

# Ham Radio Contesting

## All Your Questions Answered

**Write Down A Question You Have About Contesting**



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**January 10, 2026**

# **I will attempt to answer your questions...**

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Before I Know What They Are!

# What Is Contesting?



- Also known as "Radiosport"
- Competitive Amateur Radio Operating

Work As Many Stations As Possible

In As Many Places As Possible

As Quickly As Possible

# How Popular Is Contesting?

Logs submitted in the "Big Five" HF Contests 1996 - 2010

ARRL DX, CQWW DX, CQWW WPX, DARC, JARL  
CW, SSB, RTTY & Mixed-Mode

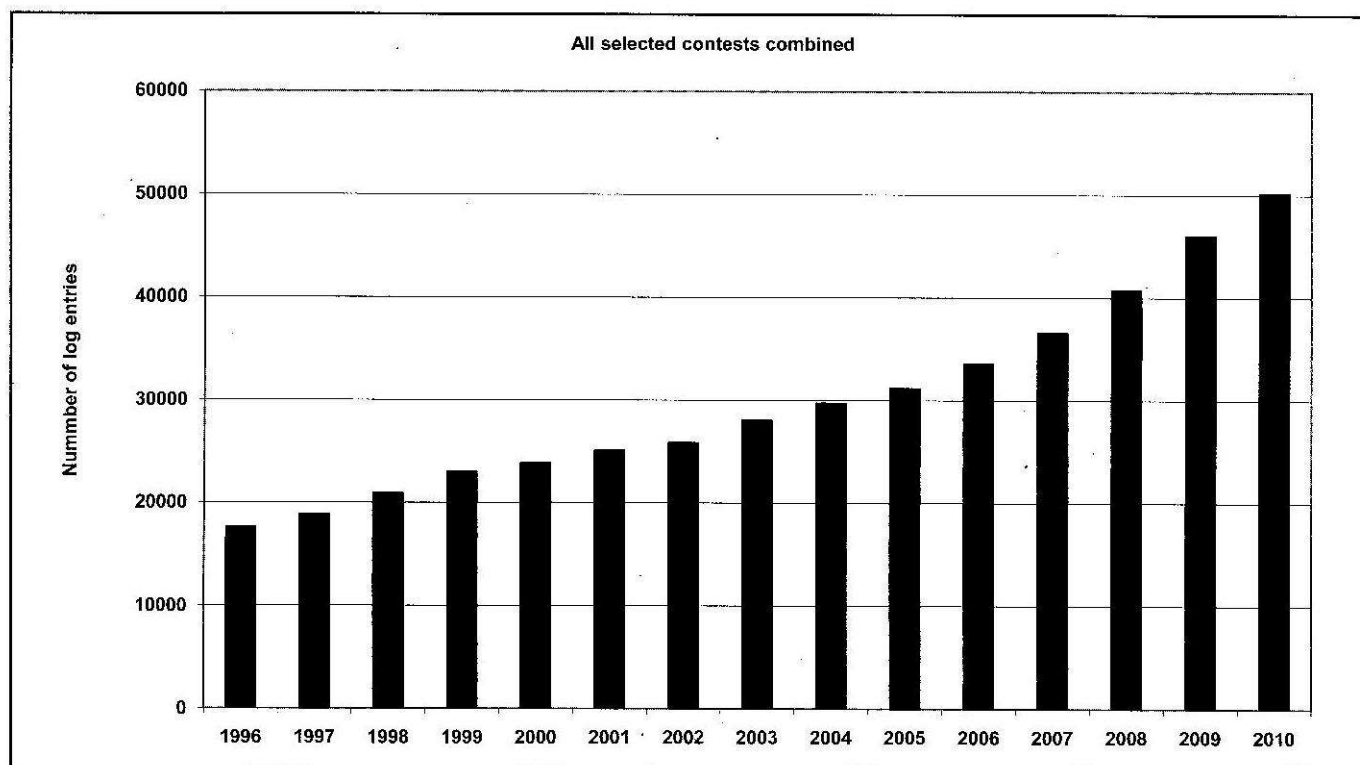
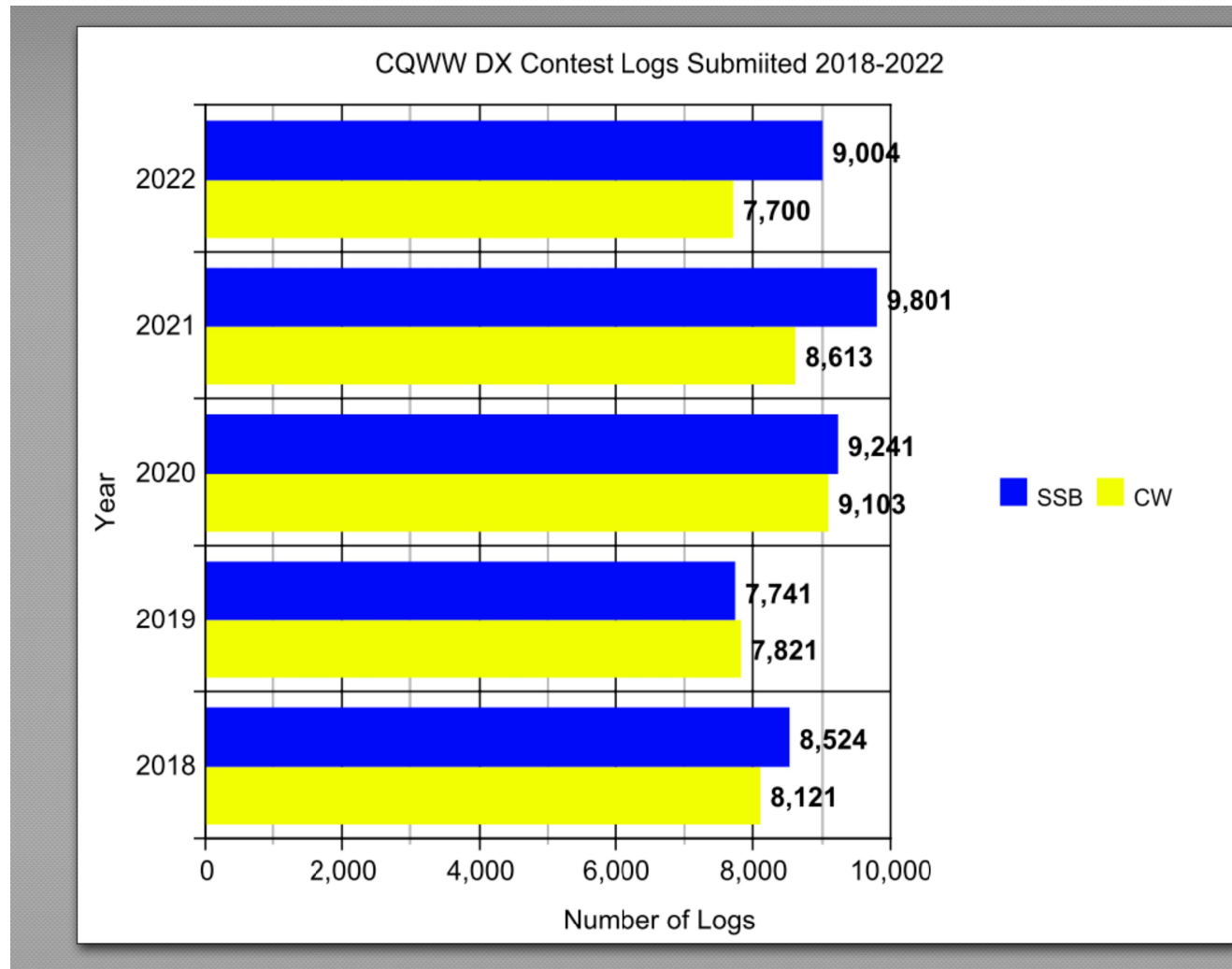


Figure 6 — Total combined participation over the years

# And That Trend Has Continued...



# What Class License Do I Need to Contest?



All Amateur Radio licensees can participate in contests.

Novices and Technicians can operate

In VHF/UHF Contests

HF Phone on 10-meters (28.3 - 28.5 MHz)

HF RTTY/Data on 10-meters (28.0 - 28.3 MHz)

HF CW on

80-meters (3.525 - 3.600 MHz)

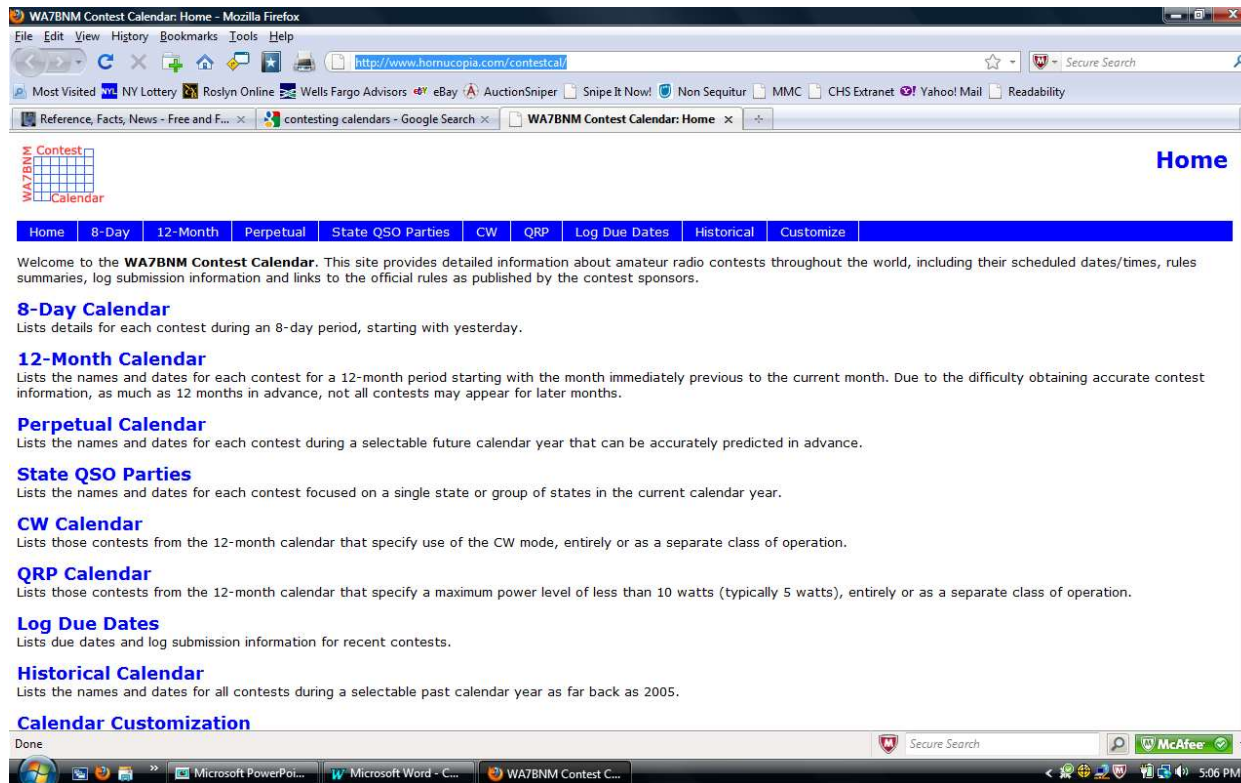
40-meters (7.025 - 7.125 MHz)

15-meters (21.025 - 21.200 MHz)

# How Do I Find Out When The Contests Are On?

## ■ WA7BNM Contesting Calendar

■ <http://www.contestcalendar.com>



# What Do I Do First?



- Decide ***which*** contest(s) to operate:
  - HF or VHF/UHF?
  - Small (short) or Large (long)?
  - Domestic or DX?
  - CW, Phone, RTTY/Digital?



# **I See Dozens of Contests. How Do I Find Out How They All Work?**



## ■ Each Contest's Rules Explain:

Dates/Times

Bands/Modes

Objectives

\*\* Contest Exchange

Entry classes

Scoring

Log submission (How to "enter" the contest)

# What Do I Send & Receive In A Contest QSO?



What are all those numbers?

- Each contest QSO consists of an exchange of information:
  - The “exchange” is defined in the contest rules
    - | Name and State
    - | Signal Report and QSO Number
    - | Signal Report and IARU or CQ Zone
    - | Signal Report and Grid Square
- You must receive and accurately log the exchange for QSO to be valid.

# **No matter what the actual signal, everyone gives and seems to expect in return a 59 or 599 signal report. Why?**




- Contest signal reports are NOT intended to convey information about the quality of the signal. They're just part of the the Exchange.
- Contest rules usually state that the Exchange is comprised of "A signal report and..."
  - ┆ Not an "actual" or "accurate" signal report
- Using only 59 means one less piece of information to actually copy. Speeds-up QSO's.
- In cw 599 can be shortened to 5NN
  - ┆ ..... ----, ----, Shortens to ..... -. -. .

# What's all that information that has to be exchanged in the ARRL Sweepstakes?

- The Sweepstakes exchange is longest of any contest and corresponds to the heading on an NTS Radiogram:

Number	Power	Call-sign	Yr Lic	Section			
<div>THE AMERICAN RADIO RELAY LEAGUE <b>RADIOGRAM</b> VIA AMATEUR RADIO</div>							
NUMBER 001	PRECEDENCE R	HX A150	STATION OF ORIGIN wa8llm	CHECK	PLACE OF ORIGIN Parkersburg, WV	TIME FILED	DATE Dec 12

**So, what band(s) should I work, and which stations, and how much time should I spend, and should I call CQ, or answer CQs, and...??**



*"If you don't know where you're goin'  
any road will take you there."*

--- George Harrison

# Random Operating Can Be Fun, But Better To Have Goals, Strategies & Tactics



- **Goal** - The *objective* of your contest operation
- **Strategy** - The *plan* for accomplishing your goal
- **Tactics** - The procedures or maneuvers used to *implement* your plan

# Goals / Strategies



## ■ What's your objective?

- Highest Score
- Number of QSO's
- Multipliers
- DXCC Entities
- States
- Prefixes
- Grid Squares
- **Just Have Fun!!**

## ■ What's your plan?

- Entry Category
  - Single/Multi-Op
  - Single/All Band
  - Single/All Mode
  - Assisted? (Spotting Networks)
  - Power Level
- Hours of Operation
  - How Many
  - Time(s) of Day

# Tactics



- **Run**

- Call CQ

- **Search & Pounce**

- Tune the Bands

- **Band/Mode Switches**

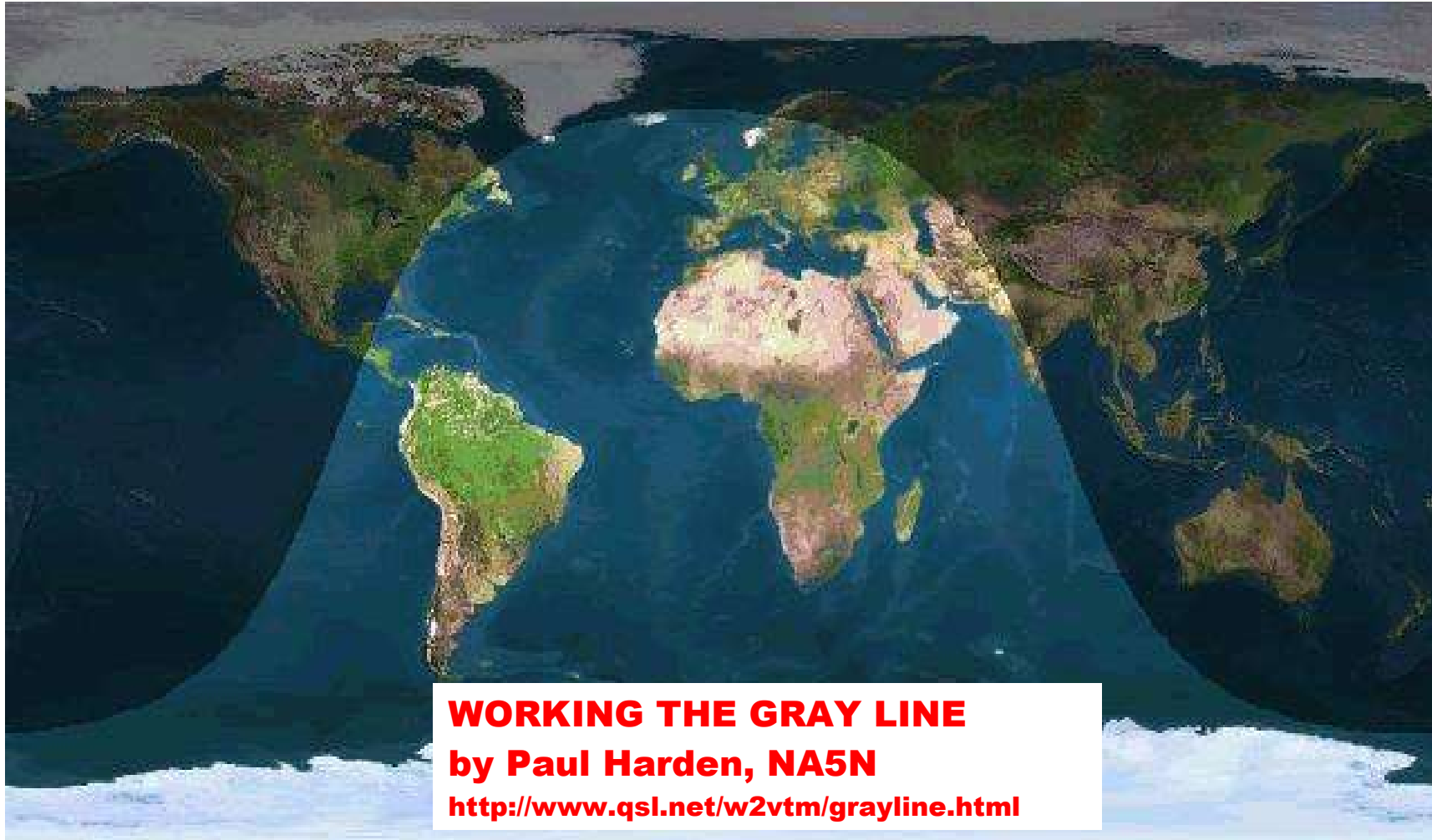
- QSO Rates
  - QSO “Value” of Multipliers

- **On/Off Times**

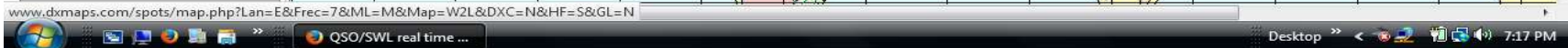
- Gray Line



# Work the “Gray Line”



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**<http://www.dxmaps.com/spots/map.php>**

# What are Multipliers?



- As set forth in the contest rules...
  - Each QSO is worth a certain number of points
  - The total number of points is then multiplied by the number of QSOs that meet certain criteria:
    - States/Provinces/Counties
    - ARRL Sections
    - DXCC Entities
    - CQ or IARU Zones
    - Grid Squares

# Why Are Multipliers Important?



Multipliers are what make contests interesting and create the need for strategy:

- **Without multipliers**, every contest would be simply a competition to see who can make the most contacts.
- **With multipliers**, it's possible for Station "A" to have fewer QSO's but out-score Station "B".

# How do multipliers work?

- ARRL 10 Meter Contest -- SSB
- QSO's count 2 points each
- Multipliers are U.S. and Mexican States, Canadian Provinces, and DXCC Entities
- So...
- $\text{QSO's} \times 2 = (\text{QSO Points}) \times (\text{mults}) = \text{Total Score}$

# Multipliers Can Make The Difference

## Station "A"

- Works 200 QSO's of which 100 are unique States/Provinces and DXCC Entities
- $200 \times 2 = 400$  QSO Points
- $400 \text{ QSO Points} \times 100 \text{ Mults} = \mathbf{40,000}$

## Station "B"

- Works 175 QSO's of which 125 are unique States/Provinces and DXCC Entities
- $175 \times 2 = 350$  QSO Points
- $350 \text{ QSO Points} \times 125 \text{ Mults} = \mathbf{43,750}$

# Multipliers Can Make a BIG Difference

## ■ 2001 ARRL 10-Meter Contest

SO/LP/SSB Claimed Scores:

	<u>Q's</u>	<u>Mults</u>	<u>Score</u>	
■ #10) W8DD	1,122	139	311,916	
■ #11) KS2G	1,122	124	278,256	
■ #12) KB7XL	1,143	120	274,320	
■ #13) KE5OG	1,189	108	256,824	

**W8DD vs KS2G: 15 Mults = 33,660 Points (136 QSOs!)**

# Does your regular everyday Good Ol' Boy ham have a chance to be a top scoring contestor?



- To finish in the Top Ten in a big contest, you don't need:
  - Big antennas up really high
  - A kilowatt linear amplifier
  - A late-model top-of-the-line transceiver with DSP, memories, dual watch receive, etc.
- **Smarts and Tenacity Count More Than Hardware!**



# Using a 100w transceiver into a 3-element Yagi up 35 feet:

THE AMERICAN RADIO RELAY LEAGUE  
**INTERNATIONAL CONTEST AWARD**

This Certifies That Station  
**KS2G**

**United States and Canada**

**DIVISION LEADER**

**QST**

*John*

**World Wide WPX Contest**

for the **Single Operator - 28 MHz** division for  
**United States - 2nd District (USA 2nd High)**

A Total score of **554,280** points was computed on the basis of  
the number of stations worked and call sign prefixes contacted. In witness of  
this achievement, we hereby affix our signatures on this day.

*Steve Bolia, N8BTQ*  
WPX Contest Director

*Ed S. Wopen, W2VU*  
Editor, CQ

**With the right strategy...**  
**Putting *in* more hours yields higher returns**  
**than putting *out* more watts!**

# What Information Should I Put In A Contest Log?



## ■ Date & Time

### ■ Always log in UTC

- Check Computer Clock Against WWV
- Set or Confirm Offset From Local Time

## ■ Band

## ■ Contest Exchange

- Points
- Multipliers
- Score

# Do I Have To Use A Computer?

## ■ By Hand - Lots To Keep Track Of:

- Log
- Dupe Sheet
- Multiplier List
- Prefix List
- Zone or Grid Map
- Scratch Pad
- Calculator
- Summary



# A Better Way

## ■ By Computer:

### ■ Specialized Contesting Software

- | N1MM+ Logger (Windows - FREE!)
- | WriteLog (Windows)
- | Win-Test (Windows)
- | RUMPed (Mac)
- | Skookum (Mac - FREE!)
- | YFKTest (Linux -FREE!)



# What Does Contesting Software Do?

- Logs contacts
- Checks for dupes
- Tallies multipliers
- Calculates running score
- Tracks rates
- Monitors Spotting Network
- Voice/CW Memory Keyer
- RTTY/Digital Interface
- Controls radios/antennas
- Summarizes & analyzes results
- Generates Cabrillo File For Log Submission
- Prints QSL's (but not N1MM)





# Besides Logging, How Can Contest Software Help Me?

- Show which band to work when
- Find Stations/Mults to work
- Increase QSO rate
- Increase QSO total
- Increase Mult total
- Decrease/Eliminate dupes



## **To set up a new station for contesting what would be the items that I would need?**



- Any station can be used for contesting:
  - Transceiver
  - Antenna
  - Linear Amplifier - NOT!!
  - Microphone
  - CW Key(er)
  - Digital Interface

# **But To Optimize For Long Hours of Contest Operating...**

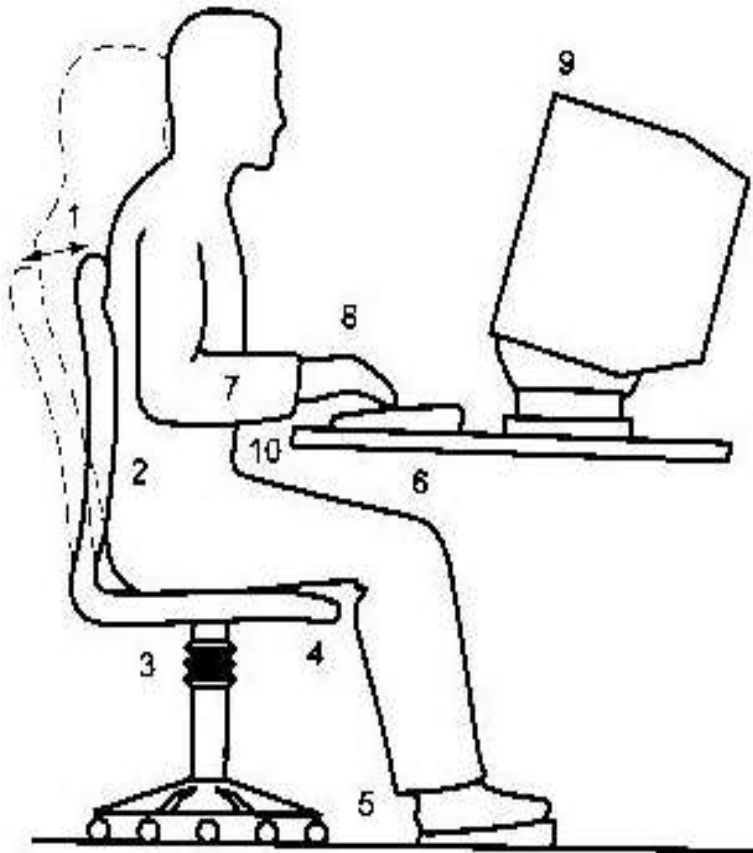


- The most important pieces of equipment in a contest shack are...

***Operator's Chair and Desk***



# Desk and Chair Should Work Together



- (1) Seat Back Adjustability
- (2) Good Lumbar Support
- (3) Seat Height Adjustability
- (4) No Excess Pressure on Underside of Thighs and Backs of Knees
- (5) Foot Support if Needed
- (6) Space for Postural Change, No Obstacles Under Desk
- (7) Forearms Approximately Horizontal
- (8) Minimal Extension, Flexion or Deviation of Wrists
- (9) Screen Height and Angle Should Allow Comfortable Head Position
- (10) Space in Front of Keyboard to Support Hands/Wrists During Pauses in Keying

**Check your posture to make sure it is right.**

**NCJ**

**And the most important consideration in station layout is...**

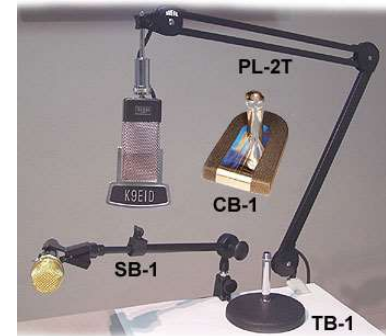


***Ease of Use***

See and reach all of the devices, displays and controls you'll need most often, and perform required functions, with a ***minimum of movement.***

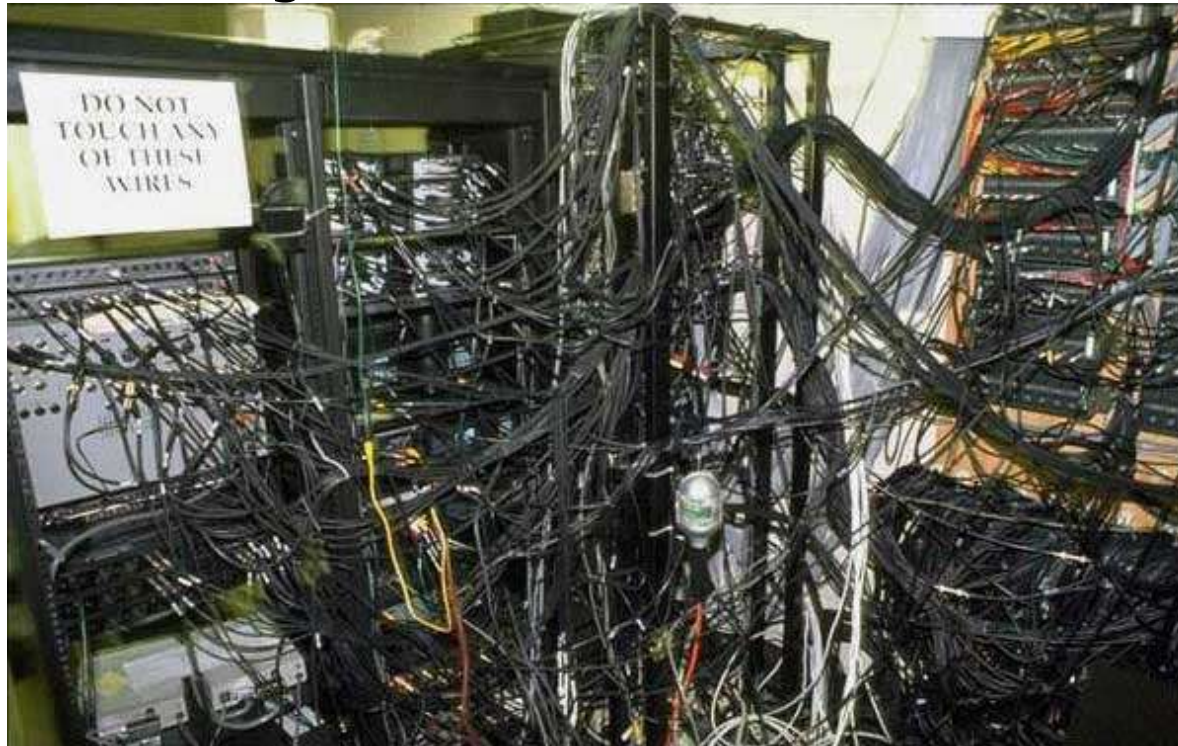
# Useful Accessories

- CW Memory Keyer
- Boom microphone or boom-mic headset
- Footswitch
- Audio Voice Keyer



# Not an operating consideration, but...

- A "*walk behind the desk*" set-up is optimum for station maintenance, modification, and dealing with the occasional tangled cable.



# Some questions posted in ham radio on-line forums:



- Is it acceptable for a non-contest station to respond to the various CQ contest calls?
  - Absolutely! Contest stations are trying for as many contacts as possible and EVERY QSO counts.
- Am I wasting their time because my QSO is not verifiable?
  - Absolutely not! You don't have to be "in the contest" (submit a log) to provide valid QSOs.



# About State QSO Parties...



- I hear QSO Parties announcing a particular state. Are they looking for replies only from their state?
  - No. They're looking for contacts from BOTH within their state and stations elsewhere.
  - Out-of-state stations also can "enter the contest" (submit a log) and receive awards. (See rules)
  
- If a foreign station asks for a contact during a state QSO Party will the U.S. station reply or would that be rude on his part?
  - Yes he'll reply. No, it's not rude or improper. See above.

# Multiple Contests & Bands



- If two contests are going on at the same time, can I operate in both of them?
  - Sure! Just ask for and provide the exchange information for both events -- and keep separate logs.
- If I enter an HF contest that is on all bands, do I go back to serial number 1 when I change to a different band?
  - No. The serial number continues across all bands. However, you may, or may not, be able to work the same station or multiplier on more than one band -- depending on the rules.

# Duplicate Contacts



- Should I work “Dupe” stations?
  - That’s a matter of opinion
  - Some think working dupes wastes too much time
  - Some think it’s quicker to work `em rather than tell `em
  - No penalty for dupes in your log -- so why not?
  - Helps the other station, who may have “busted” your call earlier
- Should I remove “Dupe” contacts from my contest log?
  - No. Once they’re logged, leave them in; there’s no penalty.
  - Log should reflect what you actually worked during the contest.
  - Helps the other station, who may have “busted” your call.



# QSL's



- Is it proper/good idea/worth it to send QSL cards for contest contacts?
  - For sure!
  - Contesting is one of the best ways to get the contacts needed for various awards.
  - Make it easy for contest stations to QSL
    - Send stateside cards with SASE / DX cards with "green stamps"
  - Use LoTW and/or ClubLog
    - (eQSL & QRZ.com not popular among testers)
  - Use QSL Bureaus -- if you don't mind waiting.

# Where Can I Get Information About Contesting?



## **Publications:**

***QST* Magazine**

<http://www.arrl.org/contest>

***National Contest Journal* (NCJ)**

<http://www.ncjweb.com/>

# Where Can I Get Information About Contesting?

## ■ On Line:

### ■ **WA7BNM Contest Calendar**

| <http://www.contestcalendar.com>

### ■ **Amateur Radio Contesting FAQ**

| [http://www.qsl.net/zs1an/contesting\\_faq.html](http://www.qsl.net/zs1an/contesting_faq.html)

### ■ **KA9FOX Contest & DX Library**

| <http://www.qth.com/ka9fox/links.shtml>

### ■ **Contesting.com**

| <http://www.contesting.com>

### ■ **K9JY's Contesting Tips**

| <http://k9jy.com/blog/2007/10/10/30-days-30-ham-radio-contesting-tips/>

# 73, CU In The Tests!



**Past Presentations About Contesting Are On:**

***[www.HamRadioUniversity.org](http://www.HamRadioUniversity.org)***

**Visit & Subscribe to the HRU Channel on YouTube**

**If you Have Any Questions Email Me: [ks2g@arri.net](mailto:ks2g@arri.net)**