



## LCWO ICR Guidelines

Bob Carter – WR7Q  
Version 1.6

The number one problem most people have with decoding Morse Code is that they do not have Instant Character Recognition (ICR). Miss a single letter, you miss the word or a whole group of words.

The following exercises are based on the website [Learning CW Online](#) (LCWO) and will help you on your way to getting a lot better at ICR, but only if you consistently practice and complete *all* the processes. Exercises are grouped for the three CW Academy levels, Fundamentals, Intermediate and Advanced.

## LCWO Getting Started

Webpage: [LCWO.net](#)

You must register, then sign in each time. Sign in now.

Under the Account menu, click *Change CW Settings* and enter the following:

- Character Speed – At least 25 to 30 wpm to minimize ‘counting’ dits and dahs
- Effective Speed (Farnsworth) – As requested in the curriculum or by your advisor. Hereafter referred to as ‘speed’
- Extra Word Spacing – Delay before you have to hit the enter key (temporarily increasing may help with ‘copy behind’)
- Tone (Hz) – Frequency of the code you hear. 500 (or your preference)
- CW player – Radio button for ‘jswlib’ is the recommended setting
- Start delay – (2 sec) number of seconds before the file starts playing
- Group Length – Number of elements being sent
- Koch Characters button – Sets the Custom characters for Code Groups

Click the **Submit** button for any changes to take effect.

You will have to revisit this Change CW Settings menu anytime you need to set the speed or group length (number of characters).

## Beginner Level

For this to be effective, you must be familiar with all 26 letters and ten numbers (figures). This typically is after you have completed Session 10 in the Beginner curriculum.

### Go to Code Groups

In the Menu for Test, click on *Code Groups*. Mode can be set to letters, figures, mixed, or custom. While it's playing, type what you hear into the empty text box for checking. Here is the general procedure:

- Set duration (min) to 1
- Uncheck use REAL speed (not PARIS)
- Click on *Play/Pause* and prepare to copy
- After completion, click on *Check Results* and review your errors
- Click on *Continue Training* and repeat exercise five or more times

### Letters Mode (in Code Groups)

Start with an Effective Speed of 6 wpm, 1 character Group length

Practice until you start averaging around 10% or less errors (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Then start over with speed at 6 wpm and increase to 2 characters.

### Word Training (in Word Training)

In the Menu for Test, click on *Word Training*. Enter the following initial settings:

- Speed – 25 wpm
- Min Character Speed – 6 wpm
- Characters from lesson – 40
- Maximum length – 2 characters

Click on *Start* and you will be taken to a new page. Click on the play sound arrow. Press return and enter what you copy, pressing return after each word.

Practice until you start averaging less than 3 errors, then speed up to 7 wpm, then 8 wpm. Do the same thing until you get to at least 10 wpm. Then start over with speed at the 'class speed' and increase to 3 characters.

### Figures (numbers) (in Code Groups)

Start with an Effective Speed of 6 wpm, 1 character.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Then start over with speed at 6 wpm and increase to 2 characters.

### **Custom Characters (Koch Characters) (in Code Groups)**

Start with an Effective Speed of 6 wpm, 1 character.

Practice until you start averaging around 10% or less errors (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Do the same thing until you get to a least 10 wpm. Then start over with speed at 6 wpm and increase to 2 characters.

## **Beyond the Beginner Curriculum**

### **Get Better Yet**

Keep increasing the speed, number of characters and decreasing word spacing.

### **Mixed (in Code Groups)**

Start with an Effective Speed of 6 wpm, 2 characters

Practice until you start averaging around 10% or less errors (accuracy 90% or better). Next move speed up to 7 wpm. Do the same thing until you get to 8 wpm. Next, start over at 6 wpm and increase to 3 characters, following the same process.

### **Copy Behind**

Instead of hitting the 'space bar' or 'enter key' immediately after you hear the character, wait until you have heard them all... then enter. This will train your brain to get better at 'hearing words'

### **Callsign Training**

Start with an Effective Speed of 6 wpm and increase till you get to 10 wpm or more, i.e. 6, 7, 8, etc.

## Fundamental Level

You will use two LCWO speed practice features, Code Groups and Word Training.

### Go to Code Groups

In the Menu for Test, click on *Code Groups*. Mode can be set to letters, figures, mixed, or custom. While it's playing you type what you hear into the empty text box for checking. Here is the general procedure:

- Set duration (min) to 1
- Uncheck use REAL speed (not PARIS)
- Click on *Play/Pause* and prepare to copy
- After completion, click on *Check Results* and review your errors
- Click on *Continue Training* and repeat exercise five or more times

### Letters (in Code Groups)

Start with an effective speed of 6 wpm, 2 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Do the same thing until you get to at least 10 wpm. Then start over with speed at the 'class speed' and increase to 3 characters.

### Word Training (in Word Training)

In the Menu for Test, click on *Word Training*. Enter the following initial settings:

- Speed – 25 wpm
- Min Character Speed – 6 wpm
- Characters from lesson – 40
- Maximum length – 2 characters

Click on *Start* and you will be taken to a new page. Click on the play sound arrow. Press return and enter what you copy, pressing return after each word.

Start with an effective speed of 6 wpm, 2 characters. Always keep the speed at least the same as the class curriculum.

### Figures (numbers) (in Code Groups)

Start with an effective speed of 6 wpm, 1 character. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Do the same thing until you get to 10 wpm. Then start over at the 'class speed' and increase to 2 characters.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Do the same thing until you get to 10 wpm. Then, start speed over at the 'class speed' and increase to 3 characters.

### **Custom Characters (Koch Characters) (in Code Groups)**

Start with an effective speed of 6 wpm, 1 character. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better) (accuracy 90% or better). Next, move speed up to 7 wpm, then 8 wpm. Do the same thing until you get to a least 10 wpm. Then, start speed over at the 'class speed' and increase to 2 characters.

## **Beyond the Fundamental Curriculum**

### **Get Better Yet**

Keep increasing the speed, number of characters and decreasing word spacing.

### **Mixed**

Start with an effective speed of 10 wpm, 3 characters.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 12 wpm. Do the same thing until you get to 15 wpm. Next, start over at 10 wpm and increase to 4 characters, following the same process. Now do the same process again with 5 characters.

### **Copy Behind**

Instead of hitting the 'enter key' immediately after you hear the character, wait until you have heard them all... then enter. This will train your brain to get better at 'hearing words'.

### **Callsign Training**

In the Menu for Test, click on *Callsign Training*. (This program is a simplified version of the *RufzXP* software.) Enter the following initial settings:

- Speed – 6 wpm
- Min Character Speed – 25 wpm
- Fixed speed – Check this box

Click on *Start* and you will be taken to a new page. Click on the play sound arrow and then the OK box. Press return and enter what you copy, pressing return after each callsign.

Start with an effective speed of 6 wpm and increase till you get to 10 wpm i.e. 6, 7, 8, etc.

## Intermediate Level

You will use two LCWO speed practice features, Code Groups and Word Training.

### Got to Code Groups

In the Menu for Test, click on *Code Groups*. Mode can be set to letters, figures, mixed, or custom. While it's playing you type what you hear into the empty text box for checking. Here is the general procedure:

- Set duration (min) to 1
- Uncheck use REAL speed (not PARIS)
- Click on *Play/Pause* and prepare to copy
- After completion, click on *Check Results* and review your errors
- Click on *Continue Training* and repeat exercise five or more times

### Letters (in Code Groups)

Start with an effective speed of 10 wpm, 3 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 13 wpm, then 15 wpm. Do the same thing until you get to at least 20 wpm. Then start over at the 'class speed' and increase to 4 characters. Now do the same process again with 5 characters.

### Word Training (in Word Training)

In the Menu for Test, click on *Word Training*. Enter the following initial settings:

- Speed – 25 wpm
- Min Character Speed – 10 wpm
- Characters from lesson – 40
- Maximum length – 3 characters

Click on *Start* and you will be taken to a new page. Click on the play sound arrow. Press return and enter what you copy, pressing return after each word.

Start with an effective speed of 10 wpm, 3 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging less than 3 errors then move speed up to 13 wpm, then 15 wpm. Do the same thing until you get to at least 20 wpm. Then start over at the 'class speed' and increase to 4 characters. Now do the same process again with 5 characters.

### Figures (numbers) (in Code Groups)

Start with an effective speed of 10 wpm, 3 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 7 wpm, then 13 wpm, then 15 wpm. Do the same thing until you get to 20 wpm. Then start over at the 'class speed' and increase to 4 characters.

### **Custom Characters (Koch Characters) (in Code Groups)**

Start with an effective speed of 10 wpm, 2 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 13 wpm, then 15 wpm. Do the same thing until you get to a least 20 wpm. Then, start speed over at the 'class speed' and increase to 3 characters.

## **Beyond the Intermediate Curriculum**

### **Get Better Yet**

Keep increasing the speed, number of characters and decreasing word spacing.

### **Mixed**

Start with an effective speed of 15 wpm, 3 characters.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 18 wpm. Do the same thing until you get to 20 wpm. Next, start over at 15 wpm and increase to 4 characters, following the same process. Now do the same process again with 5 characters.

### **Copy Behind**

Instead of hitting the 'enter key' immediately after you hear the character, wait until you have heard them all... then enter. This will train your brain to get better at 'hearing words'.

### **Callsign Training**

In the Menu for Test, click on *Callsign Training*. (This program is a simplified version of the *RufzXP* software.) Enter the following initial settings:

- Speed – 15 wpm
- Min Character Speed – 25 wpm
- Fixed speed – Check this box

Click on *Start* and you will be taken to a new page. Click on the play sound arrow and then the OK box. Press return and enter what you copy, pressing return after each callsign.

Start with an effective speed of 15 wpm and increase till you get to 25 wpm i.e. 15, 18, 20, etc.

## Advanced Level

You will use two LCWO speed practice features, Code Groups and Word Training.

### Go to Code Groups

In the Menu for Test, click on *Code Groups*. Mode can be set to letters, figures, mixed, or custom. While it's playing you type what you hear into the empty text box for checking. Here is the general procedure:

- Set duration (min) to 1
- Uncheck use REAL speed (not PARIS)
- Click on *Play/Pause* and prepare to copy
- After completion, click on *Check Results* and review your errors
- Click on *Continue Training* and repeat exercise five or more times

### Letters (in Code Groups)

Start with an effective speed of 20 wpm, 3 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 23 wpm, then 25 wpm, then 28 wpm. Do the same thing until you get to 30 wpm. Then start over at the 'class speed' and increase to 4 characters. Now do the same process again with 5 characters.

### Word Training (in Word Training)

In the Menu for Test, click on *Word Training*. Enter the following initial settings:

- Speed – 30 wpm
- Min Character Speed – 20 wpm
- Characters from lesson – 40
- Maximum length – 3 characters

Click on *Start* and you will be taken to a new page. Click on the play sound arrow. Press return and enter what you copy, pressing return after each word.

Start with an effective speed of 20 wpm, 3 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 23 wpm, then 25 wpm, then 28 wpm. Do the same thing until you get to 30 wpm. Then, start speed over at the 'class speed' and increase to 4 characters, following the same process. Now do the same process again with 5 characters.

### Figures (numbers) (in Code Groups)

Start with an effective speed of 20 wpm, 3 characters. Always keep the speed at least the same as the class curriculum.



Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 23 wpm, then 25 wpm, then 28 wpm. Do the same thing until you get to 30 wpm. Then start speed over at the 'class speed' and increase to 4 characters.

### **Custom Characters (Koch Characters) (in Code Groups)**

Start with an effective speed of 20 wpm, 2 characters. Always keep the speed at least the same as the class curriculum.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 23 wpm, then 25 wpm, then 28 wpm. Do the same thing until you get to a least 30 wpm. Then, start speed over at the 'class speed' and increase to 3 characters.

## **Beyond the Advanced Curriculum**

### **Get Better Yet**

Keep increasing the speed, number of characters and decreasing word spacing.

### **Mixed**

Start with an effective speed of 20 wpm, 3 characters.

Practice until you start averaging around 10% errors or less (accuracy 90% or better). Next, move speed up to 23 wpm, then 25 wpm. Do the same thing until you get to 35 wpm. Next, start over at 20 wpm and increase to 4 characters, following the same process. Now do the same process again with 5 characters.

### **Copy Behind**

Instead of hitting the 'enter key' immediately after you hear the character, wait until you have heard them all... then enter. This will train your brain to get better at 'hearing words'.

### **Callsign Training**

In the Menu for Test, click on *Callsign Training*. (This program is a simplified version of the *RufzXP* software.) Enter the following initial settings:

- Speed – 20 wpm
- Min Character Speed – 35 wpm
- Fixed speed – Check this box

Click on *Start* and you will be taken to a new page. Click on the play sound arrow and then the OK box. Press return and enter what you copy, pressing return after each callsign.

Start with an effective speed of 20 wpm and increase till you get to 35wpm i.e. 20, 23, 25, 28, etc.