



**Practice Instructions and Homework Assignments
for the Beginner CW Academy Course (Second
Edition) By: Rob, K6RB**

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2019 - Revision 2.1 by Bob Carter, WR7Q; Change course name from Level 1 to Beginner 2016 - Revision 2.0 by Rob Brownstein, K6RB

2020 - Apr - Rev . 2.2 by Bob Carter , WR7Q; Change Session 7 Sending Segments : to Copying Segment

2020 – Sep – Rev 2.5 by Jim Carson WT8P; Change Skype to Zoom, added summary of each lesson, links, formatting for having it in front of students. Added note on WebSDRs (for those who want to listen from work or without a good antenna) and a section with a quick use guide.

Welcome to CW Academy's Beginner course. Before you take note of the homework assignments, below, you should understand how we expect you to practice during the eight-week course.

Your course is broken up into 16 sessions corresponding to a twice weekly online meeting with your advisors. You are expected to practice the assignment for session 1, for example, before the line session so that the advisor can assess your progress and any problems. So, you practice the session 1 assignments for the days preceding session 1, and then practice the session 2 assignment for the days preceding session 2, and so on.

There are two key tools we use to ensure your success in this course. One is [Zoom](#) which enables us to meet in a virtual training room two times per week, online. We can see and hear each other and can hear any code being sent.

But the most important tool is [Morse Trainer](#). To set it up, read "Using Morse Trainer." Morse Trainer is pre-loaded with your homework assignment segments. You will play them, over and over, until you feel comfortable that you recognize each letter's and number's sound pattern. Note, I did not say each letter's and number's dots and dashes or dits and dahs -- I said sound pattern. That is the secret to learning Morse in a way that will scale up in speed as you progress.

So, for example, your first homework assignment is to play the following segments, one at a time, until you feel you can recognize them:

T T T T T	TEA	AT	TEN
E E E E E	TEE	TAT	NET
A A A A A	EAT	TEEN	TAN
N N N N N	ATE	NEAT	

To enter a segment into Morse Trainer, simply select the session/segment from the menu, then hit "play." You can repeat a segment by hitting "play" repeatedly. When you are done, select the next segment in place of the previous segment, and continue.

This constitutes your ‘copying’ practice. The key is to learn to recognize a letter or number’s pattern, and then recognize words that use those letters. You will start out by adjusting the speed of Morse Trainer so that letters and words are sent at 20 wpm.

Each homework assignment also has segments for ‘sending’ practice. For example, Session 1 has the following sending segments:

TEA

TEN

NET

TEE

What you will do is select a segment, and then play it. Then you will try to imitate it, exactly, using your key or keyer. Repeat it as many times as it takes to feel like you’ve gotten the correct word pattern. For example, “tea” will sound like “dah” space “dit” space “didah.” If you don’t have enough space, say, between the “t” and “e”, it will sound like “dahdit” “didah.” That is “na” and not “tea.” Timing is everything in sending.

So, before you meet for session 1, you should be able to recognize the patterns of the letters “t”, “e”, “a” and “n.” And you should be able to recognize the patterns of the words “tea,” “ten,” “net,” and “tee.” And you will be able to do that at 20 wpm!

During your first session, your advisor will be sending those words to you, individually, and seeing if you have learned them. Then, he/she will ask you, individually, to send words to assess how well you have learned good element (dit or dah) timing and spacing.

You probably realize, now, that most of your time and effort will be spent using Morse Trainer BEFORE each session, and the session is primarily used for assessment and constructive suggestions.

You will find that you should be spending at least 30 minutes per day, including session days, broken up into 15-minute periods. But take as long as you need to feel comfortable that you have ‘gotten’ the copying and sending segments down before each session.

Okay, now that you know what’s expected of you, here are the homework assignments organized by session and segment.

Homework Assignments

Session 1: A, E, N, T

Copying segments:

T T T T T	TEE	TEEN	EAT AT
E E E E E	EAT	NEAT	TEN
A A A A A	ATE	TEN	ATE AT
N N N N N	AT	NET	TEN
TEA	TAT	TAN	AT TEE

Sending segments:

TEA	NET	EAT AT TEN
TEN	TEE	AT TEE

Session 2: I, O, S, 1, 4

Copying segments:

T T T T T	TON	NET	N1AS
E E E E E	TIN	NIT	N4ON
A A A A A	TIE	TOES	S41T
N N N N N	TOE	STONE	NO1S
O O O O O	NO	TEASE	AI1E
I I I I I	NOT	NOISE	IT4O
S S S S S	NOTE	ONE NEAT NOTE	EA1ON
1 1 1 1 1	IT	NO NOISE	ES4IT
4 4 4 4 4	AT	TIE IT	
TEN	ONE	1 TON STONE	
	NEAT		

Sending Segments:

STONE	IT	S41T	ES4IT
TIN	6	NO1S	1 TON
TIE	AT	AI1E	STONE
NO	N1AS	IT4O	14 NOTES
NOT	N4ON	EA1ON	TEN TOES

Session 3: D, H, L, R, 2, 5

Copying Segments:

O O O O O	DEAL	SEAL	142
I I I I I	THE	SELL	451
S S S S S	THEIR	SOLE	1425
R R R R R	DOLL	SHE	A TALL
H H H H H	DELL	SHED	HILL
D D D D D	HALL	HER	SHE IS
L L L L L	HILL	HEAR	HERE
2 2 2 2 2	HOLE	DL1AT	HE IS LATE
5 5 5 5 5	LOAD	HH5H	4 SHEDS
ALL	LEAD	HS1TD	12 HILLS
TELL	LATE	ND2T	
TALL	LATER	NA4T	

Sending Segments:

ALL	SHE	ND2T	SHE IS
TELL	HER	NA4T	HERE
THE	DL1AT	142	HE IS
LEAD	HH5H	451	LATE
LATE	HS1TD	1425	

Session 4: U, C

Copying Segments:

R R R R R	TOUCH	TOIL	CO5NO
H H H H H	SUCH	COIL	NU4R
D D D D D	TEACH	RAIN	CT1AC
L L L L L	REACH	CAUSE	CE1NI
1 1 1 1 1	SUN	SAUCE	4241
4 4 4 4 4	SON	TOSS	1452
U U U U U	HOLD	TOLL	IN THE
C C C C C	TOLD	TALL	CELL
CHAT	SAIL	TELL	THAT
CHAIR	RAIL	CELL	HURTS
CHIN	TAIL	CALL	AT THE
CHART	NAIL	NC5A	HALL
OUCH	OIL	NA2T	HOLE IN 1
COUCH	SOIL	CU1LL	

Sending Segments:

CHAT	TALL	CO5NO	1452
CHIN	TELL	NU4R	SAIL ON
TEACH	NC5A	CT1AC	SAILOR
SAIL	NA2T	CE1NI	TELL ALL
RAIN	CU1LL	4241	HOLD ON

Session 5: M, W, 3, 6, ?

Copying Segments:

U U U U U	MILL	WHERE	W6AM
C C C C C	CHUM	WAS	N2AT
2 2 2 2 2	MOW	WISH	RW5L
5 5 5 5 5	MUCH	WASH	ON4UN
M M M M M	SUCH	MAT	335
W W W W W	WATER	MATT	1432
3 3 3 3 3	WET	MEL	6122
6 6 6 6 6	WHAT	HIM	WELL WATER
? ? ? ? ?	DEW	HER	HOW IS IT?
WAIT	DATE	HIS	IS THIS IT?
WALL	ATOM	HW?	THIS IS IT
WELL	TOW	W3AA	
WILL	TOWER	N3AM	
MALL	WERE	DM5RA	

Sending Segments:

WAIT	DATE	N2AT	6122
WELL	W3AA	RW5L	THIS IS IT
MALL	N3AM	ON4UN	1432 HILL
MILL	DM5RA	335	STREET
WET	W6AM	1432	1 AND 4 IS 5

Session 6: F, Y

Copying Segments:

M M M M M	CUTE	HAY	NO3M
W W W W W	NOISE	YOUR	AA3U
3 3 3 3 3	LARRY	FAIR	S52R
6 6 6 6 6	ROY	FARE	1512
F F F F F	TON	FAR	3316
Y Y Y Y Y	TEETH	FUR	IS THIS FAIR?
YOU	FEET	FURRY	YES IT IS
TOY	YET	HW?	THE FUR FLIES
FOOT	THEY	F5IN	SHE IS SHY
TOOTH	SAY	YO1AR	I SAY NO
ROOT	RAY	HH5H	SHE SAYS YES

Sending Segments

CUTE	FEET	NO3M	SHE SAYS YES
SAID	HW?	AA3 U	HE SAYS NO
RAID	F5IN	S52R	WHO IS HE?
STIR	YO1AR	1512	HE IS WILL
HIM	HH5H	3316	NO HE IS WA

Session 7: G, P, 7, 9, /

Copying Segments:

F F F F F	GLARE	PIPE	N1AR/5
Y Y Y Y Y	LARGE	PIT	W9UCA/9
3 3 3 3 3	LEDGE	GAIN	W3/PY2AA
6 6 6 6 6	GEORGE	GARAGE	F6/N6AM
P P P P P	GEO	GUARD	2N2222
G G G G G	CHAS	GAS	7423
7 7 7 7 7	CHASE	GUS	14253679
9 9 9 9 9	CHANGE	CHUG	HE IS A PRO
/ / / / /	PEG	YES	SHE IS NEAR
PAGE	PUG	YET	DO NOT GAPE
PAPER	PIG	YONDER	HE IS AT 19
PEPPER	PEN	COY	GLEN STREET
GLAD	PENCIL	G4AN/3	

Sending Segments:

PAGE	G4AN/3	7423
GLARE	N1AR/5	14253679
LEDGE	W9UCA/9	GO TO HER
GEORGE	W3/PY2AA	READ THE PAGE
PEN	F6/N6AM	WAT PAGE?
PIT	2N2222	PAGE 15

Session 8: B, V

Copying Segments:

B B B B B	SOLVE	BEST	N6RB/4
V V V V V	VOLT	BILL	W2/VE1AR
7 7 7 7 7	VAULT	BUILD	VE2/W2LE
9 9 9 9 9	BAD	BUILT	6146
/ / / / /	BODY	BOLT	5514
VOTE	BORE	BULB	NAME IS BOB
VAT	BORN	BLAME	NAME IS BILL
VIEW	BARN	BLEND	NAME IS TED
WAVE	BARNEY	BLAND	NAME IS
PAVE	BRAD	BLOW	VINNIE
SAVE	BREAD	BV2AA	UR RST IS 559
VOW	BED	BA1RO	UR RST IS 459
VALVE	BETTER	WB2AE	

Sending Segments:

VOTE	BV2AA	W2/VE1AR	NAME IS BILL
VALVE	BA1RO	VE2/W2LE	NAME IS ART
BED	WB2AE	6146	UR RST IS 579
BEST	N6RB/4	5514	UR RST IS 449

Session 9: 0, 8, J, K

Copying Segments:

B B B B B	EACH	THEIR	VE3NE
V V V V V	TEACH	SWITCH	VA3KP
K K K K K	HELP	LINE	K4BAI
J J J J J	HIGH	ANT	N5KO
8 8 8 8 8	HILL	DIPOLE	807
0 0 0 0 0	FACT	VERTICAL	3500Z
JACK	FACE	OHMS	4250A
JAY	FAR	HOME	HW IS HE?
JOHN	FEAR	AWAY	NAME IS JOE
JIM	THEN	TEST	NAME IS JOHN
JERRY	THEIR	ASIA	NAME IS JIM
BACK	HIM	AFRICA	UR RST IS 579
RACK	HER	K1JD	UR RST IS 339
TACK	HIS	N1AR	SRI NO CPY
TECH	HERS	W2TT	<BT><BT><BT><BT><BT>
TACH	THEM	K2UMU	
REACH	THEY	N2NW	

(ensure you have selected "pro signs" on Morse Translator)

Sending Segments:

JACK	K1JD	K4BAI	NAME IS JOHN
TACH	N1AR	N5KO	NAME IS BOB
REACH	W2TT	807	UR RST IS
EACH	K2UMU	3500Z	549
FEAR	N2NW	4250A	
HIS	VE3NE	NAME IS FRED	
ANT	VA3KP	NAME IS TOM	

Session 10: Q, X, Z

Copying Segments:

K K K K K	DALLAS	NC	SYDNEY
J J J J J	HOUSTON	SC	ZL2TT
8 8 8 8 8	NM	SDGO	VK4OM
0 0 0 0 0	NJ	LAX	JE1TRV
X X X X X	CA	LA	BA1CW
Q Q Q Q Q	UT	ON	KH6LC
Z Z Z Z Z	AL	SK	AL2A
WL	AR	MB	AA3B
UR	IL	NT	8044
OK	IN	AB	7400
HW?	ME	QC	73
QRX	MA	NB	U HV QSB
RIG	CT	NS	U HV QRM
WX	CO	NR	NAME?
ANT	QRM	RST	QTH?
PWR	NE	UK	QTH IS NY
KW	SD	USA	QTH IS PARIS
NAME	ND	TOKYO	PSE QSY TO 7054
MEMPHIS	PA	PARIS	<BK><BK><BK><BK><BK>
NYC	KY	LONDON	
SF	FL	HAMBURG	

Sending Segments:

WL	KW	JE1TRV	UR RST IS 579
UR	QRZ	BA1CW	QTH IS NR TULSA
OK	QTH	KH6LC	NAME IS BARRY
QRX	QRS	AL2A	UR RST IS 559
RIG	QRO	AA3B	QTH IS DAYTON OH
WX	QRP	8044	NAME IS JOHN
ANT	ZL2TT	7400	
PWR	VK4OM	73	

Session 11: QSO Location

Copying Segment:

[Your callsign] de k6rb
ur rst 579 nr sf name rob hw?

[Your callsign] de k6rb k

[Your callsign] de n3jt ur rst is 5nn <bt>
qth mclean va ? Mclean va <bt>
op is jim de n3jt

[Your callsign] de w1rm <bt>
ur rst 569 569 in ct name is pete bk

Sending Segment:

k6rb de **[Your callsign]** -
ur rst 57n in **[your city and ST]** -
name is **[your name]**
btu k6rb de **[Your callsign]** k

n3jt de **[Your callsign]** -
ur rst 56n in **[your city + ST]** -
name is **[your name]** -
n3jt de **[Your callsign]** k

w1rm de **[Your callsign]** -
ur rst 45n wid QRN in **[your city + ST]** -
name is **[your name]** -
w1rm de **[Your callsign]** k

Session 12: QSO Weather, Rig, Age

Copying Segments:

[Your callsign] de k6rb
wx cldy temp 58 <BT>
rig runs 100 w to vert <BT>
age is 66 so hw? **[Your callsign]** de k6rb k

[Your callsign] de n3jt <BT>
wx rain temp 42<BT>
rig is k3 es ant is 4 el yagi -
age is 65 ok? de n3jt

[Your callsign] de w1rm
wx snow temp 24
rig is IC 7700 pwr is kw es ant is dipole
age is 70 hw? BK

Sending Segments:

k6rb de **[Your callsign]** -
wx sunny temp 82 -
rig runs **[your power]** w to **[your antenna]** -
age is **[your age]** hw?
k6rb de **[Your callsign]** k

n3jt de [your callsign] -
wx rain temp 54 -
rig runs **[your power]** w to **[your antenna]** -
age is **[your age]** hw?
n3jt de **[Your callsign]** k

w1rm de **[Your callsign]** -
wx oc temp 70 -
rig runs **[your power]** w to **[your antenna]** -
age is **[your age]** hw?
w1rm de **[Your callsign]** k

Session 13: Pro-codes

Copying Segments:

[Your callsign] de k6rb tn timer qso es
hpe cu agn 73 <SK> [Your callsign] de
k6rb ee

[Your callsign] de n3jt nice qso tn timer cul
73 <SK> [Your callsign] de n3jt gn

[Your callsign] de w1rm -
enjoyed qso <SK> [Your callsign] de w1rm
ee

Sending Segments:

k6rb de [Your callsign] tu timer qso cu agn 73
<SK> k6rb de [Your callsign]

n3jt de [Your callsign] cul es nice qso 73
<SK> k6rb de [Your callsign] ee

w1rm de [Your callsign] enjoyed qso also 73
<SK> w1rm de [Your callsign] cu ee

Session 14: Listen on the air and try to copy

Before online sessions, listen to HF radio on CW sub-bands. Listen for slower stations calling CQ and copy their callsigns. Listen to slower stations in QSO and see if you can copy what they are saying. Practice sending first, second and wrap exchanges.

Note:

During daytime, try:

20M: 14.030 – 14.060, 14.100 – 14.110

At night, try:

40M: 7.030 – 7.060, 7.100 – 7.110

80M: 3.525 – 3.600

Practice sending your callsign, UR QTH and UR NAME – repeatedly!!!

Session 15

No homework

Session 16

No homework

Web SDRs

If you want to listen (with headphones) at work or are having difficulty picking up anything, there are online radios:

Europe:

Cheshire, UK <http://hackgreensdr.org:8901>
Enschede, NL <http://websdr.ewi.utwente.nl:8901>
Mora, SE <http://websdr.sk4ko.com:8901>
Ulvila, FI <http://websdr.fi:8080>
Wismar, DE <http://d1wis-websdr.ham-radio-op.net:8901>

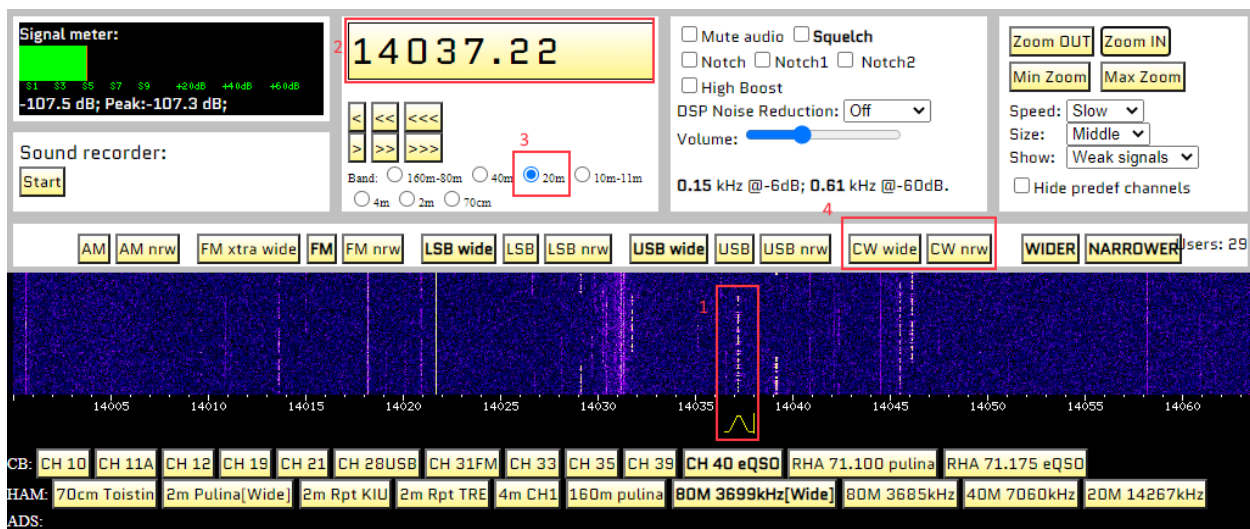
North America

Birmingham, AL: <http://n4dkd.asuscomm.com:8901/>
Half Moon Bay, CA: <http://69.27.184.62:8901/>
Milford, PA: <http://k3fef.com:8901/>
Northern UT: <http://www.sdrutah.org/> (there are four servers)
Sedona, AZ: <http://w7rna.dyndns-remote.com:8901/>
Washington, DC: <http://na5b.com:8901/>

The screens are daunting and have different layouts for each one, but the most important settings are enumerated below:

- 1) **Waterfall of the spectrum** – brighter lines represent signals. You can zoom in/out and pan around to focus on the specific area of the band. For example, for 20M, you might watch 14025 – 14045. The red box represents where I am currently tuned. You can see a strong, narrow signal.
- 2) **Frequency selection** – This is the most precise. On some sites, you can click the mouse and use its scroll wheel. Typically, CW frequencies will fall on 50Hz intervals, but adjustments slightly off may be easier to copy.
- 3) **Band** – A quick way to select frequency; sometimes these will have a mode (Choose CW)
- 4) **Bandwidth** – This lets you limit how wide a chunk you are listening to. When starting out with CW, it is helpful to choose “CW nrw” (narrow) so you will hear a specific caller.

In the screen capture below (Ulvila, FI), I have set it up to listen to CW on the 20M band at 14037kHz with a narrow CW filter. F6HKA is currently calling CQ CWT.



In the screen capture below, I have set it up to listen to CW on the 40M band at 7030kHz (or 7.030MHz) with a narrow filter. N0FU is currently calling CQ.

The screenshot displays the WebSDR interface with the following elements:

- Waterfall Plot:** Shows a signal at 7030 kHz. A red box labeled '1' highlights this frequency.
- Frequency Control Panel:** Shows the frequency set to 7030 kHz and Mode set to CW. A red box labeled '2' highlights the '40cw' mode selection.
- Bandwidth Control Panel:** Shows the bandwidth set to 0.15 kHz. A red box labeled '3' highlights this selection.
- Sig. strength plot:** A dropdown menu is highlighted with a red box labeled '4'.
- Logbook:** A section at the bottom left for recording call signs and comments.
- Waterfall view controls:** Includes zoom in/out and max/min buttons.
- Bandwidth controls:** Includes buttons for CW-wide, LSB-wide, USB-wide, AM-wide, FM-wide, and their narrowband counterparts.
- Passband Tuning (PBT):** Includes buttons for wider, narrower, low PBT, and high PBT.