

Contesting & Logging



A marriage made in the ionosphere

Shel Radin KF~~Ø~~UR



Contesting

There are a plethora of contests every weekend.

- Some are major with 10's of thousands of participants
- Some are more niche oriented.

What's the deal?



Contesting

Contesting has been an integral part of Ham Radio for many decades.

With new tools like contest logging software and the internet, it easier than ever to participate.



Why Participate in a Contest?

Lots of reasons...

- To try to be competitive
- To achieve a personal best
- To improve your operating skills
- To work toward an award
 - Worked All States (WAS)
 - DXCC (100 countries)
- Have fun – as always!



What Contests are there?

- Major contests sponsored/run by the ARRL, CQ Magazine, National Contest Journal, such as:

Field Day	CQ Worldwide RTTY WPX
RTTY Roundup	CQ Worldwide CW, SSB, RTTY
10 meter, 160 meter	North American QSO Party
VHF	Sweepstakes



What Contests are there?

- Tons of minor contests, sponsored/run by various other clubs and organizations

- Sprints

- Flight of the Bumblebees

- Ten-Ten

- TARA PSK Rumble

- ARRL School Club Roundup

- Rookie Roundup

- QRP to the Field

- Straight Key Night

- Makrothen RTTY Contest

- State QSO Parties

- All listed at the [WA7BNM Contest Calendar](http://www.hornucopia.com/contestcal/) (www.hornucopia.com/contestcal/)



Where are the Contests?

- HF Contests are on 10, 15, 20, 40, 80, 160 meters.
- Never on the WARC bands (12, 17, 30m)
- Some are on all HF bands (i.e. CQ worldwide)
- Some are band specific (ARRL 10 meter)
- Some are all modes (CW, SSB, RTTY) (Field Day)
- Some are mode specific (i.e. NAQP RTTY)



There are rules

- Each contest has its own rules. But there are many similarities.
- Rules for each contest found at [WA7BNM Contest Calendar](#)



What else is in the rules?

- The rules will tell you if you can work a station
 - once per contest
 - once per band
 - once per band - mode
- The rules tell you the hours of the contest and how many you can operate.
- The rules tell you how much power per class (QRP, Low power, High Power)



Power Classes

Typically

- High Power (> 150 watts)
 - Low Power (< 150 watts)
 - QRP (5 watts or less)
-
- Note Low Power can be 100 watts or less, instead of 150.



Oy Vey!

“I have a 100 watts and a dipole and can't compete with 1500 watts and a Yagi at 100 feet”

! You are only competing with others in your same class (i.e. single op, low power)

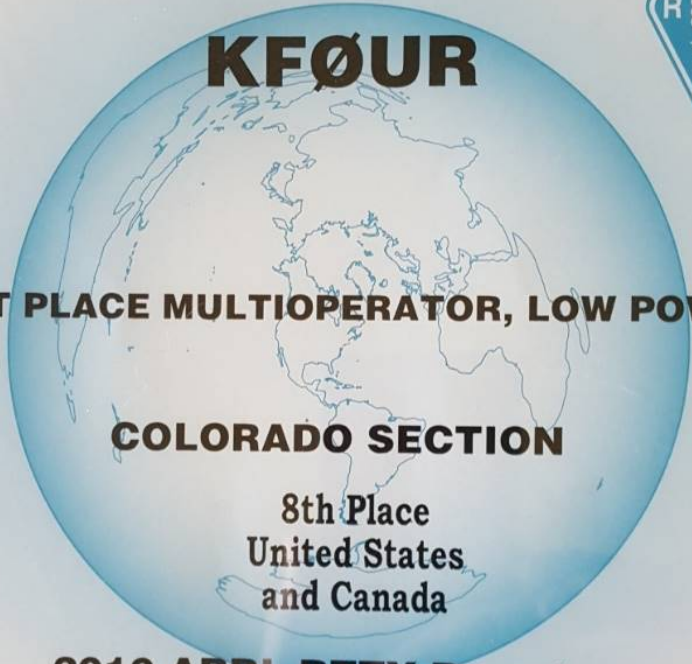
ARRL The national association for
AMATEUR RADIO

INTERNATIONAL

CONTEST AWARD



KFØUR



FIRST PLACE MULTIOPERATOR, LOW POWER

COLORADO SECTION

**8th Place
United States
and Canada**

2010 ARRL RTTY Roundup



Kay Craigie N3KN
PRESIDENT, ARRL



What do I say?

- The rules tell you the contest Exchange
 - Examples:
 - Name and State (NAQP)
 - Signal report and ARRL Section (Field Day)
 - Serial number and State
 - Listen to what others are saying
 - Don't add any other info...it slows everyone down



Typical Exchange

...Just the info required

CQ Contest Whiskey 2 Alpha Bravo

Kilo Foxtrot Zero Uniform Romeo

KFOUR 59 New York

Thanks 59 Colorado

Thanks Whiskey 2 Alpha Bravo Contest



Too Much Unnecessary Info

CQ Contest Whiskey 2 Alpha Bravo

**Whiskey 2 Alpha Bravo this is Kilo
Foxtrot Zero Uniform Romeo**

KFOUR 59 Tennessee

**Whiskey 2 Alpha Bravo this is Kilo Foxtrot Zero Uniform
Romeo Thanks. Your 59, 59 Colorado Springs, Colorado.
Name is Shel S H E L 73 Thanks for the QSO**

Thanks Whiskey 2 Alpha Bravo Contest



How are my results scored?

- Each contest has its own rules. But there are many similarities.
- Rules for each contest found at WA7BNM Contest Calendar
- $\text{Score} = \# \text{ QSOs} \times \text{Multipliers}$
- So, you are trying to make as many QSOs as possible with the maximum # of mults (if you are trying to compete)



What is a Multiplier?

- That depends on the contest, and is also in the rules at [WA7BNM Contest Calendar](#)
- It could be...
 - State
 - ARRL section
 - Country
 - Zone
 - Region
 - Call Prefix

CQ Worldwide DX Contest, SSB: 0000Z, Oct 29 to 2400Z, Oct 30

Mode:	SSB
Bands:	160, 80, 40, 20, 15, 10m
Classes:	Single Op All Band (QRP/Low/High)(Option: Classic/Rookie) Single Op Single Band (QRP/Low/High) Single Op Assisted All Band (QRP/Low/High) Single Op Assisted Single Band (QRP/Low/High) Multi-Single Multi-Two Multi-Multi
Max power:	HP: 1500 watts LP: 100 watts QRP: 5 watts
Exchange:	RS + CQ Zone No.
Work stations:	Once per band
QSO Points:	0 points per QSO with same country (counts as mult) 1 point per QSO with different country same continent 2 points per QSO with different country same continent (NA) 3 points per QSO with different continent
Multipliers:	Each CQ zone once per band Each country once per band
Score Calculation:	Total score = total QSO points x total mults
Submit logs by:	2359Z November 4, 2016
E-mail logs to:	ssb[at]cqww[dot]com
Upload log at:	http://www.cqww.com/logcheck/
Web-to-Cabrillo form:	http://www.b4h.net/cabforms/cqwwssb_cab.php
Mail logs to:	CQ WW DX Contest Box 481 New Carlisle, OH 45344 USA
Find rules at:	http://www.cqww.com/rules.htm

ARRL 10-Meter Contest

Status:	Active
Mode:	CW, Phone
Bands:	10m Only
Classes:	Single Op (QRP/Low/High)(CW/Phone/Mixed) Single Op Unlimited (QRP/Low/High)(CW/Phone/Mixed) Multi-Single (Low/High)
Max operating hours:	36 hours
Max power:	HP: 1500 watts LP: 150 watts QRP: 5 watts
Exchange:	W/VE: RST + State/Province XE: RST + State DX: RST + Serial No. MM: RST + ITU Region
QSO Points:	2 points per Phone QSO 4 points per CW QSO
Multipliers:	Each US State + DC once per mode Each VE Province/Territory once per mode Each XE State once per mode Each DXCC Country once per mode Each ITU Region (MM only) once per mode
Score Calculation:	Total score = total QSO points x total mults
E-mail logs to:	10meter[at]arrl[dot]org
Upload log at:	contest-log-submission.arrl.org
Mail logs to:	10 Meter Contest ARRL 225 Main St. Newington, CT 06111 USA
Find rules at:	http://www.arrl.org/10-meter



But I haven't got all weekend

- You don't have to participate full time
- Put in as much time as you like
- See what you can do in the time you have / choose to participate



How do I participate and keep track?

- You need to log each QSO.
- The old way is with pen and paper. Pretty tedious.
- The new way is to use Contest Logging software.
- Contest Loggers know the rules of each contest. They will guide you.
- Very good ones out there, and some are FREE.



Contest Logging Software

- N1MM Logger+ is excellent and is free
- Written by a group of world-class testers.
- Has more features than you will ever use.
- It knows the rules of each contest (240!)
- Helps you make decisions and automatically calculates your score



It's Scary!

I copy CW slowly, but some guys xmit at 35 wpm! Help!

- There's limited information being sent.
- If the exchange is RST and State, then it'll be 599 (or 5nn) and 2 letters for the state (CO). All you really need to copy is the 2 letters for the State.
- Listen to the station work others first
- You don't have to work `em. Find another



Contest Operating

- There are primary 2 modes of operating:
- Run
 - where you stay on one freq and call CQ and others come to you (hopefully)
 - Works if you have a decent signal and a clear freq.
- Search & Pounce (S&P)
 - where you change freq looking (searching) for others, perhaps some multipliers



Contest Operating

There are different classes of operating:

- Single Operator, Single Station
- Multi-Operator, Single Station
 - You switch off between ops, but 1 xmitted signal
- Multi-Operator, Multi Station
 - More than 1 signal being transmitted
- Single Operator, 2 Radios
 - Just you, but working 2 radios at once!



N1MM Logger +

The logging programs really help by telling you:

- If you've worked a station already
- If they are a multiplier
- What stations are on (assisted category)
- QSY'ing by clicking on a station's call
- Whether the call is a known contester
- Adding the stations call to outgoing messages

N1MM Main Window for Input

Contact Mode (CW) <> Contest mode (SSB) !

File Edit View Tools Config Window Help

PH CQ-Frequency Name State

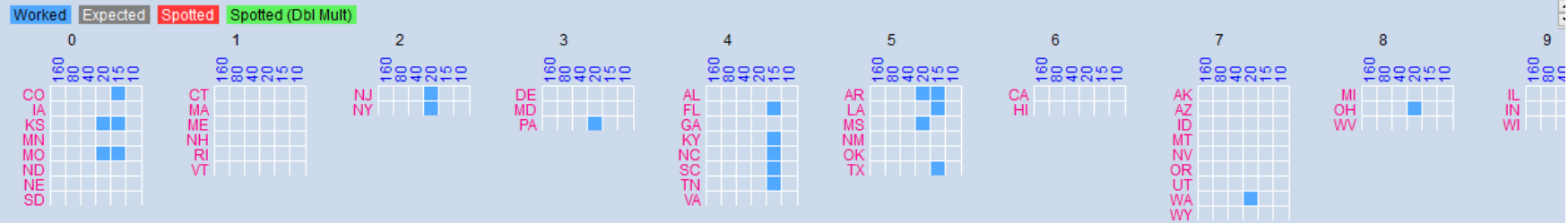
160	W0ABC ✓	FRED	MO	
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Run S&P 24

F1 CQ	F2 Exch	F3 TU	F4 KF0UR	F5 KF0URx2	F6 EXCH2
F7	F8	F9	F10	F11 Agn?	F12 Partial

Hdg 92° LP 272° 450mi 725km

K: NA/UNITED STATES, Zn 4 53/25/1 1,378



Manual - VFO A

14200.00 SH/DX Wide CQ

RIT 0.00 XIT

14190

14200

8/29/2016 15:13:20Z NA QSO SSB - ham.s3db

MM-DD HH:MM	Call	Freq	Name	Sect	M1	M2
08-20 19:37	W2LK	14285.40	LES	NY	✓	
08-20 19:38	NQ8O	14285.40	TOM	OH	✓	
08-20 19:39	K9EKP	14285.40	MICK	IN	✓	
08-20 19:41	WY5Y	14285.40	JIM	AR		
08-20 19:42	KC0DEB	14285.40	JOHN	KS	✓	
08-20 19:42	KF7DX	14285.40	ROLAND	WA	✓	
08-20 19:44	W9DCA	14285.40	DAVE	IL		
08-20 19:45	K9IG	14285.40	GREG	IN		
08-20 19:46	VE3TMT	14285.40	MAX	ON	✓	
08-20 19:47	KR9U	14285.40	JIM	IN		
08-20 20:00	K8SHB	14285.65	JOEL	OH		
08-20 20:00	N8NYE	14285.65	GARY	OH		
08-20 20:01	AA8DC	14285.65	DON	OH		
08-20 20:01	N0AX	14285.65	WARD	MO	✓	
08-20 20:02	AB3ZJ	14285.65	BRUCE	PA	✓	
08-20 20:04	K5DRI	14285.65	BOB	MS	✓	

Score - 1,378 Points

Band	QSOs	Pts	Sec	Mt2
14	19	19	12	0
21	34	34	13	1
Total	53	53	25	1

Score: 1,378
1 Mult = 2.0 Q's

Info - KF0UR - Exch: Shel CO

Q's - 10, 100, 60m, 12m

60 60

0 0

Check Log/Master/Telnet/Call history/Reverse look...

Log 50	Master 43229	Telnet 0	Call hist 0
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Reverse lookup
50

Contact Mode () <> Contest mode (SSB)!

File Edit View Tools Config Window Help

PH Name State

160

80

40

20

15

10

Run S&P

F1 S&P F2 Exch F3 Spare F4 KF0UR F5 His Call F6 KF0UR

F7 Rpt Exch F8 Agn? F9 Zone F10 Spare F11 Spare F12 Wipe

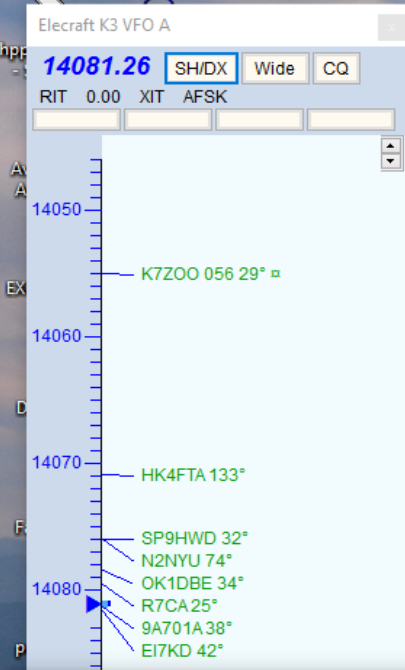
Heading appears here when enabled.

Call history UserText appears here when enabled.

0 spots loaded after filtering. 53/25/1 1,378

ORIGINAL
NTMM ...

NTMM F
Keys.txt



Score - 0 Points

Band	QSOs	Pts	ZN	Cty
1 Mult	= 1.0	Q's		

Info - KF0UR - Exch: 59 04 CO

9A701A - 14081.33 [AD4YQ @

9A: EU/CROATIA, Zn 15, Hdg 3

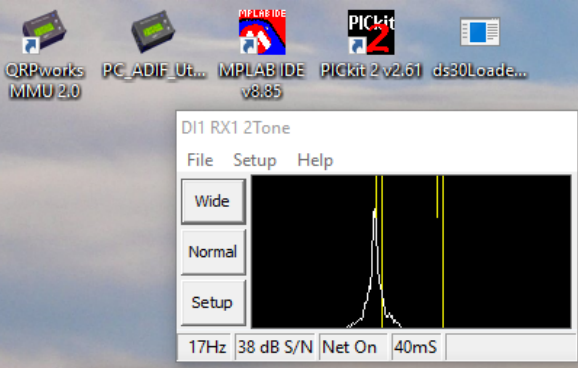
Sunrise:04:48Z Sunset:16:52Z Hi

Q's - 10, 100, 60m, 44m

0	0	0	0
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Check Log/Master/Telnet/Call history/Reverse look...

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D11 RX Window 1

Setup Clear RX

```

+384
162:0//6$4,!9?((1VW J BBJVB
BYNTCNCZLCYXFUIQAALQTNISEDZEEABBCPRAIK
UMGTETLTUOMFFHAGS
IQW;, GXP ZPDBQ99?03
2$'(6)!)
B
OOLMTSDZLMIENNXQGWEHCINOHAXQA TESTOT
7
5?5 TEHZ EC
NRV
9A701A X
K0YB 599 15 15PRC
9A701A DE K8UT K8UT KKT CIR AV
K8UT 599 15 150
9A701A 599 04 MI 04 MI K8UT
LHTUL9A701A TEST
(99).5'$").83.,/123#:8,9#-#/1-

```

RTTY Engine 1

View(V) Option(O) Profiles(S)

Control

FIG Mark: 2125 Hz Type Rev. HAM

UOS Shift: 170 Hz SQ Not. BPF

TX BW: 80 Hz

TXOFF AV: 70 Hz ATC NBT AFC

14079.14 DI-1 RTTY Mode - Soundcard (MMTTY)

Setup Interface Help

TX Letters/Figs MouseOver

57 TU

```

VPKQA TESTQU
9AVQA X
K0YB 599 15 15V
9A701A DE K8UT K8UT
K8UT 599 15 15K
9A701A 599 04 MI 04 MI K8UT F
TU 9A701A TEST

```

Clr	Align	TX	RX	HAM	AFC	REV
agn	ur	nm	4	tu	kf0u	

K8UT
K0YB
9AVQA
K09V
NX50ZXVW
M50

Grab CLR

14081.26 AFSK Elecraft K3 VFO A

File Edit View Tools Config Window Help

RTTY 9A701A Snt Rcv State/RAC CQ-Zone

9A701A ?

160
80
40
20
15
10

● ● ○ Run ● S&P

F1	F2 S&P Exch	F3	F4 KF0UR 2x	F5 His Call	F6 KF0UR 1x
F7 My Exch	F8 Agn?	F9 DOWN	F10 KF0UR 3x	F11 UR 599	F12 ?

Hdg 38° LP 219° 5540mi 8916km

9A: EU/CROATIA, Zn 15 No Score 0

Elecraft K3 VFO A

14081.60

SH/DX

Wide

CQ

RIT 0.00 XIT AFSK

14050

K7ZOO 056 29°

14060

14070

HK4FTA 133°

14080

SP9HWD 32°

N2NYU 74°

OK1DBE 34°

R7CA 25°

9A701A 38° New

EI7KD 42° New

14090

14100

PA7LV 37°

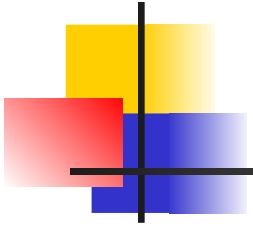
IT5CTG 41° New

5C5W 59°

RL3A 20°

IQ9UI 44° New

14110



Brief

N1MM Logger+ Demo



What do I do next

- Send your contest results to the contest organizer
 - Contest Logging Program creates a Cabrillo file
 - WA7BNM has instructions on how and where to send it
- (Optional) Create a file to merge these contacts with all of your others
 - Program creates an ADIF file (Amateur Data Interchange Format)



What about Scoring?

- The program that receives your Cabrillo is called a Contest Robot and will:
 - Scan your log file for errors
 - Calculate your score for you
- N1MM and others will calculate a score, but it just your *claimed* score. The robot has the final say.



Cabrillo File

START-OF-LOG: 2.0

ARRL-SECTION: CO

CALLSIGN: KFOUR

CLUB: Grand Mesa Contesters of Colorado

CONTEST: NAQP-RTTY

CATEGORY: SINGLE-OP ALL LOW

CLAIMED-SCORE: 8160

OPERATORS: KFOUR

NAME: Shel Radin

ADDRESS: 2505 Kinderhook Lane

ADDRESS: Colorado Springs, CO 80919

ADDRESS: UNITED STATES

CREATED-BY: N1MM Logger+ 1.0.5555.0

QSO: 1400 RY 2016-07-16 1803 KFOUR

Shel CO W4LC JIM KY

QSO: 1400 RY 2016-07-16 1806 KFOUR

Shel CO K6MR KEN CA

QSO: 1400 RY 2016-07-16 1808 KFOUR

Shel CO KR6N BOB CA

QSO: 1400 RY 2016-07-16 1811 KFOUR

Shel CO AB8YZ JOANN TX

QSO: 1400 RY 2016-07-16 1812 KFOUR

Shel CO K0YB GLENN MO

QSO: 1400 RY 2016-07-16 1813 KFOUR

Shel CO WA0LJM DAVE MN

QSO: 1400 RY 2016-07-16 1814 KFOUR

Shel CO NS9I DWIGHT WI



Suggestion

- Buddy up with someone who's been in a contest and observe / learn.
- Work a few stations and get comfortable
- Notice the flow
- Set your power to 0 and play with N1MM outside of a contest.



Thanks for your time!

C U on the air

73, Shel KFOUR



KFØUR

Colorado Springs, Colorado, USA

Elevation
6850 Feet