Band 4 -- run Alpha at 20 wpm SIDE 12

GMTCK CWTXU LOTSG VAFOF QBSPI PCYGI

YOYDA BQMQW HDVDM 02496 35187 ULUSB

HRLNJ XIJRV NZANZ PZHEE KWXFJ EKFQE

: ; - () - ? , . Error Wait End XYTCR UWTGA CLUIG

WMFOY LBOZN PDXSI DWYDJ GQMPQ MEBDH

ITUSB ERVKO XAKFV NRANF JZSCP KLHVJ

TCK 03156 48927 - : ? () ; Wait Error , . " End

Band 5 -- run Bravo at 20 wpm SIDE 12

IATCJ	WMBZX	LXRZG	79438	16205	ONNFE
AQBWK	PKDSI	UGYDS	FQGRY	MHUOH	: ; () - ?
Error " . , Wait End		VPUST	OLRQH	XYTIV	DVANC
WZFPE	KKCJJ	MBEZQ	03156	48927	ARTCY
TEUVX	LIGUG	NYFOM	OBLXW	PSZDI	QJYDW
MQGBH	MDPEN	OBUST	VREKI	XFKZV	PFANR
SZJHN	KVCLJ	TXU	. ; Wait " , () Error ? - ; End		

Band 6 -- run Charlie at 20 wpm SIDE 12

NZENQ	KVKBP	QMTGU	WSPOD	CGRNL	KLYVT
VRARD	DMEHE	IZQXD	TMFWY	HJCSU	XAJFZ
POSHI	WYJOB	LULIB	CAXGK	- : ? ; Wait Error	
: . ; , End		81470	36925	NWRNU	FJXRY
MNWZB	() : , . " Error Wait ; ? "			BCCOH	OSXTO
WKEPK	ERALZ	HDQJC	DSAZY	26940	35187
ZTFIT	JEGFO	IYDLH	MVUQL	MAICB	OVUCS
OTSG					