

West Palm Beach Amateur Radio Group (WPBARG)

CW Contesting for Non-CW Operators

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Outline

- Contesting Basics
- Advantages of Using CW
- Contesting Software
 - Support for CW Readers
 - Use of Macros to send CW
 - Use of Call History Files
- Typical Contest QSO
- Live Demo

Note

- The terms 'Morse Code' and CW (continuous wave) are usually used to mean the same thing
- However, Morse Code is the method used to encode and decode CW transmissions.
- CW is the mode
- Morse Code is the language

Contesting Basics

What is a Contest?

- Also known as **Radiosport**
- A competitive activity
- May be operated by an individual or a group
- Contact as many other stations as possible in a given period of time
- Exchange information (RST, Name, Zone, State/Province/Country, Serial Number, etc.)

Contesting Basics

What is a Contest?

- Contest sponsors define the rules
 - i.e. bands, modes, exchange, multipliers
- Contacts have points which contribute to a score
- Contest sponsors publish the results

Contesting Basics

- You don't need to be in the contest to make contacts
- You don't need send in your log
- You don't need to operate the whole time; just what you want

Contesting Basics

Why Contest?

- Test your antennas
- Test your equipment
- For the excitement
- For the competition
- Improve your skills
- Build up your DXCC totals
- Build up your WAS totals
- Bragging rights between friends

Contesting Basics

Types of Participation

- Search & Pounce (S&P)- tune for stations calling "CQ Contest"
- Running (Run) - you are the station calling "CQ Contest" and the S&P stations call you
- If you Run, you need to be able to hold your frequency
- Running yields more contacts, higher score
- S&P is less stressful

Advantages of Using CW

- Universal language - No accent or pronunciation problems
- CW XMTRs easier to build so more CW only ops around the world
- CW signal can have 10+ db advantage over SSB due to better SNR
- 100 watts CW = 1000 watts SSB
- CW gets through!!

Advantages of Using CW

- Reduced EMI/RFI problems - less interference than SSB
- Reduced bandwidth - CW ~ 100hz, SSB ~ 2.5Khz, FM ~ 10 Khz
- Easier to filter out QRM
- Easier to work DX on CW
- CW ops claim bigger runs with CW

Contesting Software

- Logs contacts
- Controls rig (if equipped with right cable)
- Checks for Dupes (Duplicate contacts)
- Can be used to send CW (or voice messages, RTTY, other digital modes)
- Keeps track of your contest score
- Can use internet to find stations in contest (assisted mode)

Contesting Software - N1MM+

- **Supports CW Readers**
 - Fldigi - popular digital mode program
 - CW Get -cw only
- CW readers decode the CW being sent and displays the text on the screen
- You can click on data in the text to copy to log window (Callsign, serial #, etc.)
- **You don't need to know Morse Code to use a decoder!**

Contesting Software - N1MM+

- Can decode a large range of CW speeds
- Software can also help filter QRM, QRN
- Waterfall in reader helps you to zero beat the signal
- Super Check Partial - helps identify full call from partial call
- Call History File - helps you fill in exchange info for specific call

Contesting Software - N1MM+

MM-DD	HH:MM	▲ Call	Freq	M...	Name	Exch	M1	Pts
03-08	19:36	K7SV	14029.86	CW	LAR	CWA	✓	1
03-08	19:42	KA5M	14039.70	CW	MARSH	1433	✓	1
03-08	19:46	W1UJ	14040.99	CW	JAY	426	✓	1
03-08	19:49	K6RB	14028.00	CW	ROB	CWA	✓	1
03-08	19:51	K9DX	14032.71	CW	JOHN	184	✓	1
03-08	19:54	K5FP	14034.21	CW	FRED	392	✓	1

Check Master/Call history/Reverse lookup

N3EA

ON3EA K3EA R3EA W3EA N3EA
 N8EA N3MA N3RA N3UA
 N3YEA N3ZA N3EB N3ED
 N3EMA N3EN
 N3AE

N3EA

N1EA N2EA N8EA N3UA

N3EA(1438)

Contesting Software - N1MM+

- Use pre-defined Macros to send your exchange (your info). Just press a key to send it.
 - callsign, state, name, serial number, etc.
- Some radios can be keyed directly without additional hardware

Contesting Software - N1MM+

The screenshot shows the N1MM+ software interface. At the top, the window title is "N1MM+ 14047.50 CW IC-7300 VFO A". The menu bar includes File, Edit, View, Tools, Config, Window, and Help. The main display area shows a contest log entry for "N3EA" with a red checkmark, name "ALAN", and exchange number "1438". Below the log entry, there are control buttons for "Run" (green circle) and "S&P" (red circle), and a numeric keypad showing "18". A grid of function keys (F1-F12) is visible, with labels such as "F1 Qrl?", "F2 Exch", "F3 Tu", "F4 KS3K", "F5 His Call", "F6 Repeat", "F7 State", "F8 Agn?", "F9 Nr?", "F10 Call?", "F11 Name", and "F12 Wipe". At the bottom, there are buttons for "Esc: Stop", "Wipe", "Log It", "Edit", "Mark", "Store", "Spot It", and "QRZ". The status bar at the bottom left shows "Lake Worth FL" and "K: NA/UNITED STATES, Zn 5". The status bar at the bottom right shows "24/24" and "576".

File Edit View Tools Config Window Help

Name	Exch
N3EA ✓ ALAN	1438

● Run ● S&P 18

F1 Qrl?	F2 Exch	F3 Tu	F4 KS3K	F5 His Call	F6 Repeat		
F7 State	F8 Agn?	F9 Nr?	F10 Call?	F11 Name	F12 Wipe		
Esc: Stop	Wipe	Log It	Edit	Mark	Store	Spot It	QRZ

Lake Worth FL

K: NA/UNITED STATES, Zn 5

24/24 576

Contesting Software - N1MM+

- Some need special hardware such as:
 - Winkeyer or compatible keyer
 - Single transistor keying circuit
 - Uses DTR line on serial port (or virtual Port)

Contesting Software - N1MM+

Configurer [X]

Hardware | Function Keys | Digital Modes | Other | Winkey | Mode Control | Antennas | Score Reporting | Broadcast Data

Port	Radio	Digi	CW/Other	Details	
COM6	IC-7300	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Set	<input checked="" type="radio"/> S01V
None	None	<input type="checkbox"/>	<input type="checkbox"/>	Set	<input type="radio"/> S02V
		<input type="checkbox"/>	<input type="checkbox"/>		<input type="radio"/> S02R

19200,N,8,1,DTR=CW,RTS=PTT,Tx=1

Com6 [X]

Speed	Parity	DataBits	Stop Bits
19200	N	8	1

DTR (pin 4)	RTS (pin 7)	Icom Code (hex)	Radio Nr
CW	PTT	94	1

PTT Delay (msec):

- Enable Both Hardware & Software PTT
- PTT via Radio Command SSB Mode
- PTT via Radio Command CW Mode
- PTT via Radio Command Digital Mode

Typical Contest QSO (S&P)

- Running station sends CQ TEST de W1ABC
- You press Macro key to send your Callsign
- Run station calls you back, calls another station, or calls CQ again
- If he calls a station, it's followed by his exchange

Typical Contest QSO (S&P)

- It's best to listen to him call others before you call him
- You can copy his exchange when you're calm
- It will probably be the same or very similar when he calls you
- If running station then calls you, you already know all or most of his exchange

Typical Contest QSO (S&P)

- Press the Macro key to send your Exchange
 - i.e. TU 599 STEVE FL
- He may ask you to repeat, if so, press appropriate Macro key
- Most likely he will acknowledge your QSO with TU, QSL or CFM and call CQ again
- **YOU GOT HIM!!!** Press ENTER to log it

Typical Contest QSO (S&P)

CW Reader 1

Setup Clear RX Align

C Q T EST DE C6AAJ C6AAJ TEST WA2 E AJ WA2E AJ 5NN 5TT TU 5NN FL TU C6AAJ
TEST CQ TEST DE C6AAJ C6AAJ TEST N 3 EA N3EA 5NN 5TT TU 5NN FL TU C6AAJ
TEST KS<HM> K KS3K KS3K 5NN 5TT TU 5NN FL TU C6AAJ TEST CQ TEST DE C6AAJ
C6AAJ TEST

Fldigi CW Engine 1 - waterfall-only mode

File Op Mode Configure View Spot RxID

500 1000 1500 2000 2500

14039.37 CW

File Edit

CQ-Freq

F1 Cq

F7 Repeat

Esc: St

WF -20 70 x1 NORM 600

CW Rx 18 25 -3.0 AFC SQL

Typical Contest QSO (S&P)

- You don't need to know CW to use this method
- But, it's really helpful if you can recognize your own callsign without a reader
- Reader may be too slow to decode your callsign
- Even if you didn't get the exchange correct, you can request QSL card or confirm via LoTW

Demo

- Using N1MM+ as the Logging Software
- Using Fldigi as the CW Reader
- Note: Readers do best with machine generated CW. Uses proper and consistent spacing.
- Luckily, most contesters use machine generated CW

The End!

Questions?

Comments?

Now, go on the air and make some *CW* contacts!