

CURRICULUM:

Basic CW Academy Course Practice Instructions and Homework Assignments

**Authors: W4YES (Glenn), K1DW (Dallas), W2OZB (Phil), W0FN
(Tom)**

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Revision Record

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| 2019 | Revision 1.1 by Bob Carter, WR7Q; (Change course name from Level 2 Prep to Basic) |
| 2020 | Revision 2.0 by Tom Weaver, W0FN, Glenn Norman, W4YES (Replace CW Player with Stephen Phillip's Word List Trainer... and various minor revisions) |
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Introduction:

A few minutes spent reading this document and following the curriculum and your CWA Advisor will save you hours or weeks.

Study the Table of Contents – Get Familiar with the Overall Class Flow

Learning to head copy CW requires AT LEAST one hour per day, 6 days per week. If you cannot commit to this practice time, please don't start this class. Learning to head copy CW requires daily Instant Character Recognition (ICR) practice – Record Your Practice Sessions, Listen, Repeat!

Focus on the ICR settings and specifics (Page 12) – Record your practice sessions. Be Prepared to Demonstrate

Welcome to CW Academy's Basic course. As you follow this curriculum, you will improve your character recognition and learn to head copy CW. You should also have fun along the way! When CW characters are instantly recognized and sent well, this historic communications mode becomes amazingly enjoyable!

Course Objectives:

The CWA Basic course will prepare you for entry into the CWA Intermediate classes. Our goal is to help you improve your Instant Character Recognition speed (**ICR**) from 4 WPM up to approximately 10-13 WPM. Your ability to head copy will improve significantly, as will your CW sending skills with a paddle.

Recording your **ICR** practice is vital for your success. Follow the curriculum and you'll be successful.

Your goal is to achieve the following:

- **Head copy QSOs and words at 25 WPM (character speed) and up to 10-13 WPM actual speed**
- **Converse using CW – participate and engage in on-air QSOs**
- **Perform a number of on-air QSOs with fellow students and other CW operators**

Course Structure and Meetings:

- 1) Learn to optimize your practice – **Follow the curriculum!**
- 2) Improve your Instant Character Recognition (**ICR**)
- 3) Use your newfound skills to head copy and send CW proficiently

This course consists of 16 sessions of twice weekly meetings with your Advisor. **You will have practice assignments for Days 1, 2 & 3 between each online class meeting.** When you meet with your advisor, he or she will assess how you are doing using interactive exercises and other means. Your advisor will provide encouragement, feedback and tips to help you overcome difficulties.

Student Expectations:

DAILY practice between sessions is mandatory. You practice Day 1, 2 & 3 assignments for Session 1 ***before*** the Session 1 class. Advisors assess your progress and address issues during class. Practice Session 2 daily assignments ***before*** Session 2, practice Session 3 daily assignments ***prior*** to Session 3, and so on. You will be asked to share your screen and demonstrate your practice.

Course Focus – Instant Character Recognition (ICR):

In order to head copy Morse code you must recognize characters at their incoming rate. That's obvious, right? In order to achieve 10-13 WPM (or higher) head copy speed by the end of this course, you must follow the curriculum, **record your ICR practice** and learn to recognize characters by their unique sound. Each character's unique/overall sound is best learned by listening to fast CW character speed (25-30 WPM).

The 5 Bad Habits of CW:

- 1) **Counting dits and dahs** – The best way to stop counting dits and dahs is to keep the character speed at 25 to 30 WPM or above. Extra spacing will be placed between the characters to slow the actual speed.

- 2) **Mental lookup table (and other extra steps)** – You must eliminate every mental process between hearing the characters and recognizing them. The Morse character must be equivalent to the sound of the character itself in your mind. You hear di-di-dah-dit, and F pops into your mind. No extra steps!
- 3) **Holding on to unrecognized characters** – You must drop missed characters immediately in order to be ready for the next character. This “Letting Go” is a skill that takes practice and requires you to get comfortable missing characters. Always be ready for the next character - **MISS FAST! DO NOT pause and ponder!**
- 4) **Crutches – Pencils, decoders, etc.** - These “tools” destroy your goal of comfortably copying the code. They are not “training wheels.” They are a hard obstacle. Just close your eyes and listen. Relax about missed characters – that’s not failure; it’s normal. Get used to it!
- 5) **Not Getting On the Air** – You may think “When I improve my CW proficiency I’ll get on the air.” The truth is: **“When I get on the air I will improve my CW proficiency.”**

Course Requirements:

- 1) Familiarity of Morse code characters (letters, numbers, some punctuation, and prosigns)
- 2) A high-speed Internet connection
- 3) A device compatible with Zoom, Skype, Meet, etc. (PCs, Tablets, Macs, smart phones, etc.)
- 4) A webcam (mic and camera device; built-in or a webcam plugged into a USB port)
- 5) A single or dual lever paddle
- 6) Headphones or earbuds to avoid audio feedback and echoing.
- 7) Audio recorder (computer, smartphone, or other preferred device)

Course Tools:

- **Morse Code Trainer** (Select International Morse Code, NOT American Morse Code)
- **Word List Trainer** (part of the Morse Code Trainer website)

Morse Code Trainer (**MCT**) is used throughout the CWA Basic course. Word List Trainer (**WLT**) is an option within Morse Code Trainer. You control character speed and the actual (Farnsworth) WPM speed. You will listen to CW characters between 25 to 30 words per minute (WPM), but to add space and time between each character, you will set the actual (Farnsworth) speed much slower. We begin at Farnsworth = 4 WPM.

Words are composed of characters. So, it follows that practicing Instant Character Recognition (ICR) is foundational. Follow the Day 1, 2 & 3 assignments in the curriculum! As you begin to listen to words and phrases later in the CWA Basic course, DO NOT abandon your ICR practice.

1) Review the instructions on using Morse Code Trainer

(See CWA Basic Class web page <https://cwops.org/prep-practice-files/>)

Morse Code Trainer (MCT) is a browser-based application. **You will be listening to individual Morse characters and speaking each character aloud while recording your practice session.** This helps you identify troublesome characters. Once you create your list of troublesome characters you will periodically focus on those characters until you recognize all Morse code characters with equal speed and accuracy. Saying the character aloud associates that sound with its CW sound in your mind.

Even a few poorly recognized characters will derail your ability to head copy CW. The CWA Basic course emphasizes building a strong foundation of Instant Character Recognition.

2) Familiarize yourself with the Word List Trainer

(Read the instructions for this module in Morse Code Trainer)

Word List Trainer is part of Morse Code Trainer. Word List Trainer makes use of your improving Character Recognition skills to practice head copying words, callsigns, phrases, etc.

Course Methodology:

MORSE CODE HEAD COPY ONLY – NO WRITING OR TYPING INSTRUMENT IS TO BE USED FOR COPYING OR SENDING MORSE CODE DURING THIS COURSE.

**WHEN COPYING and SENDING (Other than from written text),
RELAX and
CLOSE YOUR EYES**

Note-taking is OK, but NEVER character-by-character writing. With practice, head copy greatly enhances the pleasure and proficiency of conversing with Morse code. Talk and email with your advisor(s); they have already traveled this road and can offer techniques, tips and help.

Preliminary Preparation and Sending Skills:

The Day 1, 2 & 3 assignments are based on twice weekly class meetings (usually Monday and Thursday). As you will see, this curriculum provides optimized character recognition practice instructions.

- **Day 1, 2 & 3 assignments are performed BEFORE each online class session.**
- **Be prepared to screen share and demo your practice and use of the tools in MCT**
- **Staying on-schedule is expected but you are encouraged to work ahead. Staying a couple assignments ahead is wise.**
- **Come to class meetings with questions and comments.**

Multiple short, focused practice sessions are more effective for learning than a long session without a break. CW proficiency is gratifying; its rhythm and Zen-like (relaxed) concentration promotes a level of gratification similar to that experienced by musicians. Be patient and make your practice sessions enjoyable!

SENDING SKILLS are emphasized in this course. We will practice to achieve good character rhythm and learn that the empty (silent) space between words is as important as sending characters well.

NOTE: Your practice sending speed should not be as fast as your head copy practice character speed. Set your keyer's sending speed to a WPM speed that lets you minimize errors.

Prior to starting each day of practice send the "Warm Up" section of the Daily Morse code "Scales"; see the CWops.org website for this page and print it out. Send the pangram (The quick brown fox...) every day before you begin your Instant Character Recognition practice sessions. Remember, you learn best by practicing character recognition in multiple short, focused practice sessions rather than one long session.

Your head copy will improve relative to how well you follow this curriculum and relative to the amount of focused time you spend practicing Instant Character Recognition.

DON'T GRADE YOURSELF! Frustration is usually the result of unrealistic expectations or not following the prescribed curriculum. Enjoy the journey; don't be hard on yourself. The learning journey can be as enjoyable as the destination, so it doesn't really make sense to shorten it. **Relax – be patient.**

**Your CWA Advisor is your #1 Resource.
During the course, if you are struggling or have questions / concerns,
PLEASE contact your Advisor.**

Visual Demonstration of ICR

Example of good Instant Character Recognition (See Figure 1 on the next page)

This is a graphical view of how ICR (quick or Instant Character Recognition) provides the ability for you to head copy CW well. Notice that with fast character recognition you have time to assemble words / callsigns / etc. as they come in – as you hear and recognize them. By the way, if you try to memorize letters and assemble the letters into a word AFTER they end (at a word space), you're missing the method required for head copy. Longer words have too many letters to memorize, and there isn't time between words to assemble the letters even if you could memorize them and keep them in the right order. Instead, you must learn to build the word as the characters come in. Building words as their characters are recognized is a vital part of learning to head copy CW. It's one of the skills you'll acquire as you learn to head copy CW.

Example of slow Instant Character Recognition (See Figure 2 on the next page)

As you practice character recognition during your ICR practice, recognition lag time between hearing the character and speaking it can (and will) accumulate. Later in the course during Word and Phrase practice with Word List Trainer this will make words of 5 or 6 characters (for example) more difficult to copy than words of 2 or 3 characters. Accumulation of recognition lag time can make the last few letters of a word impossible to recognize even if those characters are your easiest and best-recognized characters. When this happens, realize that your Character Recognition speed is the culprit.

THERE ARE NO SHORTCUTS:

Instant Character Recognition is the foundation of CW Head Copy

Keep practicing Instant Character Recognition throughout this course and beyond!

5-Character Copy (Instant Character Recognition)

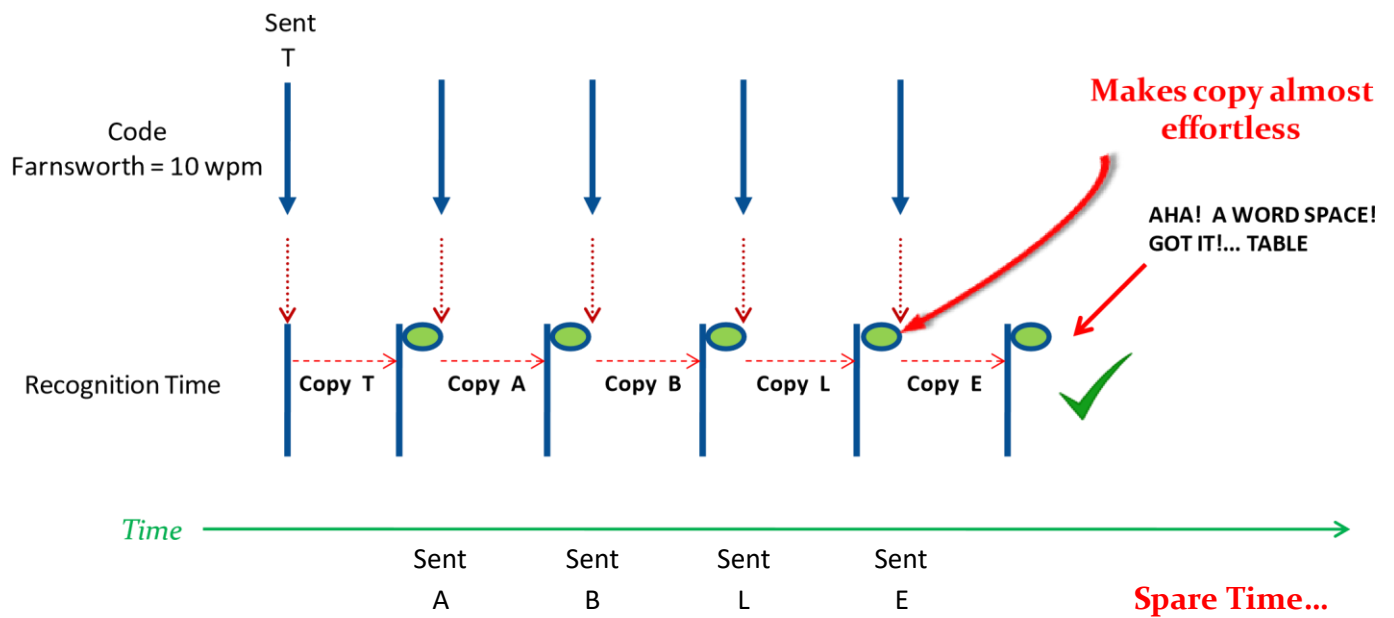


Figure 1

5-Character Copy (Slow Recognition)

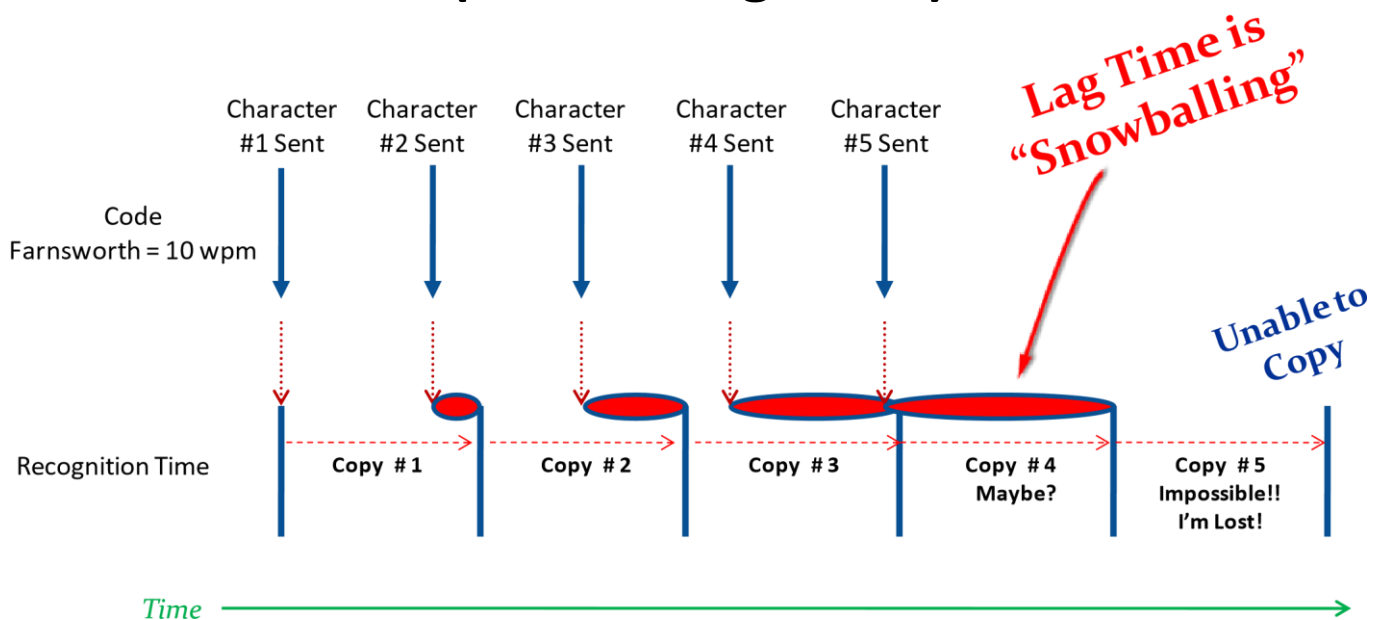


Figure 2

Assignments

Session 1 Preparation

MCT (Day 1-3): Discovering Your Character Speed

Day 1

Copy	Send
<p>This week's goal is to become familiar with the use of Morse Code Trainer in the Random Mode: https://morsecode.world/international/trainer/trainer.html</p> <p>Disable Show text, Set Character Speed between 25-30 WPM, Farnsworth (actual) Speed=4, Segment Gap=1, Free Choice, Words of 9 Characters, Repeat=1, Sentence of 9 Words. The Character Speed is set between 25-30 WPM so you will <u>not</u> count dits and dahs.</p> <p>Select only the letters (A-Z), click the Play button and listen. Then add numbers (0-9) and listen some more. Limit your "run time" to no more than 5-10 minutes. Take frequent breaks. Accumulate at least an hour of dedicated practice each day.</p> <p>Character Speed at 25-30 WPM helps you to hear the "overall/unique sound" of the character. You will stay at this speed or higher.</p> <p>CLOSE YOUR EYES AND SPEAK EACH CHARACTER Begin to note which characters you have difficulty recognizing.</p>	<p>WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) in Morse code five times. Note difficult characters that affect your sending and put extra practice on those.</p>

Day 2

Copy	Send
<p>Repeat Day 1 Practice</p>	<p>WITH EYES CLOSED:</p> <p>Send your call sign 25 times. Correct mistakes as you go.</p> <p>Send your first name (or nickname) 25 times. Correct mistakes as you go.</p> <p>If you're unsure of accuracy, audio record your sending and check.</p>

Day 3

Copy	Send
<p>Repeat Day 1 Practice again!</p>	<p>With eyes closed, send the alphabet (A-Z) and the numbers (0-9) .</p>

Session 2 Preparation

MCT (Day 1-3): Defining Troublesome Characters

Day 1

Copy

READ THIS SEVERAL TIMES – USE IT CONSTANTLY

Beginning today, YOUR GOAL is to assemble a list of characters that are giving you trouble.

This includes the ones you get wrong and the ones you get SLOW.

Read *Using Morse Code Trainer for CWA Basic class* and follow the instructions.

Disable Show text, Set Character Speed between **25-30 WPM**, Farnsworth Speed=4, Segment Gap=1, Free Choice, Words of **9** Characters, Repeat=1, Sentence of **9** Words. The Character Speed is set between 25-30 WPM so you will not count dits and dahs. Choose all letters (A-Z), click the Play button and listen. Then add numbers (0-9) and practice listening and recognizing characters some more. Limit each “run time” to no more than 5-10 minutes.

Now turn on an audio recorder and Run MCT in the Random Mode as outlined above and **SPEAK EACH CHARACTER** as quickly as you can after hearing it. Speaking associates the sound of you saying the character with the Morse code sound of the character – **THIS IS VITALLY IMPORTANT**. Run this for 5-10 minutes at a time. After each session, enable Show text and replay your audio recording to check your accuracy & timing. **CREATE THE LIST OF CHARACTERS THAT SLOWED YOU DOWN** on the recording – your list of troublesome characters. Take frequent breaks. Accumulate an hour or more of dedicated practice each day. Keep actual (Farnsworth) speed at only 4 WPM.

Reducing the time gap between characters will be tempting. Don't! Keep Farnsworth at 4WPM. This provides time for you to determine which characters are difficult to recognize and will enable you to build your troublesome character list. **Practicing and refining your customized list of troublesome characters is an iterative process.**

MAKE A LIST OF CHARACTERS THAT YOU GET WRONG OR CAUSE YOU TO PAUSE. THIS EXERCISE IS NOT ABOUT SPEED.

Day 2

Copy	Send
Use the Day 1 method but limit the chosen characters to your slow or no recognition character list; the ones that cause you to pause and ponder. As you begin to have those troublesome characters spoken nearly as quickly as the easy ones, open your practice back up to include all the numbers (0-9) and letters (A-Z) and repeat the process.	WITH EYES CLOSED Send call sign 10 times correctly Send name 10 times correctly Send your rig 10 times correctly Send your antenna type 10 times correctly

Day 3

Copy	Send
Repeat Day 2.	Practice sending the “Exercise” section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing.

Session 3 Preparation
MCT (Day 1-3): Add Punctuation characters

Day 1

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) KEEP FARNSWORTH SET TO 4WPM</p> <p>Repeat Session 1, Day 1 with the settings for MCT as outlined. Continue to use these settings. It's best that you practice with Words of 9 characters, Repeat=1 and Sentence of 9 Words. Words of few characters do not provide the best 'Letting Go' learning environment of missing characters and quickly being ready for the next one coming. Keep it set at 9 words of 9 characters. Now add these Punctuation characters:</p> <p>Period - “.” Question Mark - “?” Comma - “,” Forward Slash – “/”</p>	<p align="center">WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) five times. If you make a mistake, re-send that character and proceed.</p> <p>Note difficult characters that affect your sending.</p> <p>If you're unsure of accuracy, audio record your sending and check.</p>

Day 2

Copy	Send
<p>Using Morse Code Trainer in Random Mode, select only the individual characters from your slow Character Recognition list (from Day 1) – the characters that cause you to pause and ponder.</p> <p>THIS IS SMART PRACTICE; SPEND YOUR TIME WHERE IT COUNTS.</p> <p>Start audio recording. Do the same drill as in previous lessons.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others. This is how you can best improve your Instant Character Recognition (ICR).</p>	<p align="center">WITH EYES CLOSED</p> <p>Send call 10 times correctly.</p> <p>Send name 10 times correctly.</p> <p>Send “AGE HR IS _____” 10 times correctly</p> <p>Send “BEEN HAM SINCE XXXX“ 10 times correctly. (sending numbers practice)</p>

Day 3

Copy	Send
<p>As in Day 2, continue to work on improving the speed and accuracy of recognizing and speaking your troublesome character list.</p> <p>Remember to also go back to including all Letters, Numbers and Punctuation characters. Focus occasionally on your troublesome characters, but also return to practicing with all characters.</p>	<p>Practice sending sentences that contain all 26 characters of the alphabet (Pangrams).</p> <p>Use your audio recorder and be critical of your character and word spacing – the copy-ability of your sending. Work on your rhythm.</p>

Session 4 Preparation

MCT (Day 1 & Day 2): Recommended Effective Speed = 5WPM

Day 1

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 5WPM</p> <p>Using Morse Code Trainer in Random Mode, select (A-Z), (0-9), Question mark, period, comma and Forward Slash.</p> <p>Make a list of the characters that cause you to pause and ponder, and the ones you get wrong.</p> <p>Repeat this process several times to continue to compile your list of troublesome characters.</p>	<p align="center">WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) three times. If you make a mistake, finish the alphabet and numbers, and then send the alphabet and numbers again.</p> <p>Note difficult characters that affect your sending. Concentrate your practice sending for a while on those characters.</p>

Day 2

Copy	Send
<p align="center">FARNSWORTH SPEED AT 5WPM</p> <p>Using MCT in Random Mode, select <u>only</u> the individual characters from your updated troublesome character list – characters that give you pause, where you struggle to speak them quickly.</p> <p>Begin the audio recording. Do the drill as in previous lessons. Repeat this process until your troublesome characters begin to be recognized and spoken as quickly and correctly as all others.</p>	<p>Practice sending the “Exercise” section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing.</p> <p align="center">WITH EYES CLOSED</p> <p>Send call 10 <u>consecutive</u> times correctly. Send name 10 <u>consecutive</u> times correctly.</p>

Your ICR practice with MCT must continue throughout this entire course

Set Character Speed between 25 and 35 WPM (your choice)

Try to set your actual (Farnsworth) Speed to the “Learning Zone” - where you copy only 75%

Day 3

Copy	Send
<p align="center">FARNSWORTH SPEED AT 5WPM</p> <p>As in Day 2, continue to work on improving the speed and accuracy of recognizing and speaking all characters. Concentrate some of your time on your troublesome character list.</p> <p>Remember to also go back to including all Letters, Numbers and Punctuation characters periodically. Focus on your troublesome characters, but also return to practicing with all characters. This is an iterative process – Be Patient!</p>	<p>Practice sending Pangrams. Use your audio recorder, listen to your sending, and be critical of your character and word spacing – the copy-ability of your sending.</p>

Session 5 Preparation

MCT (Day 1 & Day 2): Recommended Effective Speed = 6WPM

Day 1

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 6WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters.</p> <p>Focus your practice on those characters – improve your ICR.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p align="center">WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) five times. If you make a mistake, finish the alphabet and numbers, and then send the alphabet and numbers again.</p> <p>Note difficult characters that affect your sending.</p>

Day 2

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) FARNSWORTH SPEED AT 6WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters.</p> <p>Focus your practice on those characters – improve your ICR.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p>Practice sending the “Drill” section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing – the copy-ability of your sending.</p> <p align="center">WITH EYES CLOSED</p> <p>Send call sign 10 <u>consecutive</u> times correctly. Send name 10 <u>consecutive</u> times correctly.</p>

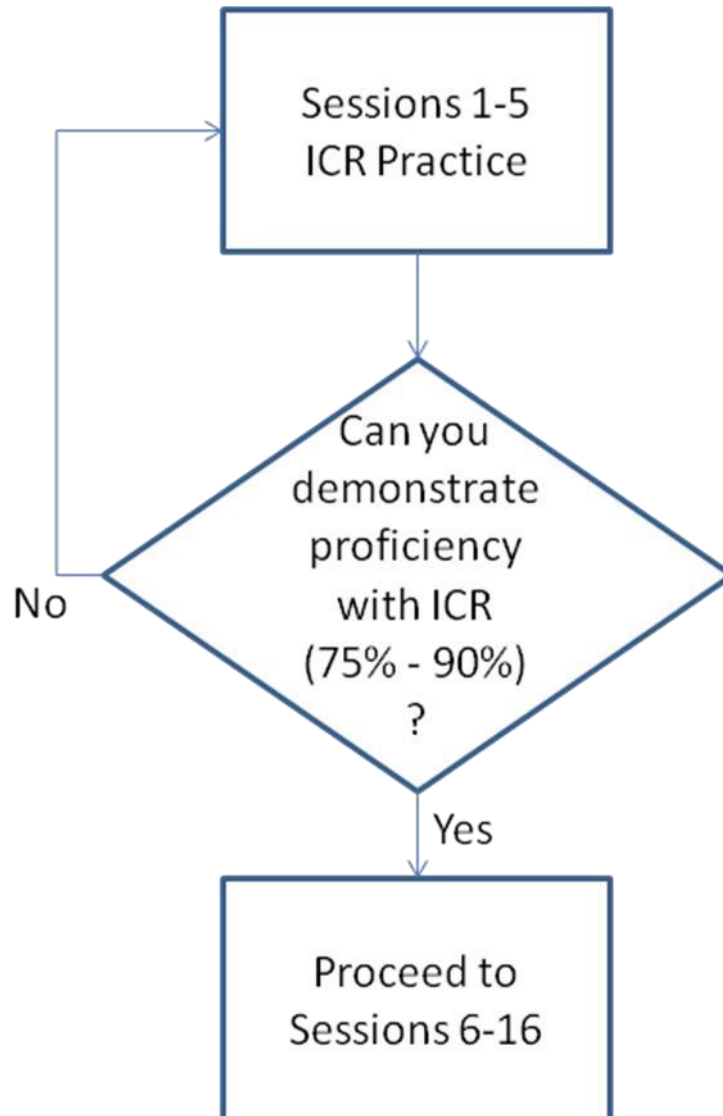
Day 3

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) FARNSWORTH SPEED AT 6WPM</p> <p>As in Day 2, continue to work on improving the speed and accuracy of recognizing and speaking all characters; especially your troublesome character list.</p> <p>Remember to also go back to including all Letters, Numbers and Punctuation characters periodically. Focus on your troublesome characters, but also return to practicing with all characters. It’s an iterative process.</p>	<p>Practice sending 10 times the following pangram:</p> <p align="center">The quick brown fox jumps over the lazy dog</p> <p>Pay particular attention to character spacing and word spacing.</p> <p>Record your sending. Playback and check spacing.</p>

CHECKPOINT

Keep doing your ICR Practice. We are NOW ADDING Word Practice using Word List Trainer.

However, if you have not become proficient with the ICR practice specified above, you are not prepared to embark on Word practice.



If at any time you cannot demonstrate adequate ICR proficiency, stop word practice and focus your efforts on Instant Character Recognition.

Discuss with your CWA Advisor

Session 6 Preparation

MCT (Day 1 & Day 2): Recommended Effective Speed = 6WPM

WORD LIST TRAINER (Day 3): State Abbreviations, 2-Letter Words and Phrases

Day 1

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) FARNSWORTH SPEED AT 6WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters. Practice on all characters, but focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) five times. If you make a mistake, finish the alphabet and numbers, and then send the alphabet, numbers and punctuation characters again.</p> <p>Note difficult characters that affect your sending.</p>

Day 2

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) FARNSWORTH SPEED AT 6WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters.</p> <p>Practice on all characters, but focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p>Practice sending the “Warm-up” section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing – the copy-ability of your sending.</p> <p style="text-align: center;">WITH EYES CLOSED</p> <p>Send your call 10 consecutive times correctly. Send your name 10 consecutive times correctly.</p>

Day 3

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER (WLT) FARNSWORTH SPEED AT 6 WPM</p> <p>Practice the Following: State Abbreviations, 2 Letter Words and 2 Letter Phrases (these are 3 different files in WLT) https://morsecode.world/international/trainer/words.html</p> <p>Headcopy and speak each word and phrase aloud if you can. Remembering more than one word (a phrase) is difficult at first. Ignore the ones you miss. <u>This is an important skill.</u> Always be ready for the next characters coming your way. Don't pause & ponder! Words contain characters – Character Recognition Speed is the key; it's the foundation of head copy proficiency.</p>	<p>Practice sending 10 times the following pangram:</p> <p style="text-align: center;">Pack my box with five dozen liquor jugs</p> <p>Pay particular attention to character spacing and word spacing.</p> <p>Record your sending. Playback and check spacing.</p>

Session 7 Preparation

MCT (Day 1 & Day 2): Recommended Effective Speed = 7WPM

WORD LIST TRAINER (Day 3): 1-3 Letter Words

Day 1

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 7WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters. Practice on all characters, but focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p align="center">WITH EYES CLOSED</p> <p>Send the alphabet (A-Z), numbers (0-9) and punctuation characters five times. If you make a mistake finish, then send the alphabet, numbers and punctuation characters again.</p> <p>Note difficult characters that affect your sending.</p>

Day 2

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) FARNSWORTH SPEED AT 7WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters. Practice on all characters, but focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p>Practice sending the “Exercise” section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing – the copy-ability of your sending.</p> <p align="center">WITH EYES CLOSED</p> <p>Send your call 10 <u>consecutive</u> times correctly. Send your name 10 <u>consecutive</u> times correctly.</p>

Day 3

Copy	Send
<p align="center">USING WORD LIST TRAINER (WLT) FARNSWORTH SPEED AT 7WPM</p> <p>Practice the Following: 1 to 3-Letter Words Head copy and speak each word and phrase aloud.</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn’t work – you will recognize the characters in the word immediately or you won’t. Don’t pause & ponder; always be ready for the next character coming your way. Build the word in your mind as characters come in – DO NOT try to memorize each letter and assemble them into a word later!</p>	<p>Practice sending 10 times the following pangram:</p> <p>We promptly judged antique ivory buckles for the next prize.</p> <p>Pay particular attention to character spacing and word spacing.</p> <p>Record your sending. Playback and check spacing.</p>

Session 8 Preparation

MCT (Day 1): Recommended Effective Speed = 7WPM
WORD LIST TRAINER (Day 2 & 3): 1-3 Letter Words, 3 Letter Phrases

Day 1

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) FARNSWORTH SPEED AT 7WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters. Practice on all characters, but focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p>WITH EYES CLOSED</p> <p>Send the lyrics to a favorite song, poem, story, nursery rhyme, or other material that can be sent with eyes closed.</p> <p>The idea here is to send from your mind (thoughts to code). Try to think of words as a whole unit, thus avoiding intra-word pauses.</p>

Day 2

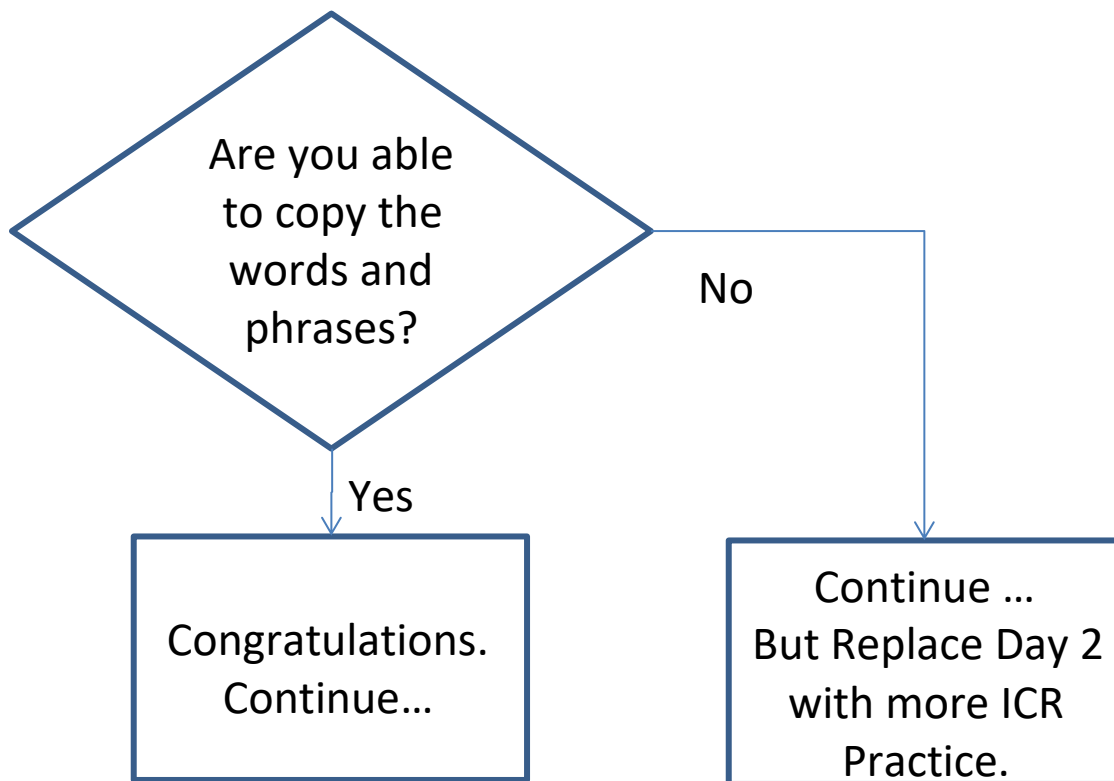
Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER (WLT) FARNSWORTH SPEED AT 7WPM</p> <p>Practice the Following: 1-3 Letter Words</p> <p><u>REMEMBER:</u> Any difficulty head copying words always means your Character Recognition Speed is the culprit. ICR is the foundation; to recognize words you must recognize the characters in the word. DO NOT try to memorize each character and assemble the word later - build the word in your mind as the characters are recognized. This is an important new skill to learn; we will discuss in class.</p> <p>Headcopy and speak each word aloud. Ignore the ones you miss! Let them go! Don't stop the session.</p>	<p>Practice sending the "Warm-up" section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing – the copy-ability of your sending.</p> <p>WITH EYES CLOSED</p> <p>Send your call 10 <u>consecutive</u> times correctly. Send your name 10 <u>consecutive</u> times correctly.</p>

Day 3

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 7WPM</p> <p>Practice the Following: 3 Letter Phrases</p> <p><u>REMEMBER:</u> Difficulty head copying words means your Character Recognition needs more practice. ICR is the foundation of head copy skills; to recognize words you must instantly recognize the characters in the word. Learn to build the word in your mind as characters are recognized.</p>	<p>WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) five times.</p>

CHECKPOINT

Hopefully the word / phrase copy is going well.
If not, Begin Replacing Day 2 with MORE ICR Practice.



Because ICR is the foundation for successful word / phrase /callsign copy

Keep the main thing the main thing:
(Instant Character Recognition)

Session 9 Preparation

MCT (Day 1) - Recommended Effective Speed = 8WPM WORD LIST TRAINER (Day 2 & 3) – 1-4 Letter Words and Phrases

Day 1

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 8WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters. Practice on all characters, but focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p>WITH EYES CLOSED</p> <p>Send the lyrics to a favorite song, poem, story, nursery rhyme, or other material that can be sent with eyes closed.</p> <p>The idea here is to send from your mind (thoughts to code). Try to think of words as a whole unit, thus avoiding intra-word pauses.</p>

Day 2

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 8WPM</p> <p>Practice the Following: 1-4 Letter Words</p> <p>Head copy and speak each word aloud.</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you will recognize the characters in the word immediately or you won't. Don't pause & ponder; always be ready for the next character coming your way. Don't stop the practice session; stay with it all the way to the end.</p>	<p>Practice sending the “Warm-up” section of the Daily Morse Code Scales (see instructions above). Use your audio recorder and listen to your sending. Be critical of your character and word spacing – the copy-ability of your sending.</p> <p>WITH EYES CLOSED</p> <p>Send your call 10 consecutive times correctly. Send your name 10 consecutive times correctly.</p>

Day 3

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 8WPM</p> <p>Practice the Following: 4 Letter Phrases</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you either recognize the characters in the word immediately or you don't. Don't pause & ponder; always be ready for the next character coming your way. Don't stop the practice session; stay with it all the way to the end.</p>	<p>WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) in Morse code five times.</p> <p>Throw in the 4 punctuation marks for good measure ☺</p>

Session 10 Preparation

MCT (Day 1) - Recommended Effective Speed = 9WPM

WORD LIST TRAINER (Day 2 & 3) – 1-5 Letter Words

Day 1

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 9WPM</p> <p>Keep recording your sessions (speaking the characters) and keep refining and updating your list of troublesome characters. If the Farnsworth speed becomes too fast to speak, maintain a cognitive awareness of your character recognition accuracy. Practice on all characters, but focus some of your practice time on your troublesome characters. Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p>WITH EYES CLOSED</p> <p>Send both sides of a conversation. Think and send.</p> <p>Record your sending and listen for proper spacing.</p> <p>Again, watch your character and word spacing.</p>

Day 2

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 9WPM</p> <p>Practice the Following: 1-5 Letter Words</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you either recognize the characters in the word immediately or you don't. It's great practice either way!</p> <p>Don't pause & ponder; always be ready for the next character coming your way. Building words in your mind as the characters are recognized becomes essential at the 4 to 5 letter word and beyond level.</p>	<p>Repeat yesterday's sending practice.</p>

Day 3

Copy	Send
<p style="text-align: center;">WLT: FARNSWORTH SPEED AT 9WPM</p> <p>Practice the Following: 1-5 Letter Words again</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you either recognize the characters in the word immediately or you don't. Don't pause & ponder; always be ready for the next character coming your way. Build words in your mind as characters are recognized. This is an essential skill to acquire.</p>	<p>WITH EYES CLOSED</p> <p>Send the alphabet (A-Z) and the numbers (0-9) five times.</p>

Session 11 Preparation

Effective Speed = 10WPM

WORD LIST TRAINER (Day 2 & 3) – 1-5 Letter Words and 5 Letter Phrases

Day 1

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 10WPM</p> <p>Keep recording your sessions if you can speak quickly enough and keep refining and updating your troublesome character list. If the Farnsworth speed becomes too fast to speak, maintain a cognitive awareness of your character recognition accuracy.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send both sides of a conversation. Think and send.</p> <p>Record your sending and listen for proper spacing.</p> <p>Watch your character and word spacing.</p>

Day 2

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 10WPM</p> <p>Practice the Following: 1-5 Letter Words</p> <p>Relax about the ones you miss. Trying to force Character Recognition doesn't work – you will recognize the characters in the word immediately or you won't. It's all good practice! Don't pause & ponder; always be ready for the next character coming your way. Don't stop the practice session; stay with it all the way to the end.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send both sides of a conversation. Think and send.</p> <p>Record your sending and listen for proper spacing.</p> <p>Watch your character and word spacing.</p>

Day 3

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 10WPM</p> <p>Practice the Following: 5 Letter Phrases</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you will recognize the characters in the word immediately or you won't. It's all good practice!</p> <p>Don't pause & ponder; always be ready for the next character coming your way. Don't stop the practice session; stay with it all the way to the end.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send both sides of a conversation. Think and send.</p> <p>Record your sending and listen for proper spacing.</p> <p>Watch your character and word spacing.</p>

Session 12 Preparation
Effective Speed = 11WPM
WORD LIST TRAINER (Day 2 & 3) – 1-6 Letter Words

Day 1:

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 11WPM</p> <p>Keep recording your sessions if you can speak quickly enough and keep refining and updating your troublesome character list. If the Farnsworth speed becomes too fast to speak, maintain a cognitive awareness of your character recognition accuracy. Practice on all characters, but continue to focus some of your practice time on your troublesome characters.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send your callsign, name, and QTH faster than you can accurately send.... if you don't make mistakes, increase your speed until you do. Correct your mistakes.</p> <p>Record your sending.</p> <p>Check your rhythm and word spacing.</p> <p>Check your correction methods.</p>

Day 2

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 11WPM</p> <p>Practice the Following: 1-6 Letter Words</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you will recognize the characters in the word immediately or you won't. Relax - It's all good practice!</p> <p>Don't pause & ponder; always be ready for the next character coming your way. Build words in your mind as the characters are recognized. By now you realize this is an essential skill.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send your callsign and name a dozen times. If you make a mistake, hear it and correct it.</p> <p>Think of what you might say in a conversation and send that.... the weather, your busy day, etc.... things you would say to a friend if they called on the phone. Think it and send it.</p> <p>If you can't think of anything to say, send, "I can't think of anything to say." ☺</p>

Day 3

Copy	Send
<p style="text-align: center;">FARNSWORTH SPEED AT 11WPM</p> <p>Practice the Following: 1-6 Letter Words</p> <p>Ignore the ones you miss. Trying to force Character Recognition doesn't work – you will recognize the characters in the word immediately or you won't. Either way it's good practice!</p> <p>Don't pause & ponder; just miss – let it go and always be ready for the next character coming your way. Don't stop the practice session; stay with it all the way to the end.</p>	<p>If you have any recordings from previous sending sessions, listen to them and be very critical of your sending. Notice where the spacing should be improved, your overall timing, and whether incorrect characters were noticed and corrected. Have fun listening to yourself and be proud of your improvement.</p>

Session 13 Preparation

Effective Speed = 12WPM

WORD LIST TRAINER (Day 2 & 3) – Learn and Practice QSO Abbreviations

Day 1

Copy	Send
<p style="text-align: center;">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 12WPM</p> <p>Keep recording your sessions if you can speak quickly enough and keep refining and updating your troublesome character list. If the Farnsworth speed becomes too fast to speak, maintain a cognitive awareness of your character recognition accuracy.</p> <p>Repeat this process until the troublesome characters are recognized and spoken as quickly and correctly as all others.</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send your callsign, name, and QTH faster than you can accurately send... if you don't make mistakes, increase your speed. Correct your mistakes.</p> <p>Record your sending. Check your rhythm and word spacing. Check your correction methods.</p>

Day 2

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER (WLT) FARNSWORTH SPEED AT 12WPM</p> <p>Practice the Following: QSO Abbreviations (First review the QSO Abbreviations PDF to learn and become familiar with the meanings of QSO abbreviations)</p> <p>As Word List Trainer plays the QSO Abbreviations, speak aloud what each abbreviation means/stands for (speak the word, not the abbreviation letters). Ex: When you hear 'GG' say 'going'.</p> <p>Ignore the ones you miss. <u>This is an important skill.</u> Always be ready for the next abbreviation coming your way. Don't pause & ponder!</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Send your callsign and name a dozen times. If you make a mistake, hear it and correct it.</p> <p>Think of what you might say in a conversation and send that.... the weather, your busy day, etc.... things you would say to a friend if they called on the phone. Think it and send it.</p> <p>If you can't think of anything to say, send, "I can't think of anything to say." ☺</p>

Day 3

Copy	Send
<p style="text-align: center;">USING WORD LIST TRAINER FARNSWORTH SPEED AT 12WPM</p> <p>Repeat Day 2 Practice</p>	<p style="text-align: center;">WITH EYES CLOSED</p> <p>Pick a sentence, callsign, (anything) and send it over and over. Listen for your errors, correct them, and keep going.</p>

Preparing for the Final Stretch

We are approaching the final four sessions. Think back and appreciate how much you have improved your Character Recognition Speed! Regardless of how you plan to use your CW head copy skills, Instant Character Recognition is critically important for all aspects.

As we enter the final quarter, we'll be doing the following:

- Stay focused on continuing your Instant Character Recognition exercises.
- Head Copy Short Stories and QSOs. Practice files have been provided.
- Head Sending - focus on improving your sending with rhythm and good word spacing (eyes closed).
- (sending from your head is a different skill than sending printed words you are reading)

Keep making it fun!

However, also keep challenging yourself. Push past your comfort zone and assume that some content will pass you by. Your **Learning Zone** is whatever WPM speed where you miss about 20-30% or so of what's being sent.

Remember – this 'Letting Go Skill' (always being ready for the next character) is essential! Let those missed characters, words, phrases and even whole sentences go by. **Relax** – reset your brain and resume head copying where you can. Hang in there.

Keep up the great work!

Session 14 Preparation

MCT (Day 1) - Recommended Effective Speed = 13WPM

Practice Files on the Basic Class Webpage - (Day 2, 3): Short Story and QSO Practice

Day 1

Copy	Send
<p align="center">USING MORSE CODE TRAINER (MCT) INCREASE THE FARNSWORTH SPEED TO 13WPM</p> <p>Repeat the previous ICR Session 13 – Day 1 (but at 13-15 WPM)</p> <p>Note your Effective Speed copy ability; if you’re not at 13 WPM, that’s OK. Everyone learns CW head copy at different rates; this often depends on how much daily practice time you are able to do.</p>	<p>WITH EYES CLOSED</p> <p>Send your callsign, name, and QTH faster than you can accurately send... if you don’t make mistakes, increase your speed. Correct your mistakes.</p>

Day 2

Copy	Send
<p>Listen to Short Story SS-101 at 20WPM Effective Speed. https://cwops.org/prep-practice-files/ DO NOT try to copy – just hear the rhythm. After a few minutes, select the 10, 11, 12 or 14 WPM version and begin head copying. Eyes closed. No writing or taking notes.</p> <p>Copy what you can; assume you will miss characters and words. Missing some is OK - this is GREAT Learning Zone practice.</p> <p>When something is missed, instantly let it go and always be ready for upcoming content. Miss characters as fast as possible! This is a learned skill, and more important than you think. Repeat the process with Short Story SS-102 Repeat the process with Short Story SS-103</p>	<p>WITH EYES CLOSED</p> <p>Send your callsign and name a dozen times. If you make a mistake, hear it and correct it.</p> <p>Think of what you might say in a conversation and send that.... the weather, your busy day, etc.... things you would say to a friend if they called on the phone... Think it and send it.</p> <p>If you can’t think of anything to say, send, “I can’t think of anything to say.” ☺</p>

Day 3

Copy	Send
<p>Listen to QSO Practice QSO-101 at 20WPM Effective Speed. DO NOT try to copy – just hear the rhythm. After a few minutes, select the 10, 11, 12 or 14 WPM version and begin head copying. Eyes closed. No writing or taking notes.</p> <p>Copy what you can; assume you will miss characters and words. That’s OK - this is GREAT Learning Zone practice.</p> <p>When something is missed, instantly let it go and always be ready for the upcoming content. Miss characters as relaxed and fast as possible! This is a learned skill, and is very important.</p> <p>Repeat the process with QSO Practice QSO-102 Repeat the process with QSO Practice QSO-103</p>	<p align="center">WITH EYES CLOSED</p> <p>Pick a sentence, callsign, (anything) and send it over and over. Listen for your errors, correct them, and keep going.</p>

Session 15 Preparation
GET ON-THE-AIR and Report Results

Day 1

Copy	Send
<p>Watch Dave Casler's Anatomy of a CW QSO, get on the air!</p> <p>Make at least three QSOs today (more if you like) on the air. Remember – Head copy, but note the station's call sign, name and RST if you wish. Note the time and frequency.</p> <p>You should trade call signs, RST and op names with the other station. Missing stuff is OK - don't worry about missed copy!</p> <p>This can be contest QSOs (short exchanges), or conversational QSOs. You will report your results during class.</p>	<p>WITH EYES CLOSED</p> <p>Send your callsign, name, and QTH faster than you can accurately send.... If you don't make mistakes, increase your speed. Correct your mistakes.</p> <p>Record your sending.</p> <p>Check your rhythm and word spacing.</p> <p>Check your correction methods.</p>

Day 2

Copy	Send
<p>Make at least three QSOs today (more if you like) on the air. Remember – Head copy but note the station's call sign, name and RST if you wish. Note the time and frequency.</p> <p>The only requirement is that you trade call signs, RST and op names with another station. Don't worry about missed copy!</p> <p>This can be contest QSOs (short exchanges), or conversational QSOs. You will be reporting your results during class.</p>	<p>WITH EYES CLOSED</p> <p>Send your callsign and name a dozen times. If you make a mistake, hear it and correct it.</p> <p>Think of what you might say in a conversation and send that.... the weather, your busy day, etc.... things you would say to a friend if they called on the phone... Think it and send it.</p>

Day 3

Copy	Send
<p>Have three on-air QSOs again today. Again, head copy but note the call sign, op's name, RST, time and frequency.</p> <p>The same requirements as Day 1 and Day 2, but try to have a short conversation. Ask for his/her age or what rig they have. He/she will likely send their power and antenna info with their rig info. Head copy - relax about missed copy (Letting Go Skill).</p> <p>These can be contest QSOs (short exchanges), or conversational QSOs. You will report your results during class.</p>	<p>WITH EYES CLOSED</p> <p>Pick a pangram sentence and send it over and over. Listen for your errors, correct them, and keep going.</p> <p>Now send the pangram from memory (head send). Notice how different it feels from reading and sending.</p>

Session 16 Preparation
GET ON-THE-AIR and Report Results

Day 1

Copy	Send
<p>Have five QSOs today on the air. Call CQ or search and pounce. Again, head copy but note their call sign, name, RST, time and frequency.</p> <p>Try to have short conversations. Ask for his/her age or what rig they have. He/she will likely send their power and antenna info with their rig info. Reply with your rig, power and antenna info. Head copy only - relax about missed copy and be ready for the next character (Letting Go Skill).</p> <p>These can be contesting QSOs or conversational QSOs. CW conversations are better practice than short contest exchanges. Be prepared to report your results during the class.</p>	<p>WITH EYES CLOSED</p> <p>Send anything you want.... Send at a speed slightly (1 WPM) above your ability and stay there.</p> <p>Don't dial it back to your comfortable speed (stretch your sending ability).</p>

Day 2

Copy	Send
<p>Have five QSOs today on the air. Call CQ or search and pounce. Again, head copy but note the call sign, op's name, RST, time and frequency.</p> <p>Try to have short conversations. Ask for his/her age or what rig they have. He/she will likely send their power and antenna info with their rig info. Reply with your rig, power and antenna info. Head copy and relax about missed copy (Letting Go Skill).</p> <p>These can be contesting QSOs or conversational QSOs. CW conversations are better practice than short contest exchanges. Be prepared to report your results during class.</p>	<p>WITH EYES CLOSED</p> <p>Send your callsign and name a dozen times. If you make a mistake, hear it and correct it.</p> <p>Think of what you might say in a conversation and send that.... the weather, your busy day, etc.... things you would say to a friend if they called on the phone... . Think it and send it.</p>

Day 3

Copy	Send
<p align="center">On-air head copy practice yields (by far) the greatest improvement – and fun! Keep enjoying the journey.</p> <p align="center">Congratulations - You've completed the CWA's Basic class!</p> <p>Get-on-the-air and make new friends – Ham Radio is the original social network. Your skills will continue to improve with on-air activity. Please be prepared in this final class session to give your Advisors feedback. We always want and NEED to hear constructive criticism.</p> <p>Be proud of your accomplishments!!! MOST OF ALL.... HAVE FUN WITH CW!!!!</p>	

Basic Class - Appendix

Notes and Tips for Advisors (and Students)

Students that get behind STAY behind. There is no opportunity to “catch-up.” Urge students to “get ahead” and “stay ahead.”

This curriculum may seem unusual. Effective speed is intentionally slow in the beginning to provide Basic students time to discover and define which characters they are slow to recognize.

These ‘pause & ponder’ characters are the cause of nearly all of the struggles as we try to increase our head copy speed. This curriculum intentionally begins at four words per minute to allow each student time to define which individual characters to work on (Smart Practice). **Character Recognition Speed leading to Instant Character Recognition (ICR) is the foundation of head copy proficiency.**

Definition of Instant Character Recognition (ICR)

How is Instant Character Recognition quantified? Ask every student which character(s) are recognized the fastest. Most will say, “e” and “t.” Use those characters as a baseline for all others. When the student can recognize all the characters as quickly as “e” and “t” they have achieved fairly good Character Recognition Speed, and at least their initial level of Instant Character Recognition.

Instant Character Recognition is a skill necessary for whatever route the student chooses to enjoy CW (contesting, rag chewing, DXing, etc.). While this curriculum does not focus on any ultimate destination for the student, it certainly provides them with the necessary Character Recognition tools and skills that they need.

Tips and Notes

Early in the Class Process:

- Every advisor should become familiar with the use of the tools as described in this curriculum. Experienced CW operators must work hard to connect with the student experience. This means that each advisor should also use MCT and practice their Character Recognition skills at speeds that challenge them (fast character speed and somewhat slower effective/Farnsworth speed), speaking the characters, recording themselves and playing back the audio to discover which characters are recognized slower than others. Everyone has characters that lag others in recognition time. If you are not already aware, become familiar with your own list.

- As the class begins (perhaps even before, one-on-one), emphasize that this class will take a serious level of commitment and self-discipline. Students should know that their Day 1, 2 & 3 practice (or lack of it) will be on display in-class through joint practicing. The intent is never to embarrass anyone but rather to encourage everyone to “keep up with the group”
- Early in the course, once MCT and ICR have been introduced, ask at least each student to share their MCT screen and demonstrate their usage and MCT settings to the rest of the class. This will avoid problems with the student unwittingly wandering off the path. It also encourages accountability.
- At any time during the course, students need to know that they may be asked to demonstrate their practicing progress.
- Improvement is the students’ responsibility – not the Advisors’. Advisors make every effort to help students learn how to learn during class by offering tips and head copy practice techniques. Basic Class advisors are teaching students how to learn to head copy code, not teaching the code. The Beginner Class teaches and helps students learn the code. This is a significant distinction; it’s up to the student to learn to head copy CW by following the curriculum. Never work harder than the student.
- This curriculum puts speed controls in the hands of the students with Morse Code Trainer. However, emphasize to the students that once they have achieved proficient levels of ICR, they should push themselves to the next speed just beyond their comfort zone (but not into the impossible zone). Learning & improvement happens best in that **Learning Zone**.

Instant Character Recognition (ICR) – Student Experiences

- At ALL times, students are to keep their eyes closed while copying. While sending, eyes are to be closed unless sending from text. This method eliminates the use of decoders, pencils, etc. Turning off visual distractions allows the mind to focus on the aural-only experience of the code.
- Students tend to focus on speed, as do most of us. However, head copy speed is always dependent upon ICR proficiency. ICR improvement is directly relative to ICR practice time! This course emphasizes Character Recognition proficiency, which is the heart of head copy proficiency. The course emphasizes focused Smart Practice in a direction that produces speed as a side-effect.
- A student should move to the next step in the effective (Farnsworth) speed when they have achieved Character Recognition to a level of approximately 75%. One can always hope for better during QSOs, but during practice they should strive to stay in the **Learning Zone** and not exceed 75% head copy accuracy. When 75% character and word recognition is reached, it’s time to increase the effective/Farnsworth speed.
- A common struggle for students is not letting go of missed content (characters, words, etc.). Emphasis must be placed on developing the all-important skill of always being ready for the next character during

class discussions. **Whether correct copy happens or not, each outcome (copy/not copy) must be viewed as emotionally equal.** Students need to be told to MISS FAST! **Missing IS NOT failure;** students must immediately put missed characters behind them to be ready for the next one coming at them. Students that relax about missing characters and acquire this vital “Letting Go” skill sooner than others will succeed at a faster pace (and vice versa).

- Students will often increase the Effective Speed (Farnsworth) beyond where they are capable of, and/or not follow the curriculum. If that happens, ask the student to share their MCT screen and demonstrate their justification for increasing their Farnsworth speed. If they are justified, encourage them. Otherwise, they should return to a speed that is challenging but appropriate for their particular CRS practice and training.
- Instant Character Recognition is emphasized throughout the course. Keep the students focused on ICR practice (in Morse Code Trainer) even though they want to progress to more advanced methods of copy practice. We understand that Character Recognition practice is rigorous and not the most enjoyable type of training. A student’s tendency may be to spend more time on the “fun” stuff – words and phrases in Word List Trainer. Therefore, balance the course work with the fun material during class (copying words, abbreviations, QSO practice, etc.) but be aware of students’ tendency to forego the rigors of ICR practice.
- At some point in the Character Recognition process, the effective speed will be too fast for the students to speak the characters aloud (probably around 8-10 WPM). At that point, they should be encouraged to silently head copy but maintain a cognitive awareness of which characters have a delayed recognition time.
- As the course introduces character strings (abbreviations, words, call signs, etc.), one effective suggestion is for students to listen to code quite a bit faster than they can copy – just listen – don’t try to copy. Then they can slow the speed to their challenging head copy speed – **their Learning Zone**. This “tricks” the brain into making their Learning Zone speed sound easier and slower.

Request for Comment

- If you have any questions / concerns / recommendations, PLEASE feel free to contact the CW Academy managers (<https://cwops.org/cwa-class-resolution/>). This curriculum is a work-in-progress and a culmination of significant effort, feedback and evidence-based results. We are aware that constant improvement is a good thing, and always look for ways to improve. Feedback is important to the process. Thank you! Good luck with your classes. 73... de CW Academy.