

Handbook and Guide  
*to*  
Marconi Victor Wireless  
Telegraph Records



Handbook of Instructions  
and Guide  
TO  
Marconi Wireless  
Telegraph Records

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HARRY CHADWICK

*Code and Traffic Instructor*

MARCONI INSTITUTE  
NEW YORK



Victor Talking Machine Co.  
Camden, N. J., U. S. A.



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MARCONI WIRELESS TELEGRAPH  
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## FOREWORD

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These Marconi wireless telegraph records have been made to meet a growing demand for instruction in wireless telegraph signals where attendance at a school is impracticable.

The records, together with the handbook of instructions, make up a comprehensive course in telegraphy.

Where opportunity for necessary practice in receiving is limited, Marconi records solve the problem of acquiring proficiency. In fact, the student who finds himself compelled to study alone can always have the benefits of a second man sending to him by merely starting up his Victrola.

Although in telegraph practice today the employment of mechanical means of transmission is extensive, yet the demand for good hand senders has steadily increased.

The Marconi records, made by the writer, using an ordinary telegraph key, have been pronounced by experts to be a demonstration of correctness in sending, the result of persistent study and practice.

By faithfully observing the instructions in this handbook, the student should, in a reasonable period, become a proficient operator.

H. C., 1918.

## INTRODUCTION

These instruction records, primarily prepared as a part of the courses offered to radio students by the Marconi Institute in New York City, are given our unqualified stamp of approval.

Owing to the demands for skilled telegraphers in the United States Army and Navy, and recognition by the Institute that it has hardly been possible to provide training facilities rapidly enough to meet the requirements, this series of lessons was prepared to permit the necessary instructions being obtained at home or in the camp.

Attention is directed to the fact that these records were made with a hand-manipulated telegraph key, the formation of the code characters being carried out with noteworthy precision and accuracy. Equal skill can be attained by any one who will apply himself and follow the records consecutively.

Mr. Chadwick, who prepared the records, needs no introduction to wireless men. Not only has he taught several hundred radio students in the Marconi Institute in New York City, but he brings to his auditors a wealth of experience gained through fifteen years of service in the operation of cable and land line telegraph apparatus both in the United States and England. His work has included the operation of every conceivable type of wire or wireless telegraph apparatus using both the International or Continental and American Morse codes.

MARCONI INSTITUTE,

By ELMER E. BUCHER,

Director of Instruction.

## INSTRUCTIONS

These records provide code instruction in wireless for the beginner as well as for the advanced student. The method of study is based on the use of six Victor records, a regular transmitting telegraph key and buzzer, which can be obtained from the Equipment Department of the Marconi Institute, 25 Elm Street, New York City, and this booklet of instructions.

To begin with, the student should merely listen to the dots and dashes as given by the Victrola, meanwhile following with his eye the different letters and figures as printed in this booklet. In that way the dot and dash *sound* of the letter or figure becomes specifically associated with the printed letter or figure.

When, through such repetition, the student believes he has become familiar enough with the letters to recognize them in their dot and dash combination, he may "quiz" himself by playing certain portions of the record rather than playing it from beginning to end in the usual way. This rule should be followed in studying with every one of the records in turn.

The needle may be placed here and there on the record—near the middle, an inch or so from the outer edge, or at any other point on the spiral groove surface, provided care is used in doing so. In this way instead of getting A, B, C and so on, in their usual sequence, it will be possible to listen to the letters in irregular sequence, such as P, V, B, T, A. By so manipulating the sound-box, the student may have the same unlimited practice as he would have if a skilled operator

were "sending" such examples to him from some distant point.

### PRACTICE WITH TELEGRAPH KEY

When the student can recognize the letters instantly and without conscious effort, he should begin practice with the telegraph key.

To become an efficient radio (wireless) operator it is necessary to *receive* and *transmit* at a minimum speed of twenty words per minute, and this can be obtained only by persistent study and practice.

When sending, the whole hand should be held flexibly. Do not hold the fingers stiffly. Do not grip the key. Make your sending easy rather than arduous.

The correct method of holding the key is to have the first two fingers (of the right hand) on top of the key knob and the thumb in very light contact underneath the rim of the knob. The important point to remember is that transmitting simply involves a down pressure on the key of short or long duration (for the dot or the dash as the case may be). It is not necessary to do any "lifting" of the key. That is provided for by the tension spring inside the base.

When the student has gained a certain amount of facility with the key, he should operate the key and listen to the record at the same time. Every effort should then be made to synchronize the transmission of letters with the records. In this way the necessary evenness, smoothness and speed will be developed.

The student will find that he is able to make some letters much more easily than others. Those

found difficult should be practiced until they are thoroughly mastered. Don't be satisfied with "good enough," but only with perfection; remembering that the preliminary work will decide whether you are to become a good or poor operator. It cannot be emphasized too strongly—the importance of good initial instruction and practice. Good formation of letters and uniform spacing are the main essentials to the making of a good operator. When the student finds himself making faulty signals he is advised to stop, and remedy the fault. Unless the telegraphic code has been thoroughly learned before attempting to manipulate the key, it is invariably found to produce a poor style of sending, which, if persisted in, will be found hard to correct. It will be seen, then, that the preliminary lessons are of the utmost importance.

Do not attempt to send fast at first, but rather be satisfied with gradual progress, thus becoming not only a fast sender, but an accurate one.

The letters which present most difficulty to students and those requiring particular care and attention are C, F, J, K, L, P, Q, X and Y. Make all dashes uniform in length, and the greater part of the difficulty will be overcome.

Record No. 1 should be used until the student is able to repeat each letter and figure perfectly, on his own sending set, taking particular note of the formation of each. Endeavor to repeat the alphabet and figures from memory and do not pass on to the next lesson until this has been accomplished.

Record No. 2 contains those conventional signs most used. (For full list see page 24). Memorize



these signals also, and endeavor to repeat them as reproduced on the record. The student will be able to recognize the signals after sufficient study with this booklet.

Record No. 3 brings us to short words and sentences, together with the introduction of the attention signals and the period. If the reproduction of the signals is found to be too rapid with the machine running at normal speed (78 revolutions per minute), reduce the speed of the machine until they are readable.

Records Nos. 4 to 12 comprise the progressive course and should be used in their proper order. With a reasonable amount of practice the student should become a fairly efficient operator in from three to four months.

By variations of the speed of the machine both the spark pitch and speed of reproduction can be changed.

For *loud* signals suitable for class-room instruction use our Victor Tungstone Stylus or Victor needles.

Practice on weak signals for advanced students can be obtained by the use of our soft tone Stylus or needles.

### EMPLOYMENT OF RECORDS

Marconi wireless records are specially adapted for instructing students under the Signal Corps training plan advocated by the Federal Board for Vocational Education.

They may be used either for individual study or for transmitting to large groups of students.

Men in cantonments provided with a camp Victrola and a set of these records can employ idle hours for profitable instruction.

Drafted men who have not yet been called to the colors can prepare themselves for higher rating and pay in the Signal Corps of the army.

Training schools lacking the full complement of Code Instructors can substitute a Victrola and a set of records as an auxiliary. Several machines can be provided for classes of different degrees of proficiency.

The records provide an admirable means of instruction for applicants for admission to the Aviation branches of service, who are required to transmit and receive at a speed of eight words per minute.

## LESSON No. 1

The International Morse Code is used universally in radio (wireless) telegraphy.

In this record each letter and figure is first announced orally, and then signaled three times.

The student should note carefully the sound of the dots and dashes as they are formed. Those for each letter or figure should follow in close sequence, otherwise any particular letter may be broken into two letters; for example, *P*, if not properly spaced, might be read as *a n*; *Z*, as *m i*, and so forth.

The student should endeavor at the outset to adopt a uniform method of formation. The necessity of a slight spacing between letters and a longer spacing between words cannot be too strongly emphasized.

The student should be able to memorize the code characters with one or two days' practice.

## LESSON No. 1

(Alphabet and Figures)

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	— — — — — — — — — — — — — —

## LESSON No. 2

The punctuation and special signs shown on the opposite page are in daily use:

Each signal has its proper use in practice and should be employed in accordance with the rules of The International Radio Telegraphic Convention. For instance, the erasure signal would be used by a transmitting operator should he make an error and desired to make an immediate correction. In such a case, the sender would repeat from the last word correctly sent. The signal signifying "clear" is used on the completion of all correspondence on hand. This signal must not be confused with the signal  $\bullet \text{---} \bullet \text{---} \bullet$  which indicates the end of a message.

The signal  $\text{---} \bullet \text{---}$  (go ahead) is the intimation that the operator signaling it is prepared to receive.

At the end of this record the complete alphabet and figures are reproduced.

## LESSON No. 2

### Punctuation and Special Signs—Continued

For complete table of signals see page 24

NOTE.—In the record each of these signs is given three times in succession.

Erasure (indicating error).	$\bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet$
Period. (.)	$\bullet \bullet \bullet \bullet \bullet$
Interrogation or Question Mark. (Also used when asking for repetitions.) (?)	$\bullet \bullet \text{---} \text{---} \bullet \bullet$
Parenthesis. (Sent before and after the word or words to be included.) ( )	$\text{---} \bullet \text{---} \text{---} \bullet \text{---}$
Inverted Commas. (Or Quotation Marks. Sent before and after each word or passage quoted.) (" ")	$\bullet \text{---} \bullet \bullet \text{---} \bullet$
Double Dash. (Or Separation Signal between address and text; and between text and signature.) (=)	$\text{---} \bullet \bullet \bullet \text{---}$
Attention Signal. (To precede every transmission.)	$\text{---} \bullet \text{---} \bullet \text{---}$
Go Ahead.	$\text{---} \bullet \text{---}$
Received O. K. (Acknowledging receipt of message.)	$\bullet \text{---} \bullet$
Finishing Signal. (At end of every message.)	$\bullet \text{---} \bullet \text{---} \bullet$
Signal signifying CLEAR.	$\bullet \bullet \bullet \text{---} \bullet \text{---}$
Fractional Bar. (/)	$\text{---} \bullet \bullet \text{---} \bullet$

COMPLETE ALPHABET AND FIGURES FOLLOW ON THE RECORD.



### LESSON No. 3

(Easy Sentences With Periods)

The following sentences have been found particularly useful for training the beginner. The student should note thoroughly the spacing between letters and words.

• • • • • *The quick brown fox jumped right over the lazy dog. Get it right first. The quick brown fox jumps right over the lazy dog. Get it right first. Now is the time for all good men to come to the aid of their country.*

(NOTE: With the record run at a regular speed of 78 revolutions per minute, the signals will be reproduced at ten words per minute.)

### LESSON No. 4

(Easy Sentences)

With the machine running at normal speed this record will reproduce at 15 words per minute.

Figures are introduced in this record to aid in the student's progress. Figures should present no difficulty whatsoever to the beginner, because of their uniformity in number of characters which compose them. Referring to characters shown on page 7, you will note that they are made by a progression of dots or dashes; one to five is a progression of dots; six to naught a progression of dashes.

• • • • • *Every walk in the woods may be translated into a lesson in composition if a watchful hunt for decorative forms of leaves and branches be kept.*

*For sand at the banks the quotations are as follows New York, 50 cents per cubic yard Chicago, 85 cents*

• • • • •

(Finishing Signal)

### LESSON No. 5

(Marconi Press Dispatch)

The highest power land station of the American Marconi Company for the transmission of shore to ship traffic is located at South Wellfleet, Mass. This station has been in continuous operation since 1901, and transmits nightly a schedule consisting of news reports, stock quotations, baseball results and private messages. A portion of the schedule is reproduced on this record as follows:

*"QST QST V V V To ships subscribing to the Marconi Press Service • • • • •*

*Presse Nr 1 246 wds. Weather Wednesday probably rain or snow stop Washington as an expression of the indignation of an outraged nation Congress may declare war stop Petrograd The Volyusky Guards at the Tauride Palace.*

The signal QST QST V V V is the usual warning sent out by this station in sending out the nightly batch of press matter.

Presse Nr 1 246 wds indicate, first, that it is press matter; second, that it is the number one dispatch, and third, that it will consist of 246 words.

## LESSON No. 6

(Introducing "Static" and Abbreviated Numbers)

In the transmission of radio telegraph traffic, interference from atmospheric electricity (the so-called "static") is experienced. The sounds made by atmospheric or static electricity are often mistaken for code signals.

A properly trained operator can distinguish between the interfering signals of static and those set up by a wireless transmitter, owing to the difference in tone. The discharges of static electricity are sometimes intermittent and sometimes continuous.

Where the static discharges are continuous a highly skilled receiving operator is needed. Students should note the introduction of abbreviated figures which are used in confirming the numerals in the address, text, or signature of a message, at the end of the message. A list follows:

1	• —
2	• • —
3	• • • —
4	• • • • —
5	• or • • • • •
6	— • • • •
7	— • • •
8	— • •
9	— •
0	—

## LESSON No. 6

(Messages with Static Interference)

The text of this lesson is as follows:

— • — • — P4 17 Radio

S. S. Philadelphia 10.45 M.

Louise Chandler

326 East 94th Street

Quincymass. — • • • —

Will arrive Monday lots of news  
meet if possible

— • • • —

Paul • — • — •

• • — — • •

• • • — • • — — • • • •

— • • • • —

• — • — •

P7 15 Radio.

S. S. Antilles 6.35 S.

Johnsonian Philadelphia — • • • —

Working hard to win expect see you  
24th Queen's Hotel call.

— • • • —

Comptonia

• • — — • •

• • — — • •

• • — — • • • —

• — • — •

## LESSON No. 7

(Press with Static Interference)

This record introduces a sample of press message with static interference. At normal machine speed the signals will be reproduced at 18 words per minute.

By variation of the speed of the machine the tone of the signals can be raised and lowered, and the speed of reproduction varied accordingly.

*"Newyork. The leading business men of all parts of this country are overwhelmingly for preparedness according to the 1710 replies to a questionnaire on the general subject of American business as affected by Peace and Preparedness recently sent out from this city to 4500 heads of businesses.*

## LESSON No. 8

(Messages with Erasures, Etc.)

This record introduces the erasure signal, which a good operator rarely employs, but is useful in the event of an accidental error during transmission, when an immediate correction should be made. The method of using this signal is clearly indicated on this record.

--- • --- • --- P 6 18 Radio

S. S. Manchuria 9.40 M

Pailsons

348 Eightyfirst Street

Brooklynny --- • • • • ---

Will arrive • • • • • will arrive Monday  
please notil • • • • • please notify  
chauffeur meet with large car fr

• • • • • car for baggage --- • • • • ---

Jimsie • --- • --- •

• • --- --- • •

• • --- • • • • --- • • • •

• --- • --- •

P 7 16 Radio

S. S. Lafayette 12.45 S

Broomstick NewYork --- • • • • ---

Purchases unarrived hurry repet

• • • • • hurry repeat shipments

• • • • • repeat shipment per next steamer.

--- • • • • ---

Agnews • --- • --- •



## LESSON No. 9

If two transmitters operate simultaneously in the same vicinity they are apt to interfere with one another, even if the sending apparatus of both stations is tuned to somewhat different wave lengths. But if the transmitters have spark notes of different pitch, or of the same pitch and the signal of one is louder than the other, the receiving operator can concentrate his attention on the signal desired, ignoring the interference of the other station.

In this record two stations send simultaneously at different speeds. The student, by practice, will have no difficulty in distinguishing one from the other.

## LESSON No. 9

(Press With Interference From Other Station)

### *Sending Station*

— • — • — *New York* *The World is full of cruel wrongs and bitter insults for those who look for them, but when real troubles are so many why manufacture more out of nothing or of the easily tolerable things like having ones picture and finger prints on record. In this world a man must be either an anvil or a hammer. The greatest satisfaction in life is to do good work.*

19246 34773 56841 93761

### *(Other station)*

— • — • — *St Quentin is protected on the Northwest by the Omignon River which although only a brook like most of the Somme tributaries runs through a broad valley full of swamps and clumps of trees which greatly increases its defensive value. To the West the approaches to the city are over a bare flat plain devoid of any natural obstacle and with but few*

## LESSON No. 10

(Special Practice With Figures)

Constant practice with the numerals is desired. The most accurate operator cannot fill in a lost figure.

The following groups of figures are a representative set for the training of students.

Read figures across page.

76473 73922 35490 04537 58493 57657 22308  
00985 47639 95648 57776 39947 20779 33452  
55289 57499 48372 48374 98898 46587 23856  
23456 46573 99384 43264 48574 13472 11122  
32488 31475 19784 45163 • — • — •

## LESSON No. 11

(Ten-Letter Dictionary Words)

The longer the word the greater may be the difficulty in deciphering it on the part of the beginner. Hence the necessity for practicing such words as will be found in this record.

(Read words across page)

<i>Retributor</i>	<i>Fascinated</i>	<i>Frequently</i>
<i>amazements</i>	<i>courtyards</i>	<i>procession</i>
<i>subjection</i>	<i>repugnance</i>	<i>indignants</i>
<i>hesitation</i>	<i>experience</i>	<i>temptation</i>
<i>inhabitant</i>	<i>apparently</i>	<i>dynamiters</i>
<i>recognized</i>	<i>considered</i>	<i>commission</i>
<i>punishment</i>	<i>liberation</i>	<i>disputings</i>
<i>implacable</i>	<i>rendezvous</i>	<i>boisterous</i>
<i>bonbonette</i>	<i>respecting</i>	<i>listerated</i>
<i>malignings</i>	<i>burnishing</i>	<i>maintained</i>
<i>increasing</i>	<i>economical</i>	<i>directions</i>
<i>capacities</i>	<i>difficulty</i>	<i>prototypes</i>

## LESSON No. 12

(Ten-Letter Code Words)

Codewords, because of their artificial make-up, present the most difficulty to all telegraphists, and concentration is always necessary to ensure correct reception. The words on the record will give the student excellent practice, and if run at varying speeds will serve to indicate the student's progress.

### CODEWORDS

(Read words across page)

<i>Bekampende</i>	<i>Chinquapin</i>	<i>Chiosavamo</i>
<i>ganzelever</i>	<i>pellexinus</i>	<i>menogenion</i>
<i>mercuriaux</i>	<i>regardeurs</i>	<i>influyente</i>
<i>gannirebbe</i>	<i>torculabas</i>	<i>mercennume</i>
<i>sprezzemmo</i>	<i>infognammo</i>	<i>hoplomaque</i>
<i>encarregar</i>	<i>cornomozzo</i>	<i>grajugenae</i>
<i>omroeperst</i>	<i>rendomente</i>	<i>megatichus</i>
<i>thurmhaube</i>	<i>fieltramus</i>	<i>inopivanel</i>
<i>obsonatura</i>	<i>indiqueras</i>	<i>nystagamus</i>
<i>nymphidius</i>	<i>satietalem</i>	<i>desponsage</i>
<i>gubernatum</i>	<i>maculavamo</i>	<i>wachsboden</i>
<i>torpecimus</i>	<i>extractora</i>	<i>sospettoza</i>

## INTERNATIONAL MORSE CODE IN TYPE AND CHARAC

1. A dash is equal to three dots.
2. The space between parts of the same letter is equal to one dot.

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	— — • •

Ä (German)	• — • —
Á or À (Spanish-Scandinavian)	• — — •
CH (German-Spanish)	— — — —
É (French)	• • — • •
Ñ (Spanish)	— — • — —
Ö (German)	— — — •
Ü (German)	• • — —

---

1	• — — — —
2	• • — — —
3	• • • — —
4	• • • • —
5	• • • • •
6	— • • • •
7	— — • • •
8	— — — • •
9	— — — — •
0	— — — — —

## AND CONVENTIONAL SIGNALS TERS FOR REFERENCE

3. The space between two letters is equal to three dots.
4. The space between two words is equal to five dots.

Period	• • • • •
Semicolon	— • • • •
Comma	• — • • •
Colon	— — • • •
Interrogation	• • — • •
Exclamation point	— — • • —
Apostrophe	• — — — •
Hyphen	— • • • —
Bar indicating fraction	— • • • •
Parenthesis	— • — — •
Inverted commas	• — — — •
Underline	• • — — —
Double dash	— • • • —
Distress call	• • — — — • • •
Attention call to precede every transmission	— • — — —
General inquiry call	— • • • — — — • — —
From (de)	• • • •
Invitation to transmit (go ahead)	— • • —
Warning—high power	— — — • • — — —
Question (please repeat after . . . .)—interrupting long messages	• • — — • •
Wait	• — • • •
Break (Bk.) (double dash)	— — • • — —
Understand	• • • • •
Error	• • • • •
Received (O. K.)	• • — • •
Position report (to precede all position messages)	— — — • • •
End of each message (cross)	• • — • • •
Transmission finished (end of work) (conclusion of correspondence)	• • — — — • •



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*Instructing Engineer of the Marconi Wireless Telegraph Co.*

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It is the only volume that describes in full the functions and operations of the Signal Corps and its relation to the line of the army—drill instruction, mounted and dismounted, for telegraph companies, radio and outpost companies, and battalions of Signal Corps—signaling by telegraph, heliograph, night lantern and flags, radio and service buzzer—camp and field telephones and their uses—radio apparatus of the Signal Corps—scouting, patrolling and tactical employment of field lines.

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