

Get Started with CW the Easy Way!

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8 September 2026

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This presentation can be found at:
www.deloach.net/SBCARA/



Bencher BY Series Iambic CW Paddle

Introduction

What is CW?

- CW stands for “Continuous Wave”, a traditional radio communication mode in Amateur Radio that uses on-off keying of a single carrier frequency to transmit Morse code
- It’s been around since the dawn of radio communications, and it’s still in use today

What's So Special About CW?

- CW gets through in weak signal conditions when voice communication will not work
 - CW needs much less bandwidth – about 100 Hz – making it particularly useful in high noise ('QRN') or high interference ('QRM') situations
 - Low power ('QRP') is much easier to use with CW
- CW equipment is simpler, smaller, and cheaper
 - You can even build CW equipment yourself!
- But where CW really shines is for contests
 - More on this later in this presentation

Morse Code

How to Decode Morse Code

- Software and equipment can now decode CW Morse code for you:
 - Apps like [CW Decoder](#), [MRP40](#), and [Fldigi](#) can decode CW, using your sound card and PC
 - Some newer rigs include built-in CW decoding, like the [Icom IC-7300MK2](#)
 - Stand-alone decoder boxes exist, like the [DitStorm Cypher](#)
- But to use CW effectively, ***it really helps to be able to decode the CW yourself by ear*** – at least a little bit
 - Without this, it is hard to be responsive enough to what is happening in the QSO
- So how do you start learning Morse Code?

How To Learn Morse Code - Apps

LOTS of software apps are out there for you to get started learning Morse Code – I asked around and here are a few favorites:

- [Morse Mania](#): [Android](#) / [iOS](#) app for learning Morse Code from scratch using the “Koch Method”
 - With the “Koch Method”, you learn characters at full speed right from the beginning, starting with 2 characters, then steadily adding characters as your proficiency grows
- [G4FON](#) (SK) authored two popular PC programs including:
 - a “Koch Method” trainer for beginners for the PC
 - A contest trainer that simulates specific contests in realistic conditions
- [Morse Runner](#): also simulates realistic conditions for contests – what I use to get ready for Field Day
- [RufzXP](#): builds Morse copying speed by receiving call signs

How To Learn Morse Code – Online Programs & Resources

There are also educational programs as well as online classes and other resources – here are a few favorites:

- [CW Academy](#): offers free, structured, small-group online instruction and peer mentoring
- [Long Island CW Club](#): has weekly online video conference classes
- [Learn CW Online \(LCWO\)](#): offers an online, browser-based Koch Method CW course, with community score tracking and a community forum
 - Tim has set up a [LCWO User Group for the SBCARA](#)

How to Get Started with CW Once You Know Some Morse

How to Get Started with CW

- Once you have practiced Morse code with an app and/or with an online class, and you're ready to dip your toe in the water, it's time to get on the air!
- **The easiest way to start using CW is during friendly contests**

Why Contests Are the Best Way to Start Using CW

- The exchanges in many CW contests & other on-air events are *short* and *highly prescribed/predictable*, thus *easier to copy*
- Also, certain contests and other events are just more friendly to CW newbies
 - Non-DX contests, where sophisticated multipliers are not involved and participants are encouraged to maximize total number of QSOs, tend to be the best
 - Think Field Day, Winter Field Day, California QSO Party, etc.
- Best to avoid contests that involve a sequence number

Other Advantages of Contesting with CW

- CW contest exchanges can be surprisingly quick
 - Much quicker than the digital modes and even quicker than voice when well executed
- Exchanges work reliably in much weaker signal conditions and when operating QRP
- ‘QRM’ interference and pile-ups are much easier to manage with CW, so you get through them quicker
- Often CW QSOs are awarded more points

Example of a CW *Field Day* Exchange

**W1AW, a 3A station
in Connecticut, is
calling CQ**

**N6SBC, a 5A station
in Santa Clara Valley,
is responding to CQs**

*W1AW is calling CQ.
Note the lean & mean
CQ – no 'K' at the end,
no going on and on...*

CQ FD W1AW W1AW FD

*W1AW acknowledges
N6SBC's call sign and sends
its FD class and section.*

N6SBC 3A CT

*N6SBC responds with
the call sign sent a
single time*

N6SBC

*N6SBC sends 'R',
meaning W1AW's
exchange was 'received',
then sends its FD class
and section.*

R 5A SCV

*W1AW acknowledges
receipt of N6SBC's FD
exchange by sending 'TU' =
'Thank You', and the QSO
successfully completes.*

TU QRZ W1AW FD

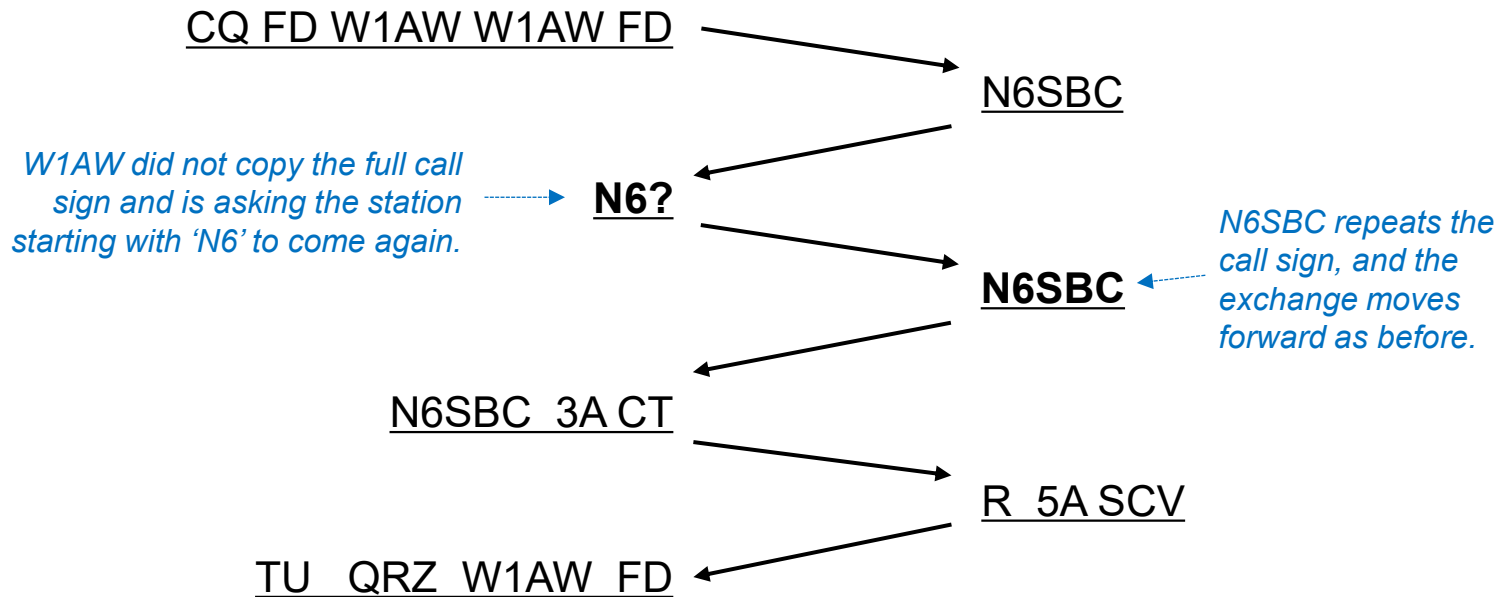
*W1AW then immediately
calls QRZ and is looking
for the next station.*

Field Day Exchange Variations

– *Missed Call Sign*

**W1AW, a 3A station
in Connecticut, is
calling CQ**

**N6SBC, a 5A station
in Santa Clara Valley,
is responding to CQs**



Field Day Exchange Variations

– *Missed Section*

W1AW, a 3A station
in Connecticut, is
calling CQ

N6SBC, a 5A station
in Santa Clara Valley,
is responding to CQs

CQ FD W1AW W1AW FD

N6SBC

N6SBC 3A CT

R 5A SCV

*W1AW missed the ARRL Section
and is asking for it to be repeated*

SEC?

SCV SCV

*N6SBC repeats
the ARRL Section.*

R TU QRZ W1AW FD

*W1AW acknowledges
receipt of N6SBC's FD
exchange and moves on.*

Field Day Exchange Variations

– *Chattier QSO Wrap-up*

**W1AW, a 3A station
in Connecticut, is
calling CQ**

**N6SBC, a 5A station
in Santa Clara Valley,
is responding to CQs**

CQ FD W1AW W1AW FD

N6SBC

N6SBC 3A CT

R 5A SCV

RR GL 73 dit dit

dit dit

CQ FD W1AW W1AW FD

*Here, W1AW is wishing
N6SBC 'good luck' and
sending 73s. The 'dit dit'
(two 'e' characters) is like
waving goodbye.*

*Always respond to a
'dit dit' with a 'dit dit'.*

*W1AW then goes
back to calling CQ..*

Hints to Make Your First CW Contacts Easier

- Respond to CQs ('hunt & peck') and don't try to call CQ
- Monitor the QSOs of the station you want to work before responding to the CQ
 - Capture call sign and contest exchange
 - Then, when you are ready to respond to the CQ, you know exactly what the station is going to send you

CW Speed to Use in Contests

- For CQ callers going 20 words per minute (wpm) or faster, I have found that it is best to set my transmit speed to about 20wpm so that my call falls within the gap in time when the sender is listening
- CQ callers will expect that you have already copied their call and exchange if you are struggling with CW, so they won't typically slow down unless you ask them to ("PSE QRS" = "please slow down")
- If the CQ caller is going slower than 20 wpm, match that speed
 - Listen for less proficient CW operators calling CQ at the high end of the band
- It is always OK to ask for specific contest info again:
 - "CALL?" asks for the call again
 - "SEC?" asks for the section again
 - "CLASS?" asks for the class again
 - "AGN" just means "again" and the sender repeats the last transmission

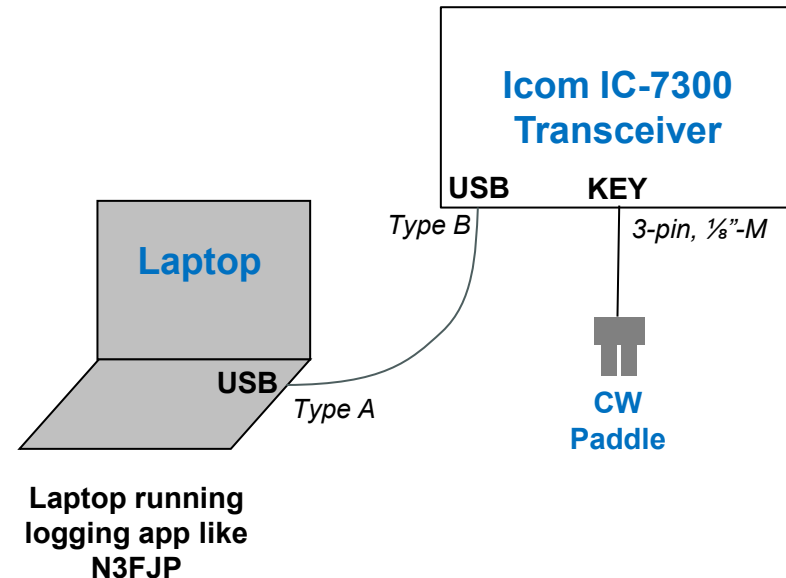
CW Equipment & Software Setup

Setting Up a CW Contest Station

- It is *really helpful* to have the logging program (e.g., N3FJP) automatically send your outgoing Morse exchanges using F-keys
 - That way, rarely will you need to manually send Morse with a straight key or paddle, and your hands stay on the keyboard
- There are two common approaches:
 - A command message sent from the logging program to the rig instructing it to send a specific Morse string
 - An interface device like 'WinKeyer' that facilitates keying via the rig's CW jack

Send CW Via Command Interface to the Rig

- Some rigs like the Icom IC-7300 allow you to transmit CW by embedding CW text in a command
- This command string is then placed in a memory of the logging program tied to an F-key
- Pressing the F-key will transmit the CW text
- The CW paddle still works, and using it will abort any pending CW
- CW speed is set in the rig, and is the same for text sent by the logging program or the paddle
- This is the simplest & best approach



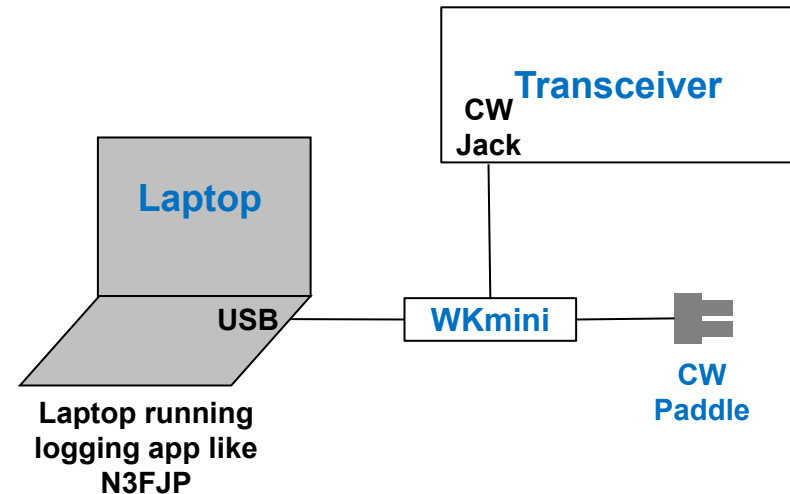
N3FJP CW string setup for the IC-7300:

- In any N3FJP logging app, press CTRL-W to bring up the CW Setup Form.
- Set 'Keying Options' to NONE.
- Enter packets in the Fx fields with the CW to send enclosed within curly brackets like this:

RI:FEFE94E017{5A SCV}FD

Send CW Via WinKeyer

- For transceivers without a command capability, a “WinKeyer” interface box like the “[WKmini](#)” is used to translate serial characters into Morse
- The CW strings are captured in the logging program
- When an F-key is pressed, the CW string is sent over a serial interface to the WKmini, which keys the rig
- CW speed for both the logging app and paddle is set in the WKmini
- In my experience, ferrites must be used liberally to avoid RFI issues



2.25" by 1.7" by .625"

CW Memories from 2026 Field Day

- In the 50 CW QSOs I made at the 2026 N6SBC Field Day, I don't remember once using the CW paddle
- Every bit of CW I sent was from one of these N3FJP memories
- The direct command interface to the trailer's Icom IC-7300 was used, avoiding the need for a clunky WinKeyer interface

F-key	CW Text
F2	N6SBC
F3	R
F4	5A SCV
F5	E E (dit dit)
F6	<CALL> DE N6SBC
F7	73
F8	5A
F9	SCV

Questions

Thank You!

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