

# N1MMPlus Use for CMARA Field Day

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updated 17-Jun-2016 11:30

## Briefing for CMARA Field Day Operators

Presented at the last  
CMARA Club Meeting  
Before Field Day

### Field Day Rules:

[http://www.arrl.org/files/file/Field-Day/2016/2016FD\\_packet.pdf](http://www.arrl.org/files/file/Field-Day/2016/2016FD_packet.pdf)

### Field Day Training Video (K8UT)

[http://n1mmplus.hamdocs.com/tiki-index.php?page=Video+-+N1MM+LoggerPlus+on+Field+Day#Video\\_N1MM\\_LoggerPlus\\_on\\_Field\\_Day](http://n1mmplus.hamdocs.com/tiki-index.php?page=Video+-+N1MM+LoggerPlus+on+Field+Day#Video_N1MM_LoggerPlus_on_Field_Day)

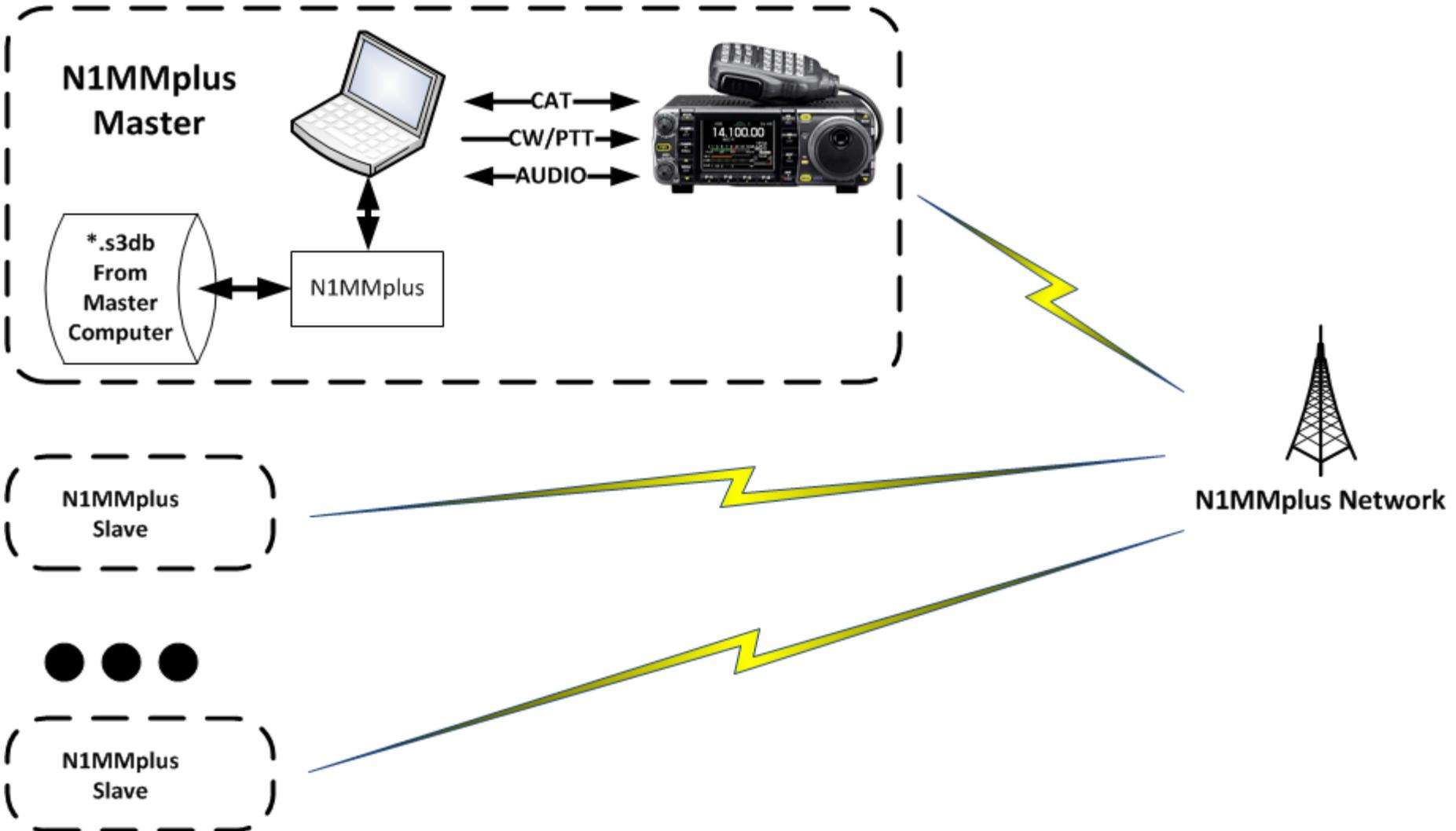
# TOPICS

- N1MMplus Overview
- Software Installation
- Hardware / Software Setup
- Database Setup
- Contest Log Setup
- Band Setup
- QSO logging
- Log Consolidation and Submittal
- User Support
- Summary
- Quick Sheet at Last Page of Presentation

# N1MMplus Overview

- **Totally FREE ! (no license fee)**
- Runs on Windows XP, Vista, Win7, Win8 (32 or 64 bit) (no Win95 / Win98)
- Does NOT run on other operating systems (MAC, Linux)
- Nearly ALL Versions are compatible with one another (same file format)  
N1MMplus and N1MM database formats are NOT compatible  
N1MMplus can import N1MM databases, but NOT vice versa
- Supports almost EVERY contest
- Used by nearly ALL big-time contesters (and small timers)
- Actively Supported, User Groups
- Stand-Alone operation (no connection to radio required)
- Automatic Computer-Aided-Transceiver (CAT) control available
- CW Keyer with PTT (keyboard window CTRL-K)
- Voice Keyer with PTT (prerecorded phonetics & messages)  
Need Soundcard Interface
- Interface to MMTTY, MMVARI, FLDIGI, and other Soundcard Mode software
- Export to ADIF and Cabrillo Format, Import from ADIF

# N1MMplus Network Block Diagram

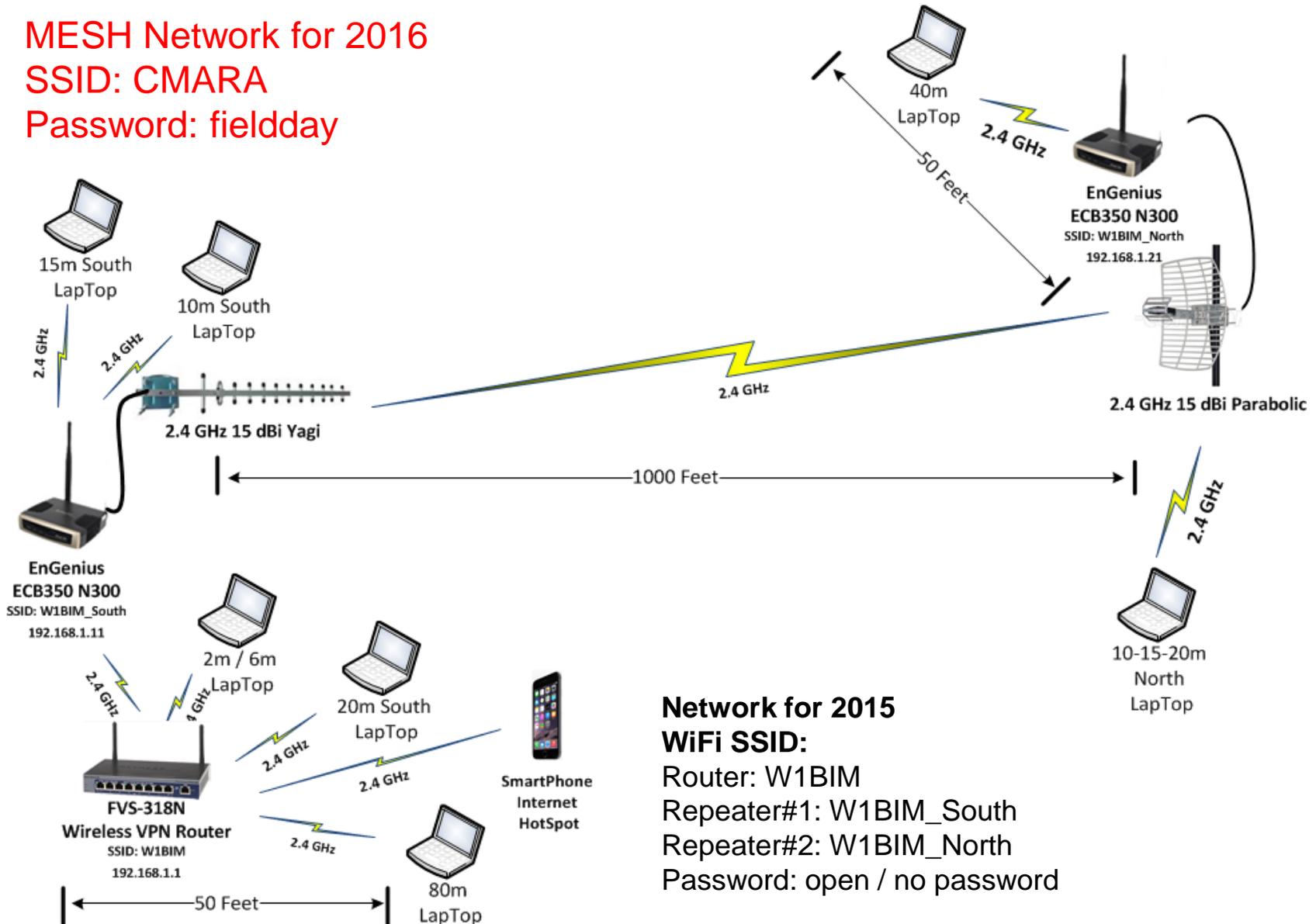


# CMARA Field Day WiFi Network

MESH Network for 2016

SSID: CMARA

Password: fieldday



**Network for 2015**

**WiFi SSID:**

Router: W1BIM

Repeater#1: W1BIM\_South

Repeater#2: W1BIM\_North

Password: open / no password

# Software Installation – Full Install

- N1MM Logger + Website <http://n1mm.hamdocs.com/tiki-index.php>
- Select “Files”
- Download and Install “N1MMplus Full Install”
  - Install by clicking on the self-installing .exe file
  - This can also be found on the CMARA FD Thumb Drive
  - **Install from home if possible to get Microsoft run time files needed**
- Use the default directories for everything (unless...)
- After Installation
  - Right Click on N1MM+ ICON
  - Use Properties at the bottom
  - Use Compatibility Tab
  - **Check: Run this program as an administrator**
  - This will assure that the slave computers can have their date time clocks updated
- Full Install Only Needs to be Done ONCE!

# Software Installation – Update Install

- N1MM Logger + Website <http://n1mm.hamdocs.com/tiki-index.php>
- Select “Files”
- Download and Install “N1MMplus Latest Update” use latest version
  - FD Chairman will provide the standard update to use at FD meeting or FD site
  - Install by clicking on the self-installing .exe file
  - This file is also on the CMARA FD Thumb Drive
- Use the default directories for everything (unless...)
- **Read the manual!**
  - There is plenty of documentation:
  - N1MMplus Logger Manual.pdf
  - N1MMplus Quick Start Guide.pdf
  - N1MMplus User Guide.pdf
  - N1MM References (crib sheets)
- Help Files (some are on the Internet, you will need a connection)

# Contents of CMARA Field Day Thumb Drive

- Networking requires everyone to:
  - Use the SAME N1MMplus **software version**.
  - Use the SAME **Country File** (wl\_cty.dat).
  - Start with the SAME FD **Log Database** (\*.s3db) file.
- Copy the Data Files from the **N1MMplus Latest Updates** Directory:
  - Copy the N1MM Logger+ Directory
  - From N1MMplus Latest Updates
  - To the Documents Directory
    - For Win7 and Win8 This is:  
C:\Users\\Documents\<
    - For WinXP this is:  
C:\Documents and Settings\\Documents\<
  - Don't Worry:
    - Only New Files will be added
    - Only Old Files will be updated
    - Other Files will be undisturbed

# Hardware / Software Setup (1)

- **Set the Computer Local Time / Zone (Eastern Daylight Time)**
  - Listen to WWV on 2.5, 5.0, 10.0, 15.0, 20.0 MHz or CHU on 3.330, 7.850, 14.670 MHz
  - **Extremely Important to DO !!!, Otherwise Log Data Will Be Garbage, NO WAY to FIX!**
  - The N1MMplus Logger will override this when your station is connected to the network.
  - Set the time anyway in case we have a problem with networking.
- **Start N1MMplus as Administrator !**
  - Right Click on N1MM+ ICON and Select Run As Administrator
  - Otherwise MASTER cannot set SLAVE Station Date/Time
  - If the **properties** of the ICON are set to Run As Administrator, this is not necessary:
    - Right Click on ICON
    - Use Properties at bottom
    - Use Compatibility Tab
    - Check: Run this program as administrator
- Station Data will Already be Set in Common FD Log
- Configure CAT Control
- Open Necessary N1MMplus Windows
- Enable Networking

# Hardware / Software Setup (2)

## Set Computer Clock

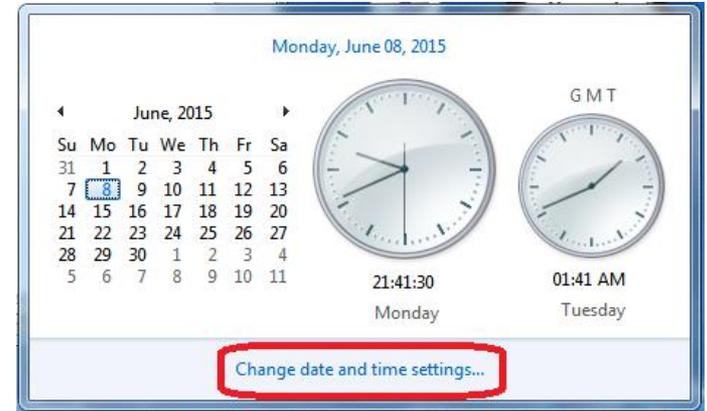
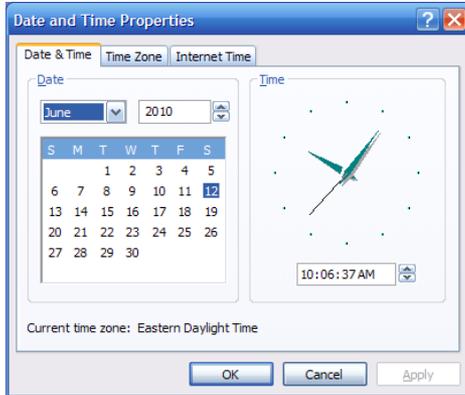
- Click on Desktop Clock (lower right of desktop)
- Set the Date (local time)
- Set the Time (local time)
- Set the Time Zone (eastern daylight time)
- Internet Time Will Not Work (no internet)
- With N1MMplus,  
Master will set time for SLAVES

# Hardware / Software Setup (3)

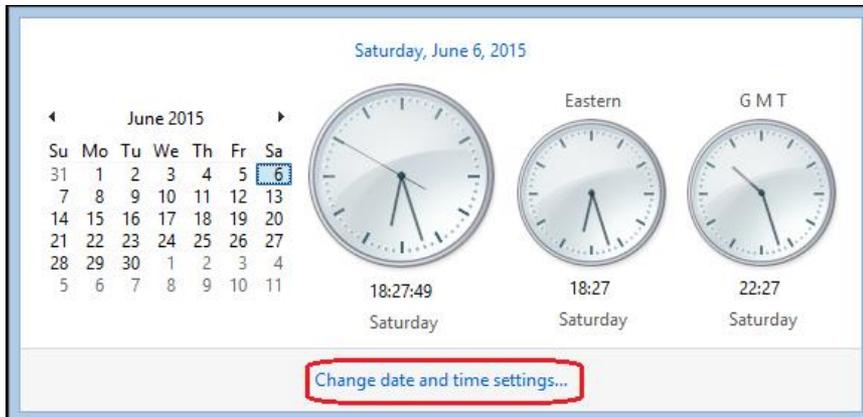
WinXP

Set Computer Clock

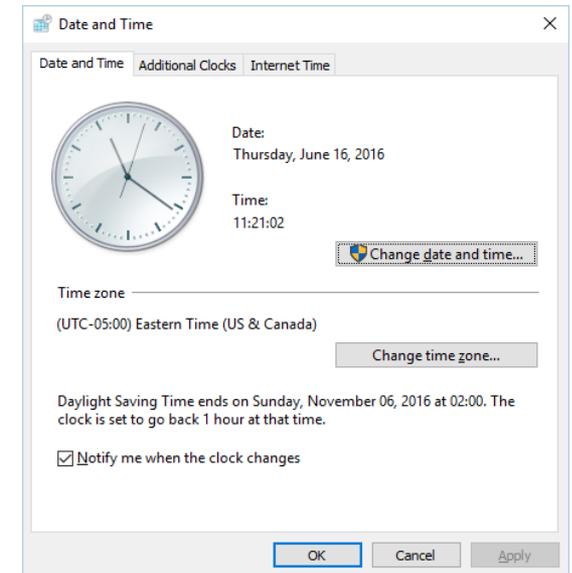
Win7



Win8



Win10



# N1MMplus QSO Entry Form

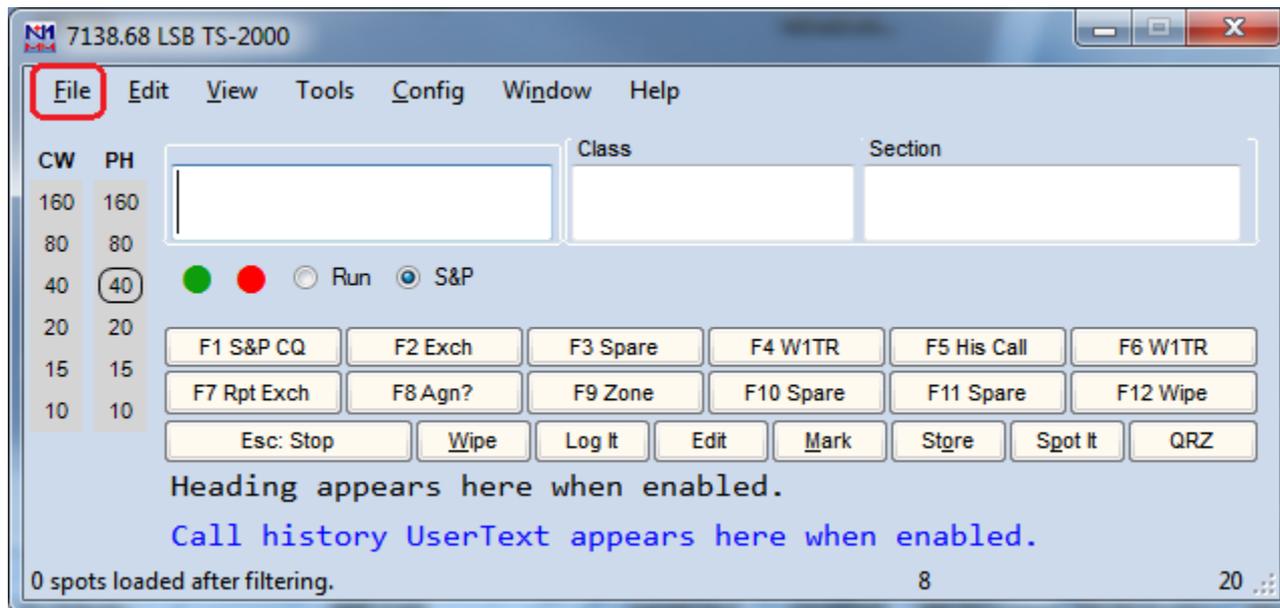
When you start N1MMplus, the Main Window opens.

Close ALL other N1MMplus windows (for now).

Select the File Menu Item to Open the FD Log.

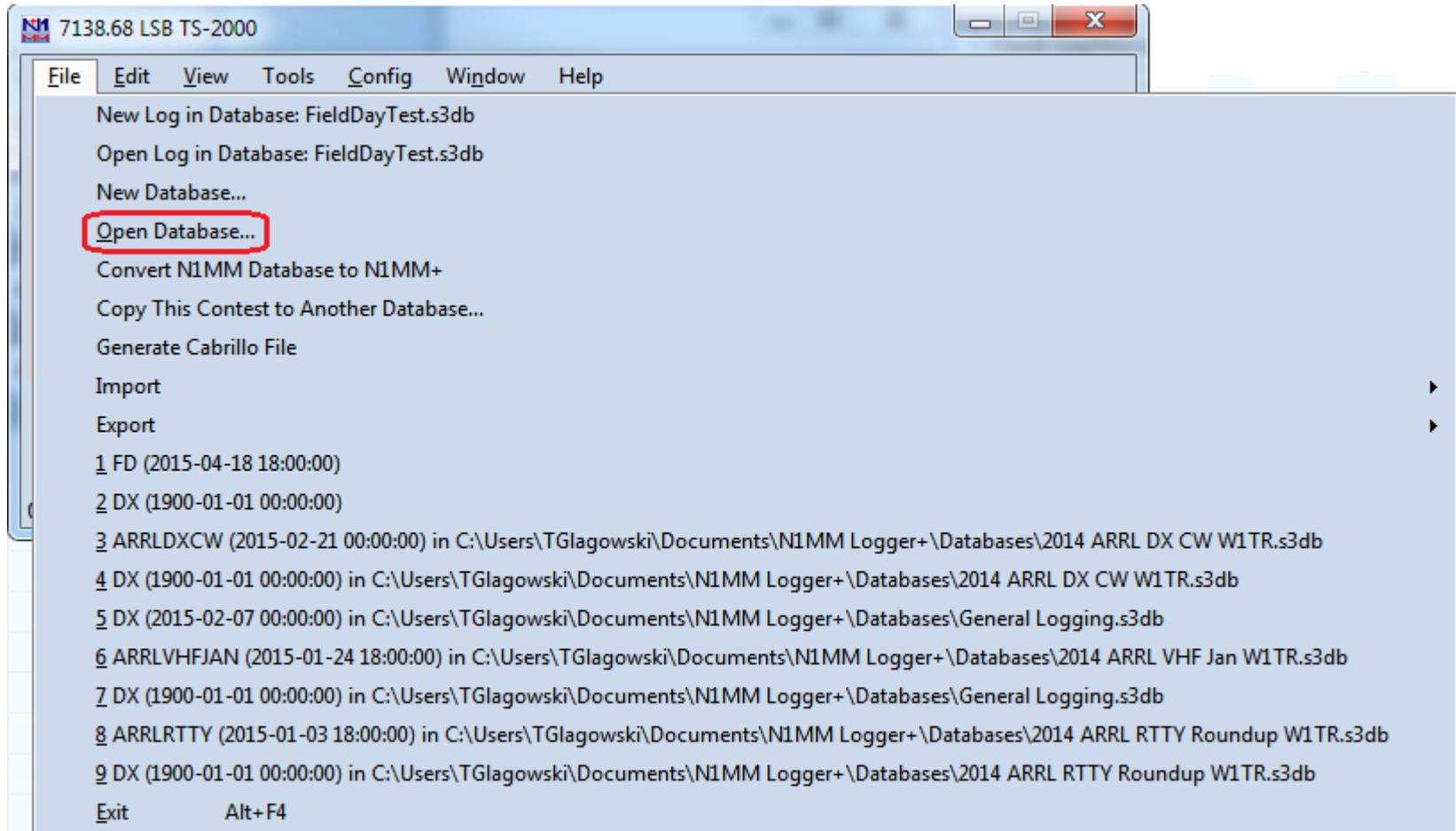
Use MOUSE to select field.

Use TAB or SPACEBAR to move to next field.



# Open Database

Select: Open Database



# Select Log

**Use your own USERNAME instead of TGlowski**

C:\Users\TGlowski\Documents\N1MM Logger+\Databases

File Home Share View

Clipboard: Pin to Quick access, Copy, Paste, Cut, Copy path, Paste shortcut

Organize: Move to, Copy to, Delete, Rename

New: New folder, New item, Easy access

Open: Properties, Open, Edit, History

Select: Select all, Select none, Invert selection

Navigation: TGlowski > Documents > N1MM Logger+ > Databases

Name	Date modified	Type	Size
2016 ARRL FD W1BIM.s3db	15-Jun-2016 18:39	S3DB File	56 KB
N1MM Admin.s3db	15-Jun-2016 18:39	S3DB File	3,288 KB
2016 ARRL VHF JUN W1TR.s3db	15-Jun-2016 17:32	S3DB File	203 KB
N1MM Packet Spots.s3db	15-Jun-2016 17:31	S3DB File	19 KB
N1MM Admin.s3db.bkup	12-Jun-2016 23:47	BKUP File	3,286 KB

36 items | State: Shared

# Log Database Is In a Standard Place

- Log Database Folder Name

C:\Users\<<USERNAME>\Documents\N1MM Logger+\Databases

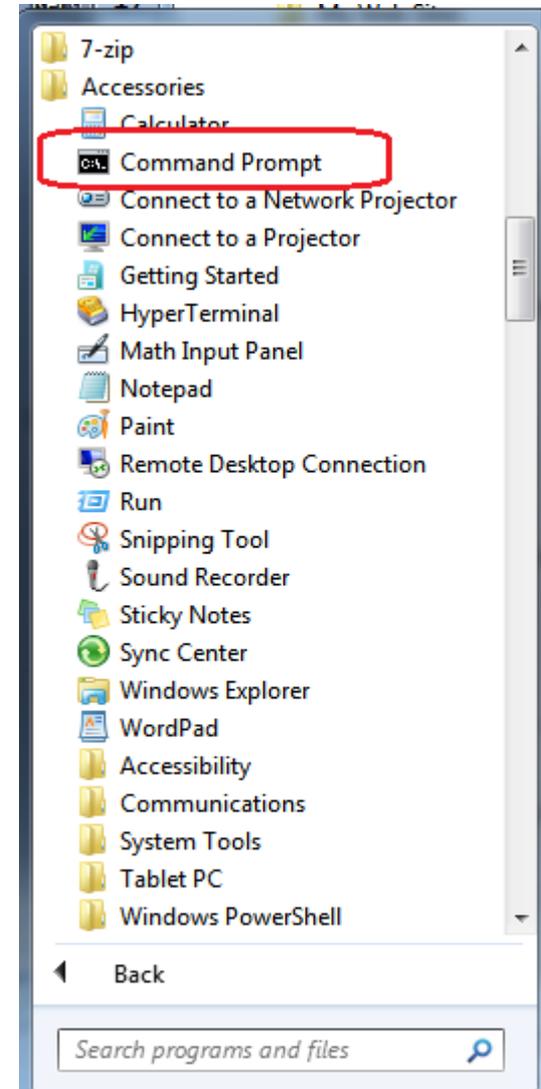
- Log Database File Name

2016 ARRL FD W1BIM.s3db

- How to Determine <USERNAME> (next slide)
- The MASTER computer in the N1MM network will have the ENTIRE log at end of contest
- So will all the SLAVE computers !

# How To Determine <USERNAME>

- Open Command Prompt Window from Start Button
- Type SET command



# Use SET to Get Environmental Parameters

```
C:\> Command Prompt
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\TGlowski>SET
ALLUSERSPROFILE=C:\ProgramData
AMDAPPSDKROOT=C:\Program Files (x86)\AMD APP\AMDAPPSDK
APPDATA=C:\Users\TGlowski\AppData\Roaming
asl.log=Destination=file
CommonProgramFiles=C:\Program Files
CommonProgramFiles(x86)=C:\Program Files (x86)
CommonProgramW6432=C:\Program Files (x86)
COMPUTERNAME=W1TR
ComSpec=C:\Windows\system32\cmd.exe
COPYCMD=/Y
FP_NO_HOST_CHECK=NO
HOMEDRIVE=C:
HOMEPATH=\Users\TGlowski
LOCALAPPDATA=C:\Users\TGlowski\AppData\Local
LOGONSERUER=\\W1TR
NAS=NAS3
NUMBER_OF_PROCESSORS=8
OS=Windows_NT
Path=C:\Perl\site\bin;C:\Perl\bin;C:\Program Files (x86)\Intel\iCLS Client\;C:\Program Files\Intel\iCLS Client\;C:\Program Files (x86)\Common Files\HP\Digital Imaging\bin;c:\Program Files (x86)\Microsoft Shared\MSUS Projects\Library;C:\Program Files (x86)\ATI Technologies\ATI.ACE\Core-Static;C:\Program Files\Microsoft\Web Platform Builder\BatchFiles;c:\Program Files\Saxonica\SaxonHE9.5M\bin;c:\Program Files\Saxonica\SaxonHE9.5M\bin\
PATHEXT=.COM;.EXE;.BAT;.CMD;.UBS;.UBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE=AMD64
PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 42 Stepping 7. GenuineIntel
PROCESSOR_LEVEL=6
PROCESSOR_REVISION=2a07
ProgramData=C:\ProgramData
ProgramFiles=C:\Program Files
ProgramFiles(x86)=C:\Program Files (x86)
ProgramW6432=C:\Program Files (x86)
PROMPT=$P$G
PSModulePath=C:\Windows\system32\WindowsPowerShell\v1.0\Modules\
PUBLIC=C:\Users\Public
SESSIONNAME=Console
SystemDrive=C:
SystemRoot=C:\Windows
TEMP=C:\Users\TGLAGO~1\AppData\Local\Temp
TMP=C:\Users\TGLAGO~1\AppData\Local\Temp
USERDOMAIN=W1TR
USERNAME=TGlowski
USERPROFILE=C:\Users\TGlowski
Variable=Value
US100COMNTOOLS=C:\Program Files (x86)\Microsoft Visual Studio 2010 SDK\
USSDK100Install=C:\Program Files (x86)\Microsoft Visual Studio 2010 SDK\
windir=C:\Windows
windows_tracing_flags=3
windows_tracing_logfile=C:\BUTBin\Tests\installpackage\csilogfile.log

C:\Users\TGlowski>_

C:\Users\TGlowski>SET
ALLUSERSPROFILE=C:\ProgramData
AMDAPPSDKROOT=C:\Program Files (x86)\AMD APP\AMDAPPSDK
APPDATA=C:\Users\TGlowski\AppData\Roaming
COMPUTERNAME=W1TR
ComSpec=C:\Windows\system32\cmd.exe
COPYCMD=/Y
FP_NO_HOST_CHECK=NO
HOMEDRIVE=C:
HOMEPATH=\Users\TGlowski
LOCALAPPDATA=C:\Users\TGlowski\AppData\Local
LOGONSERUER=\\W1TR
NAS=NAS3
NUMBER_OF_PROCESSORS=8
OS=Windows_NT
Path=C:\Perl\site\bin;C:\Perl\bin;C:\Program Files (x86)\Intel\iCLS Client\;C:\Program Files\Intel\iCLS Client\;C:\Program Files (x86)\Common Files\HP\Digital Imaging\bin;c:\Program Files (x86)\Microsoft Shared\MSUS Projects\Library;C:\Program Files (x86)\ATI Technologies\ATI.ACE\Core-Static;C:\Program Files\Microsoft\Web Platform Builder\BatchFiles;c:\Program Files\Saxonica\SaxonHE9.5M\bin;c:\Program Files\Saxonica\SaxonHE9.5M\bin\
PATHEXT=.COM;.EXE;.BAT;.CMD;.UBS;.UBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE=AMD64
PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 42 Stepping 7. GenuineIntel
PROCESSOR_LEVEL=6
PROCESSOR_REVISION=2a07
ProgramData=C:\ProgramData
ProgramFiles=C:\Program Files
ProgramFiles(x86)=C:\Program Files (x86)
ProgramW6432=C:\Program Files (x86)
PROMPT=$P$G
PSModulePath=C:\Windows\system32\WindowsPowerShell\v1.0\Modules\
PUBLIC=C:\Users\Public
SESSIONNAME=Console
SystemDrive=C:
SystemRoot=C:\Windows
TEMP=C:\Users\TGLAGO~1\AppData\Local\Temp
TMP=C:\Users\TGLAGO~1\AppData\Local\Temp
USERDOMAIN=W1TR
USERNAME=TGlowski
USERPROFILE=C:\Users\TGlowski
Variable=Value
US100COMNTOOLS=C:\Program Files (x86)\Microsoft Visual Studio 2010 SDK\
USSDK100Install=C:\Program Files (x86)\Microsoft Visual Studio 2010 SDK\
windir=C:\Windows
windows_tracing_flags=3
windows_tracing_logfile=C:\BUTBin\Tests\installpackage\csilogfile.log

C:\Users\TGlowski>_

-----
USERDOMAIN=W1TR
USERNAME=TGlowski
USERPROFILE=C:\Users\TGlowski
-----
```

# Open Log in Database

2015 CMARA Field Day.s3db

Select Existing Log

Contest	Start Date
FD	2015-04-18 18:00:00
DX	1900-01-01 00:00:00
DELETEDQS	1900-01-01 00:00:00

Contest Associated Files

**W1TR will set ALL station information  
DO NOT CHANGE**

Category

Operator: MULTI-OP (8 Contacts)  
Band: ALL (Note - the program does not validate categories. Check the contest rules for valid categories.)  
Power: LOW  
Mode: MIXED  
Overlay: N/A (Show Rules Show Setup)  
Station: FIXED  
Assisted: ASSISTED (Time Category: N/A)  
Transmitter: UNLIMITED

Sent Exchange: 7A CT (Omit RST. E.g. CQWW: 05 SS: A 56 EMA) (Update Ops from Log)

Operators: W1TR

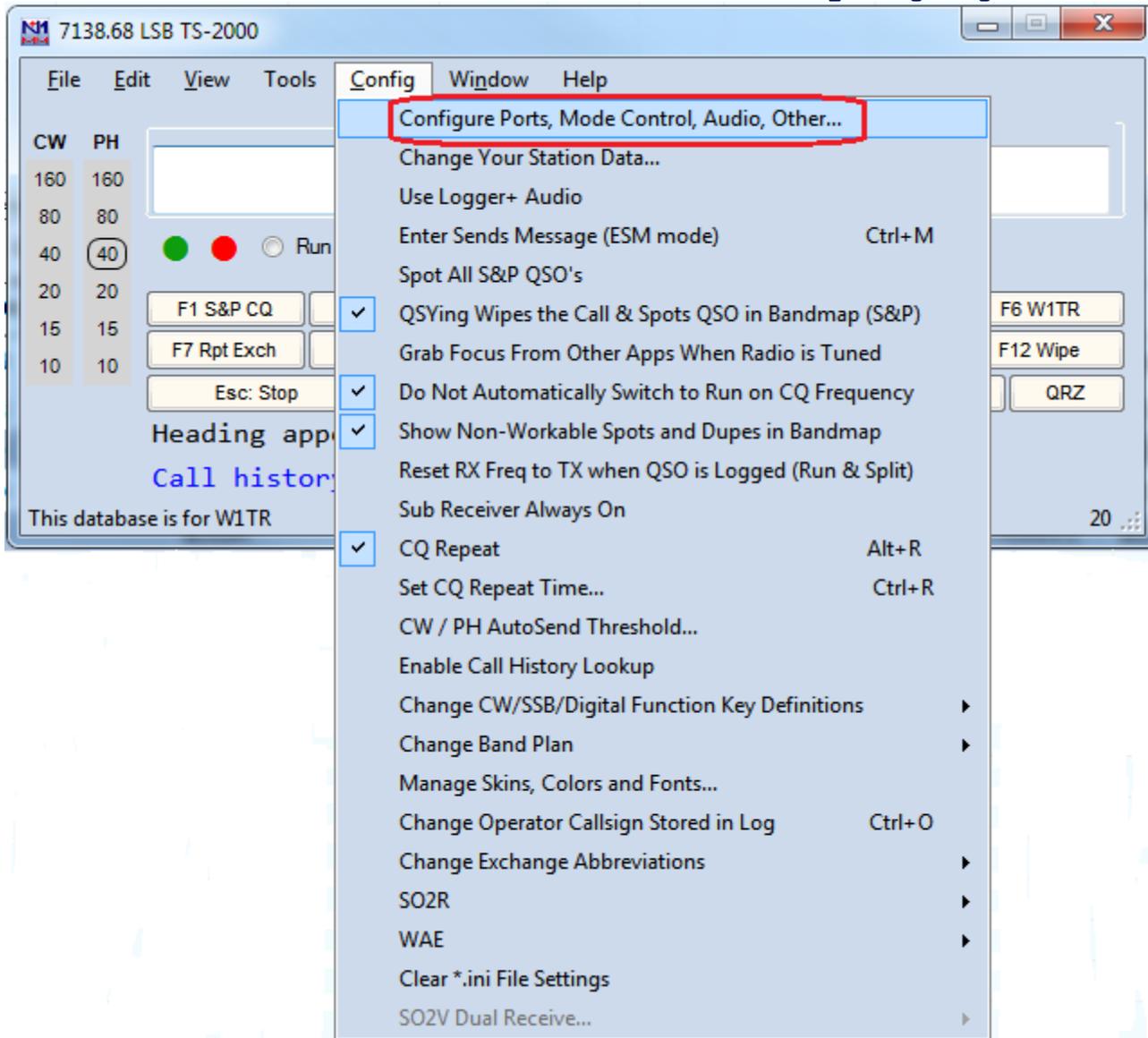
Soapbox: CMARA Test Log

**This may change by FD**

**W1TR will take care of this**

OK Help Cancel

# CAT Control Setup (1)



# CAT Control Setup(2)

**Radio Type**

**CAT Port**

**CW / PTT Port**

**Use SO1V**

- Setup Radio Type
- Setup CAT Port
- Setup CW/PTT Port (optional if computer CW)
- Set Details for CAT Port
- Set Details for CW/PTT Port

Port	Radio	Digi	CW/Other	Details
COM6	TS-2000	<input type="checkbox"/>	<input type="checkbox"/>	Set
COM7	None	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Set
COM8	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
COM3	TS-2000	<input type="checkbox"/>	<input type="checkbox"/>	Set
COM4	None	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Set
None	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
None	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
None	None	<input type="checkbox"/>	<input type="checkbox"/>	Set
LPT1		<input type="checkbox"/>	<input type="checkbox"/>	Set
LPT2		<input type="checkbox"/>	<input type="checkbox"/>	Set
LPT3		<input type="checkbox"/>	<input type="checkbox"/>	Set

SO1V     SO2V     SO2R

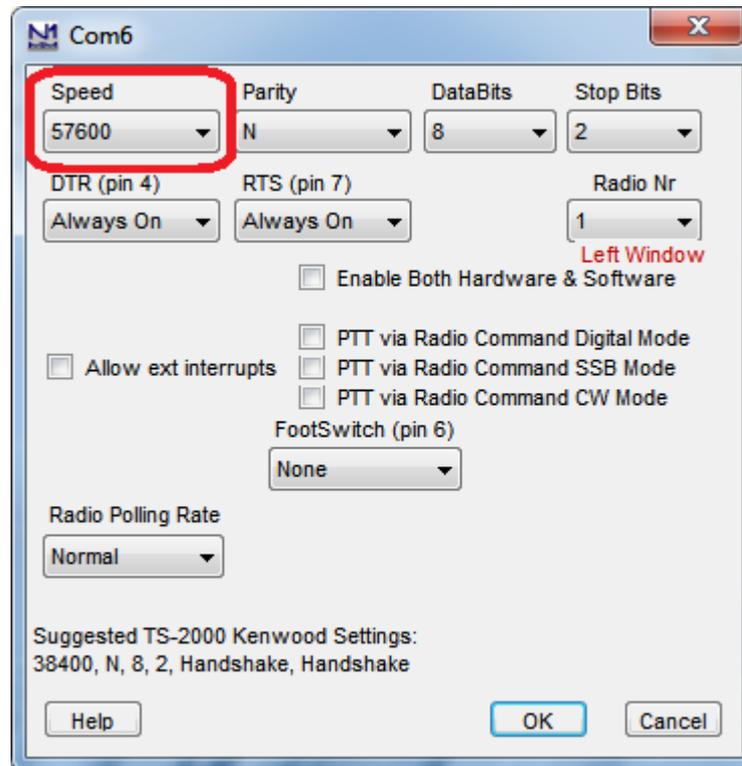
57600,N,8,2,DTR=Always On,RTS=Always On,Tx=1  
DTR=CW,RTS=PTT,Tx=1

57600,N,8,2,DTR=Always On,RTS=Always On,Tx=2  
DTR=CW,RTS=PTT,Tx=2

OK    Cancel    Help

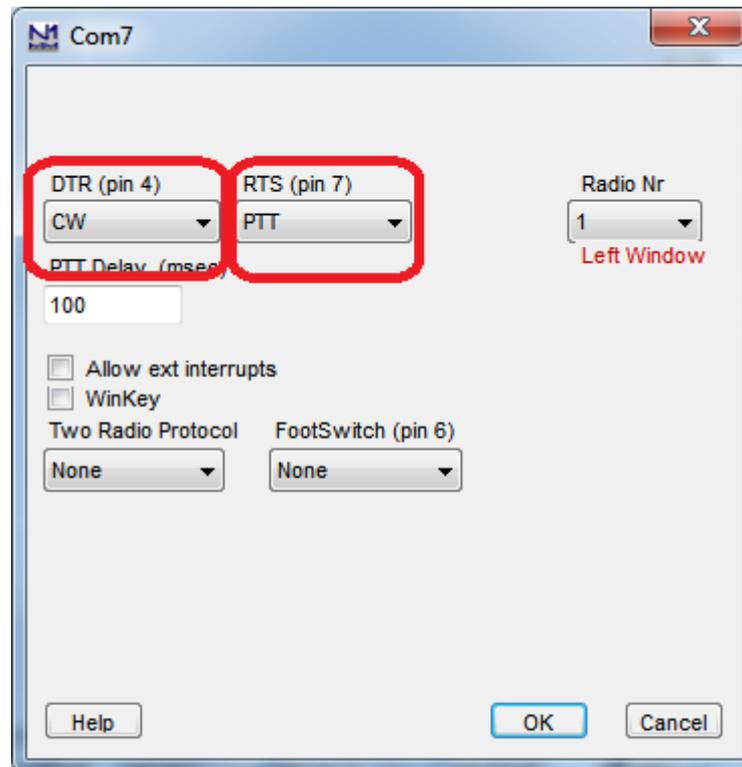
# Details for CAT Port

- Set Speed (Baud Rate) for YOUR Radio
- For some radios (ICOM) you may need to set HEX address
  - On Radio
  - On N1MM



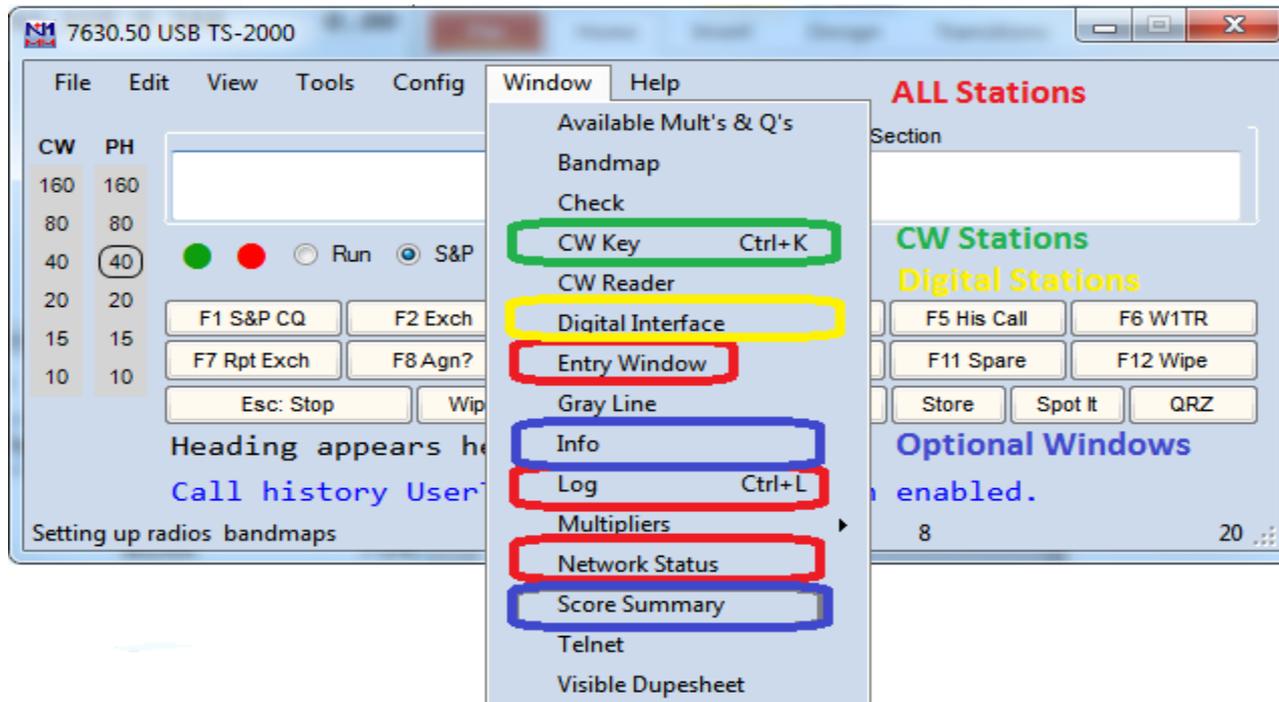
# Details for CW/PTT Port

- Set DTR = CW
- Set RTS = PTT



# Activate N1MMplus Windows

- **All Stations Use**
  - Entry Window (Default Window, already set up)
  - Network Status – to enable networking and know what other stations are doing
  - Log Window – to see what has been logged
- **Optional Windows**
  - Info – shows QSO rate
  - Score Summary – shows score by band and mode
  - Check – determine if there might be callsign typos
- **CW Stations Use CW Key for Keyboard Transmissions (CTRL+K)**
- **Digital Stations Use Digital Interface**



# Entry Window

This window shows current QSO information

Callsign, Class, Section (these vary with contest type)

Title Bar at Top of Window shows Frequency and Radio Type.

Indicator for current band and mode

Indicator for Run / S&P

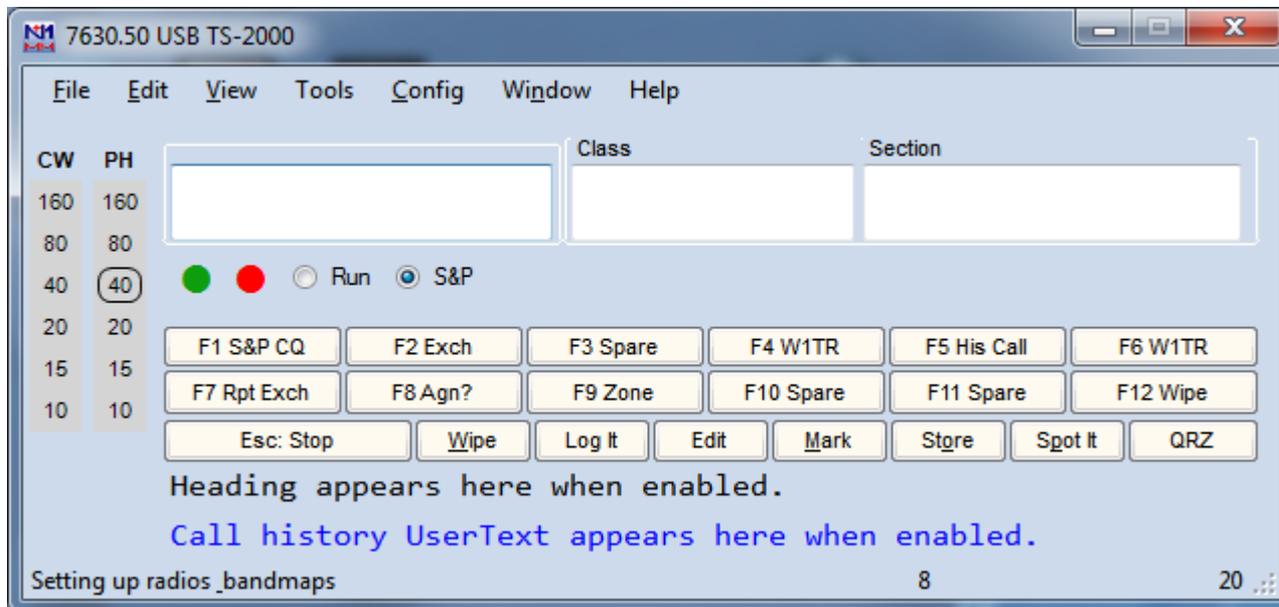
Function Keys for use with Mouse, legend key for using F-Keys on Keyboard

Call History when Available

Azimuth Heading when Available

Use **MOUSE** to select field.

Use **TAB** or **SPACEBAR** to move to next field.

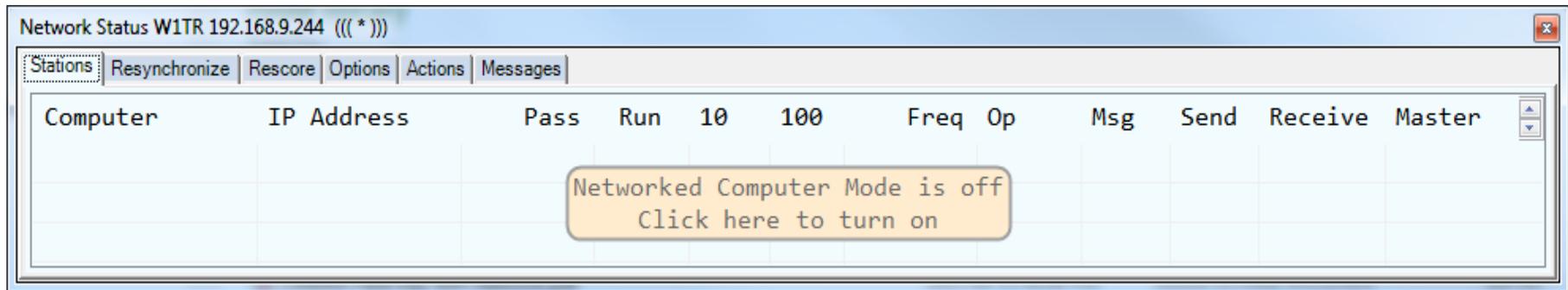


# Network Status Window (1)

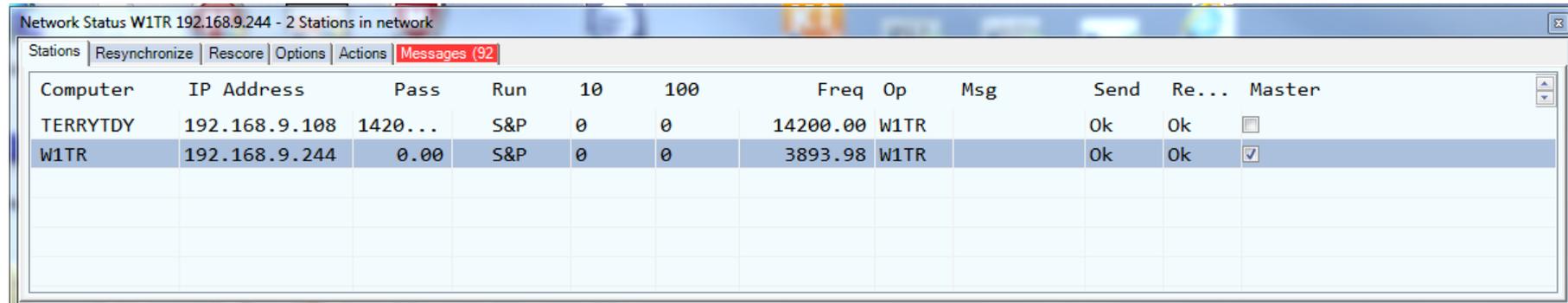
The Stations Tab shows computers currently on the network

Computer Name, IP, Pass Freq, Run/S&P, QSO Stats, Freq, Op, Msg, Send, Recv, Master

If the Network Status Window Looks Like This,  
Click on the Orange Button to Start Networking.  
Do NOT check MASTER, your station is a SLAVE!

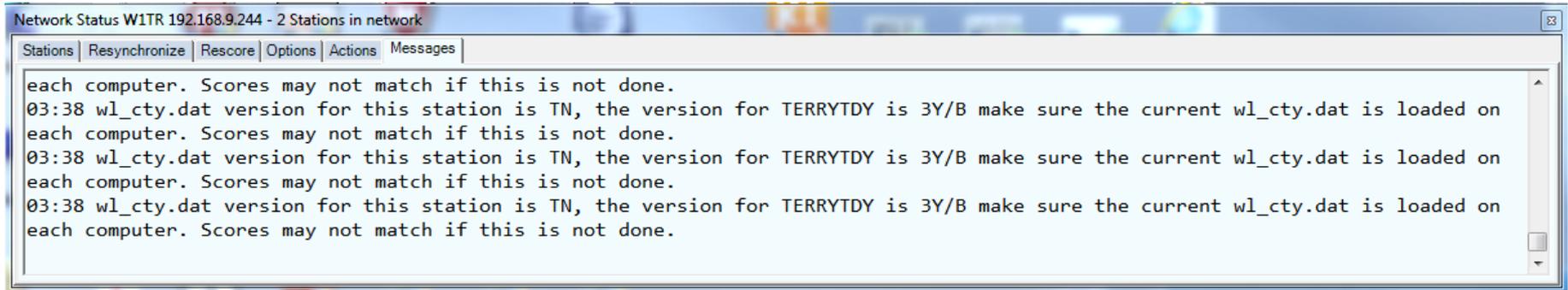


After Networking is Started, it will look like this  
If the Messages Tab is Red, it contains warning / error messages.



# Network Status Window (2)

If the Network Status Window / Messages Tab contains this message,  
Some computer on the network has the wrong Country File.  
It must be installed before contest.



The screenshot shows a window titled "Network Status W1TR 192.168.9.244 - 2 Stations in network". The window has a menu bar with "Stations", "Resynchronize", "Rescore", "Options", "Actions", and "Messages". The "Messages" tab is selected, and the message content is as follows:

```
each computer. Scores may not match if this is not done.  
03:38 wl_cty.dat version for this station is TN, the version for TERRYTDY is 3Y/B make sure the current wl_cty.dat is loaded on  
each computer. Scores may not match if this is not done.  
03:38 wl_cty.dat version for this station is TN, the version for TERRYTDY is 3Y/B make sure the current wl_cty.dat is loaded on  
each computer. Scores may not match if this is not done.  
03:38 wl_cty.dat version for this station is TN, the version for TERRYTDY is 3Y/B make sure the current wl_cty.dat is loaded on  
each computer. Scores may not match if this is not done.
```

# Network Status Window (3)

If a computer has the wrong Country File  
The following message will display on its screen.



Exit N1MMplus and install the Country File in the N1MMplus Support Files Directory  
After the Country File is updated And N1MMplus is restarted...  
Another message asking to import the country file will appear  
Reply YES to this message.

# Network Status Window (4)

This window shows computers currently on the network  
Computer Name, IP, Pass Freq, Run/S&P, QSO Stats, Freq, Op, Msg, Send, Recv, Master

Network Status W1TR 192.168.9.244 - 1 Stations in network

Stations | Resynchronize | Rescore | Options | Actions | Messages

Computer	IP Address	Pass	Run	10	100	Freq	Op	Msg	Send	Receive	Master
W1TR	192.168.9.244	0.00	S&P	60	60	7630.50	W1TR		Ok	Ok	<input checked="" type="checkbox"/>

Normally there would be other computers listed when network is fully populated

Network Status W1TR 192.168.9.244 - 1 Stations in network

Options Should Be Set as Shown

Stations | Resynchronize | Rescore | Options | Actions | Messages

Run1  Run2/Mult

Log QSOs at all Stations

Don't work non-mults

Don't automatically change to S&P mode

Wipe callsign when logged by stack target

Trace Networked Computer Messages

Force ALL other stations to stop transmitting when I transmit

Block my Tx only if other station transmitting on same band and mode (multi-one)

Network Status W1TR 192.168.9.244 - 1 Stations in network

Use This to Send Text Messages to Other Computers

Stations | Resynchronize | Rescore | Options | Actions | Messages

Talk (CI-E) | Stop Networking | Force Time Sync | Reset Serial Numbers at all Stations

Set Your Pass Frequency | Edit Computer Addresses

Network Status W1TR 192.168.9.244 - 1 Stations in network

Use This to View Messages

Stations | Resynchronize | Rescore | Options | Actions | Messages

# Talk Window

This Window Allows Chat with Other Stations  
Use CTRL-E to Activate Talk Window



## Upper Window Displays Received Messages

Time of Day GMT/UTC (15:38z)

Sending Computer in Braces [W1TR]

Destination Station (\*)

Message Text

## Lower Window Displays Sent Messages

Destination \* for all or Computer Name

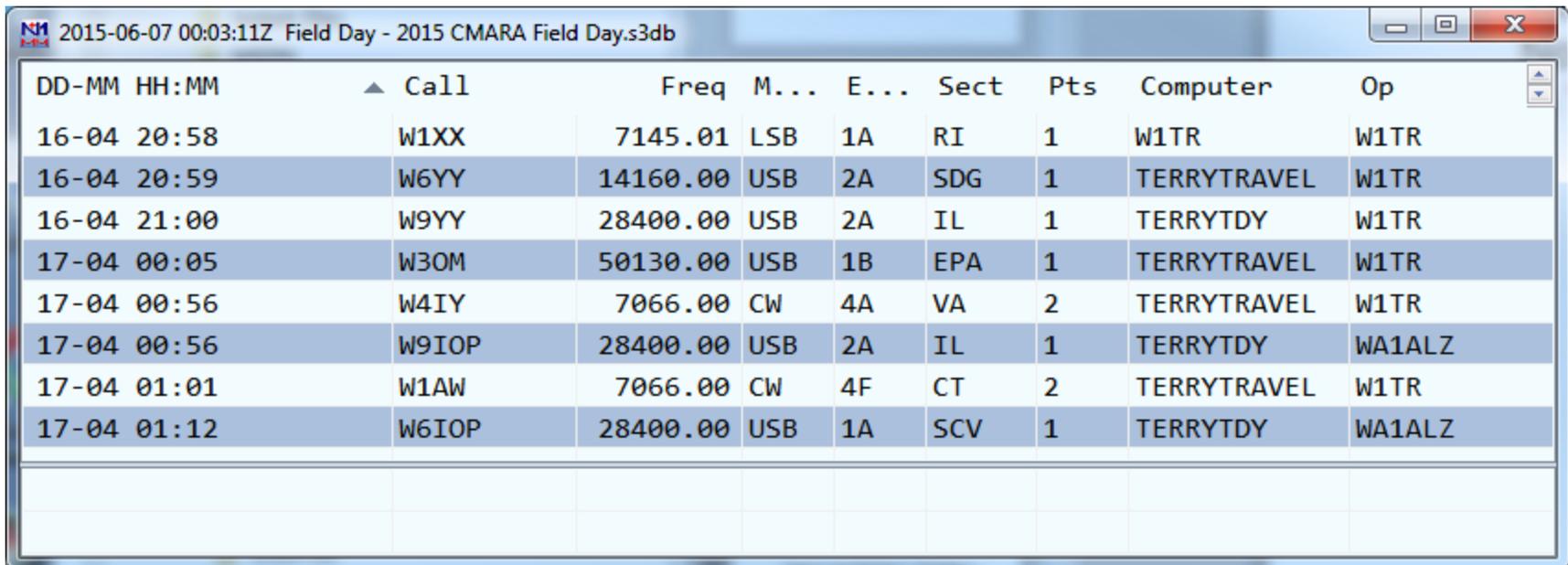
Message Text

# Log Window

This window shows stations CMARA has worked

Date, Time, Call, Frequency, Mode, Section, Points, Computer, Operator.

Title Bar at Top of Window shows Date/Time, Contest Name, Database Name.



The screenshot shows a window titled "2015-06-07 00:03:11Z Field Day - 2015 CMARA Field Day.s3db". The window contains a table with the following columns: DD-MM HH:MM, Call, Freq, M..., E..., Sect, Pts, Computer, and Op. The table lists eight rows of station work logs.

DD-MM HH:MM	Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04 20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR
16-04 20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04 21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04 00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04 00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL	W1TR
17-04 00:56	W9IOP	28400.00	USB	2A	IL	1	TERRYTDY	WA1ALZ
17-04 01:01	W1AW	7066.00	CW	4F	CT	2	TERRYTRAVEL	W1TR
17-04 01:12	W6IOP	28400.00	USB	1A	SCV	1	TERRYTDY	WA1ALZ

# Info Window

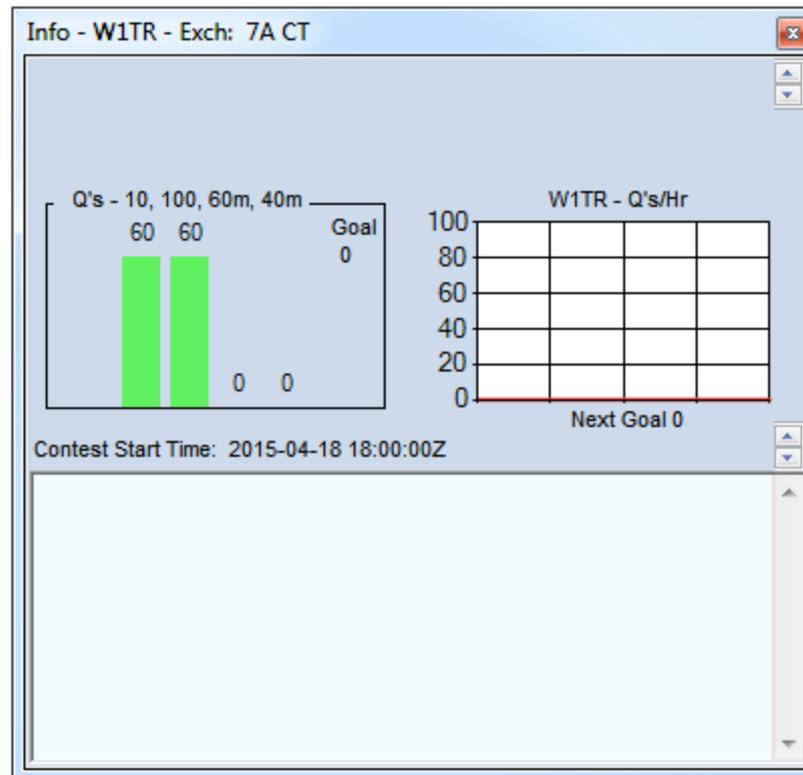
This window shows QSO rate statistics versus goals.

10 – rate for last 10 QSOs

100 – rate for last 100 QSOs

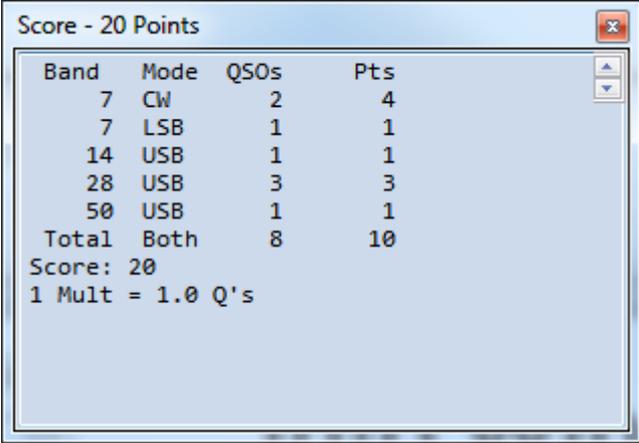
60m – rate for last 60 minutes

40m – rate for last 40 minutes



# Score Summary Window

This Window Shows Current Score by Band and Mode, and Total



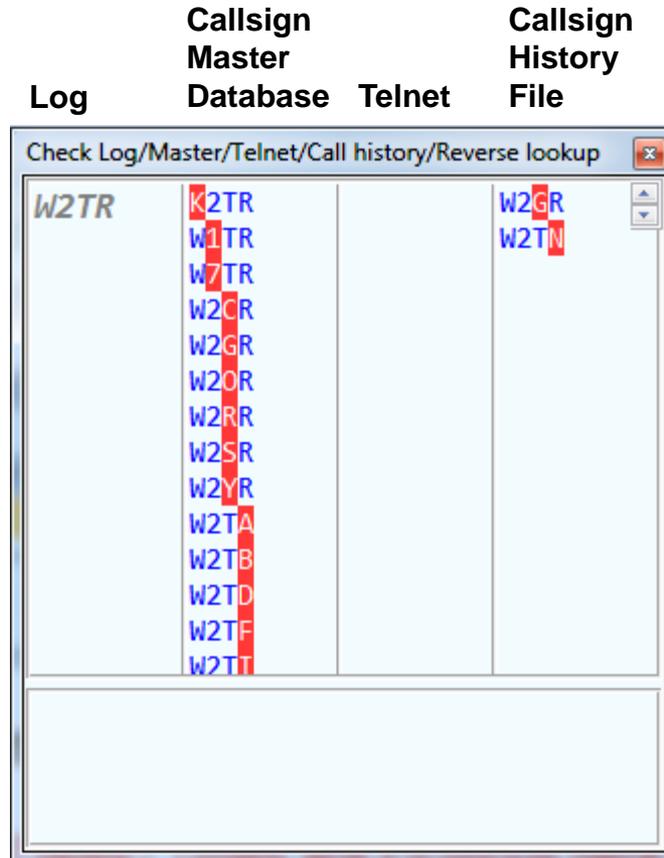
A screenshot of a software window titled "Score - 20 Points". The window contains a table with four columns: "Band", "Mode", "QSOs", and "Pts". The table lists scores for various bands and modes, including a total score of 20 and 1 multiplier.

Band	Mode	QSOs	Pts
7	CW	2	4
7	LSB	1	1
14	USB	1	1
28	USB	3	3
50	USB	1	1
Total Both		8	10

Score: 20  
1 Mult = 1.0 Q's

# Check Window

This Window Shows Partial Matches of Callsign in QSO Entry Window with Log, Master Callsign Database, Telnet Window, Call History File. Use to check for TYPOs or mis-copied callsigns.



# CW Transmit Window

Use this Window to send CW Messages not Preset in Macros.  
Particularly Useful if NO Paddle or Key is Connected to Radio.

**ENTER Key Ends Transmission and Closes Window.**

**Window must be closed before other actions can be taken.**



# Band Map Window

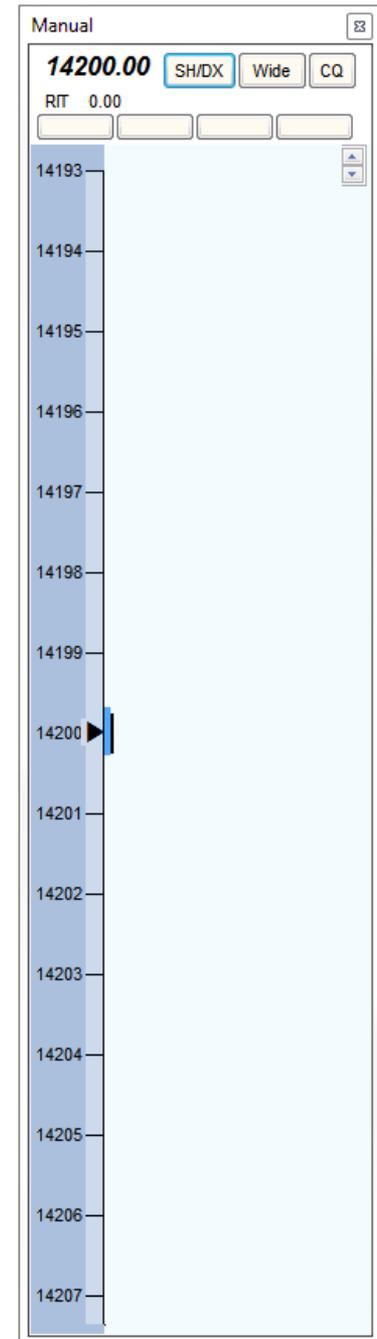
This Window Shows Spots from

1. Self
2. Others
3. Packet Cluster

Station Callsigns will be Shown Next to Frequency.

Click on Callsign to Move VFO to Frequency

Note: we are NOT using Packet Cluster!

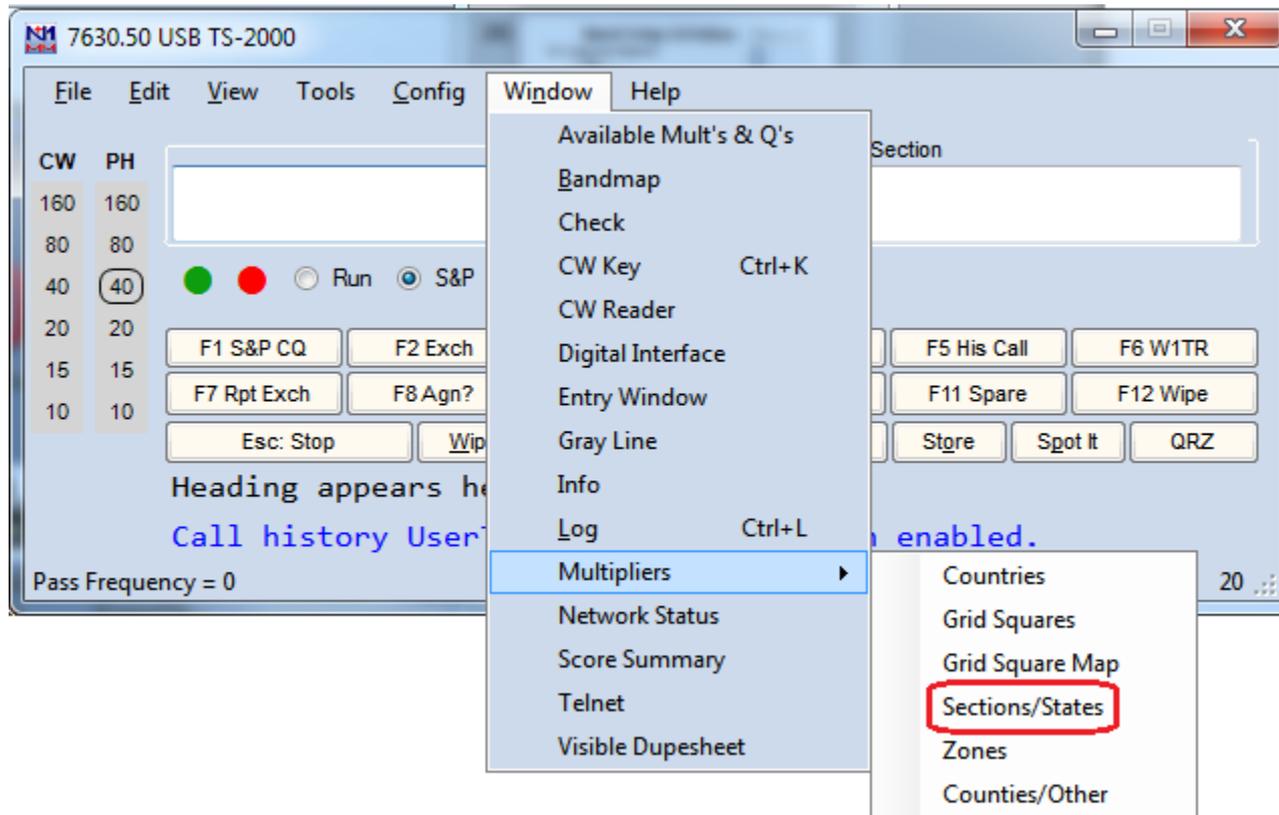


# Multiplier Window Selection

Select an Appropriate Multiplier Window.

Field Day uses Sections.

However, Sections are NOT a Field Day Contest Score Multiplier.  
Use for Information ONLY.



# Multiplier Window

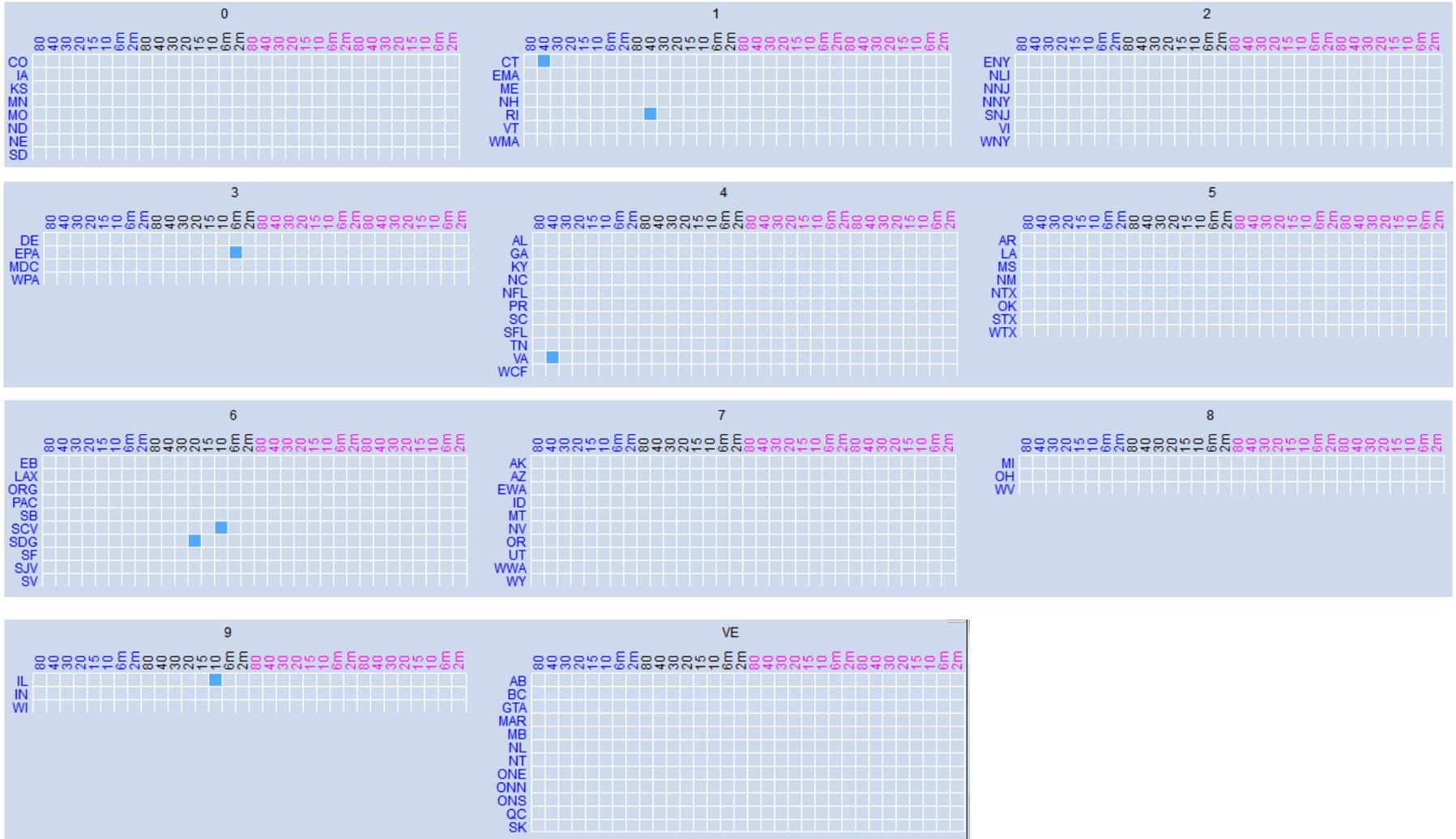
This Window Shows Sections Worked versus Band and Mode

States/Sections - 7 mults worked of 2656 possible

Modes: CW, PH, RTTY, PSK

Worked Expected Spotted Spotted (Dbl Multi)

Note: Window is Very Wide, Window Segments are shown!



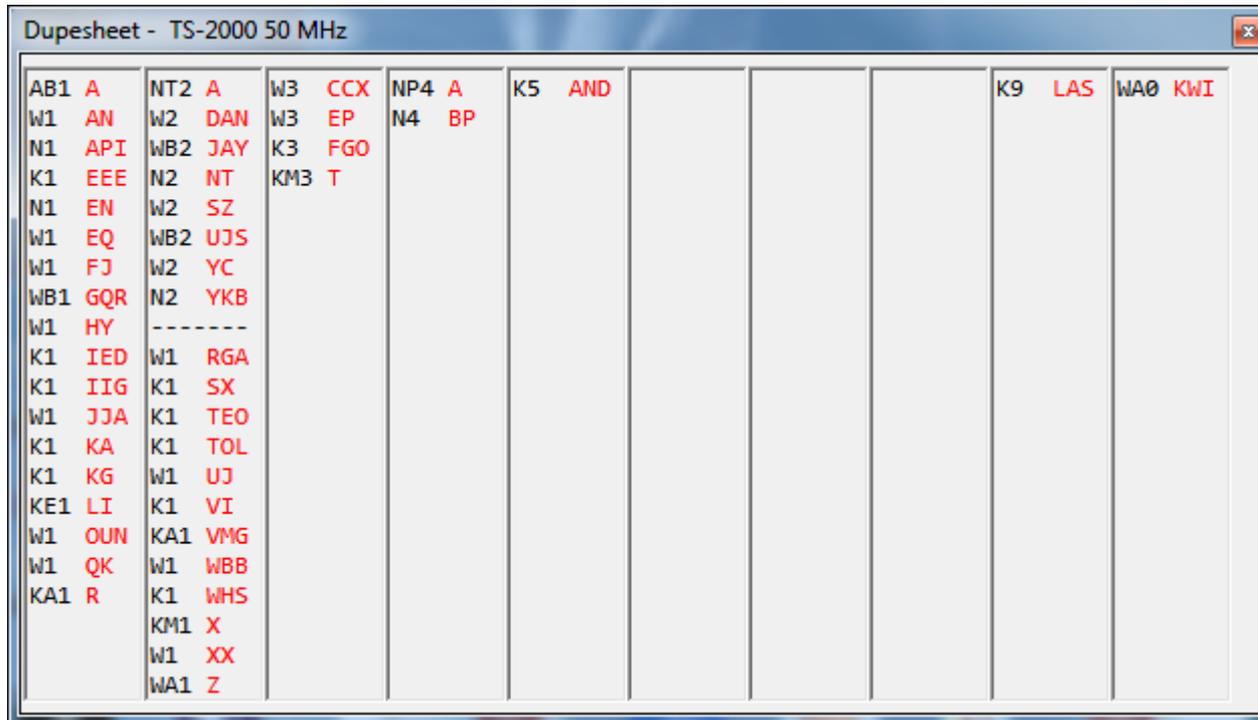
# Visible Dupe Sheet

This window is useful for very quickly checking for DUPES without typing.

It is organized by call suffix within call number zone.

If there is room, each call number zone has its own column.

If there are too many calls in a zone, the column will overflow to the next column.



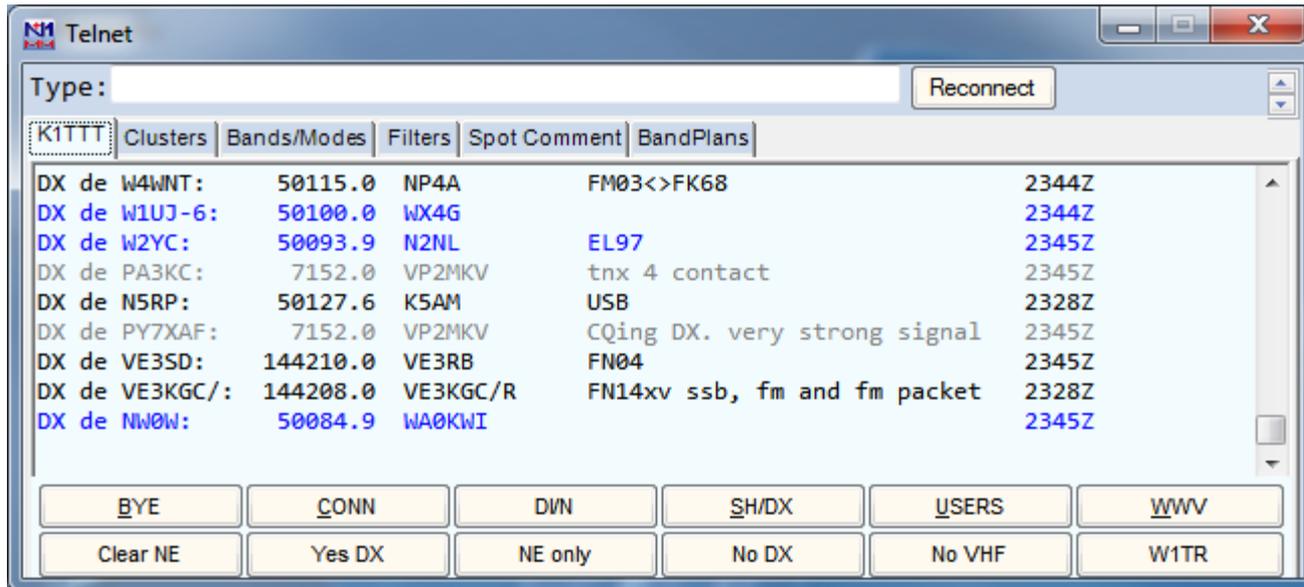
The screenshot shows a window titled "Dupesheet - TS-2000 50 MHz" with a grid of call numbers. The grid is organized into columns based on call number zones. The first column contains call numbers from AB1 to KA1. The second column contains call numbers from NT2 to WA1. The third column contains call numbers from W3 to KM3. The fourth column contains call numbers from NP4 to N4. The fifth column contains the call number K5. The sixth column is empty. The seventh column contains the call number K9. The eighth column contains the call number WA0. The ninth column contains the call number KWI. The call numbers are listed in red text on a white background.

Zone	Call Number
AB1	A
W1	AN
N1	API
K1	EEE
N1	EN
W1	EQ
W1	FJ
WB1	GQR
W1	HY
K1	IED
K1	IIG
W1	JJA
K1	KA
K1	KG
KE1	LI
W1	OUN
W1	QK
KA1	R
NT2	A
W2	DAN
WB2	JAY
N2	NT
W2	SZ
WB2	UJS
W2	YC
N2	YKB
W1	RG
K1	SX
K1	TEO
K1	TOL
W1	UJ
K1	VI
KA1	VMG
W1	WBB
K1	WHS
KM1	X
W1	XX
WA1	Z
W3	CCX
W3	EP
K3	FGO
KM3	T
NP4	A
N4	BP
K5	AND
K9	LAS
WA0	KWI

# Telnet Window

This Window Shows Spots from Internet DX Clusters

We do NOT Plan to Use DX Clusters for Spotting / Assisted Mode



The screenshot shows a Telnet window titled "NM Telnet". At the top, there is a "Type:" field and a "Reconnect" button. Below this is a tabbed interface with tabs for "K1TTT", "Clusters", "Bands/Modes", "Filters", "Spot Comment", and "BandPlans". The "K1TTT" tab is selected, displaying a list of DX spots. The list has columns for call sign, frequency, mode, comment, and time. At the bottom of the window, there are two rows of buttons for various actions.

Call Sign	Freq	Mode	Comment	Time
DX de W4WNT:	50115.0	NP4A	FM03<>FK68	2344Z
DX de W1UJ-6:	50100.0	WX4G		2344Z
DX de W2YC:	50093.9	N2NL	EL97	2345Z
DX de PA3KC:	7152.0	VP2MKV	tnx 4 contact	2345Z
DX de N5RP:	50127.6	K5AM	USB	2328Z
DX de PY7XAF:	7152.0	VP2MKV	CQing DX. very strong signal	2345Z
DX de VE3SD:	144210.0	VE3RB	FN04	2345Z
DX de VE3KGC/:	144208.0	VE3KGC/R	FN14xv ssb, fm and fm packet	2328Z
DX de NW0W:	50084.9	WA0KWI		2345Z

Buttons at the bottom:

BYE	CONN	DVN	SH/DX	USERS	WWV
Clear NE	Yes DX	NE only	No DX	No VHF	W1TR

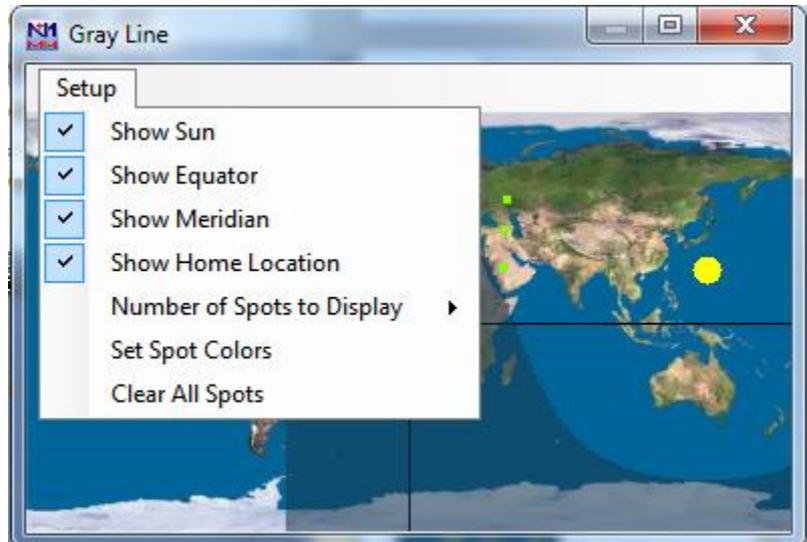
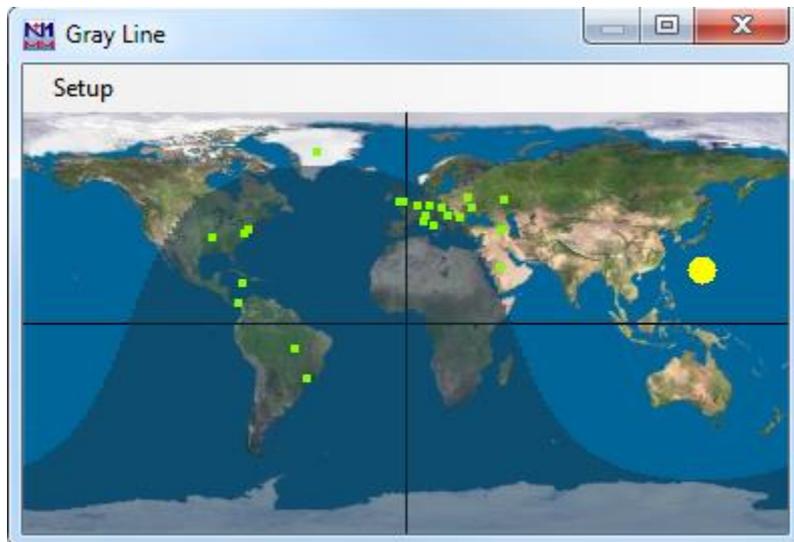
# Grey Line Window

This Window Shows

1. The Grey Line between Day Time and Night Time
2. Spots from Internet DX Clusters by Location

We do NOT Plan to Use DX Clusters for Spotting / Assisted Mode

A Setup Menu Provides a Choice of What to Display



# Station Setup

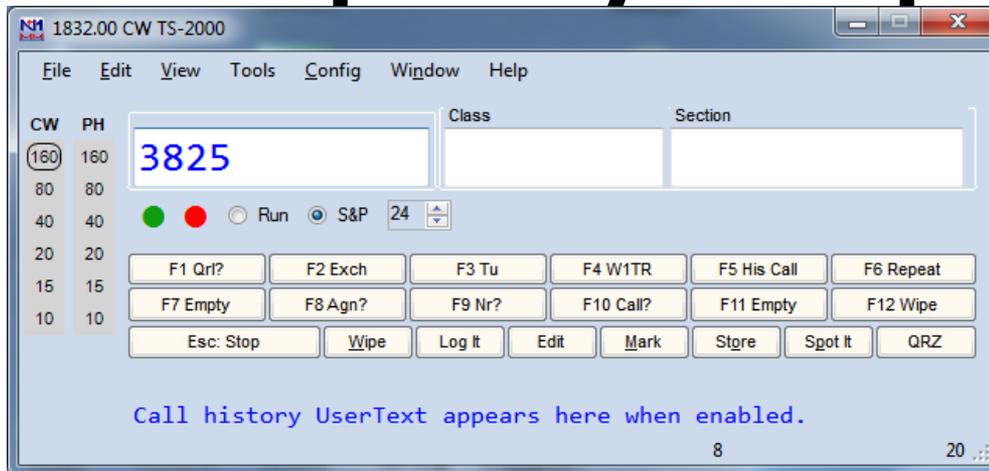
This Year, CMARA is using CAT Control 😊

So THIS should NOT Be Necessary, But Just In Case! ☹️

Use the N1MMplus QSO Entry Form to set Frequency and Mode if CAT Control is NOT Used

- **Very Important to Set These Items Cannot be Fixed Later**
  - Date Time on Computer Clock (Network will Override)
  - Start N1MM+ as Administrator
  - Frequency / Band – Type into Callsign Field (CAT CTRL will Override)
  - Mode – Type into Callsign Field (CAT CTRL will Override)
  - Operator – CTRL-O
- **Log Manager will Install Latest Updates and Verify**
- Set Date / Time on Computer – (Network will Override)
- Start N1MM+ as Administrator (set ICON properties)
- Set Frequency – (CAT Control will Override)  
Type Frequency in KHz (e.g. 3550 or 21350) into callsign field
- Set Mode – (CAT Control will Override)  
Type Mode (e.g. CW, USB, LSB, AM, FM, RTTY, PSK31) into callsign field
- Use CTRL-O to Sign In as Operator  
to accurately record who the operator was for contacts.

# Frequency Setup



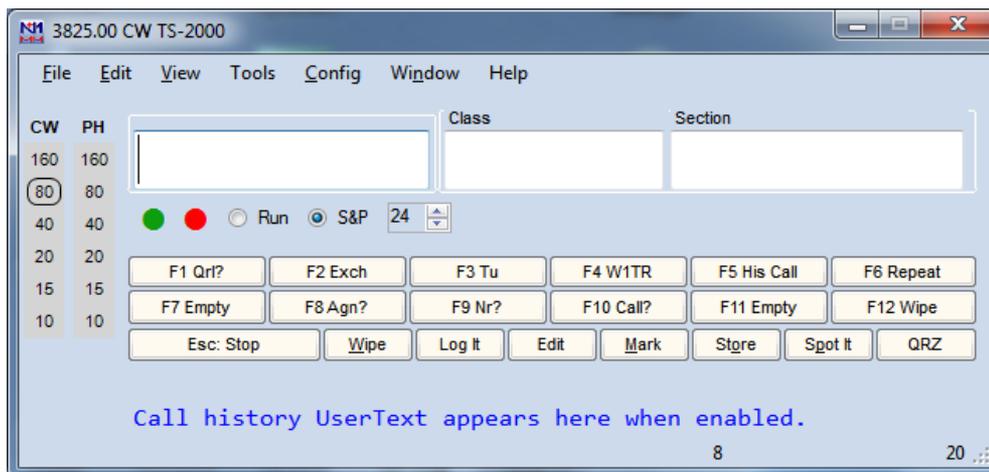
To Set or Change Frequency:

type the Frequency in KHz in the Callsign Field (left).

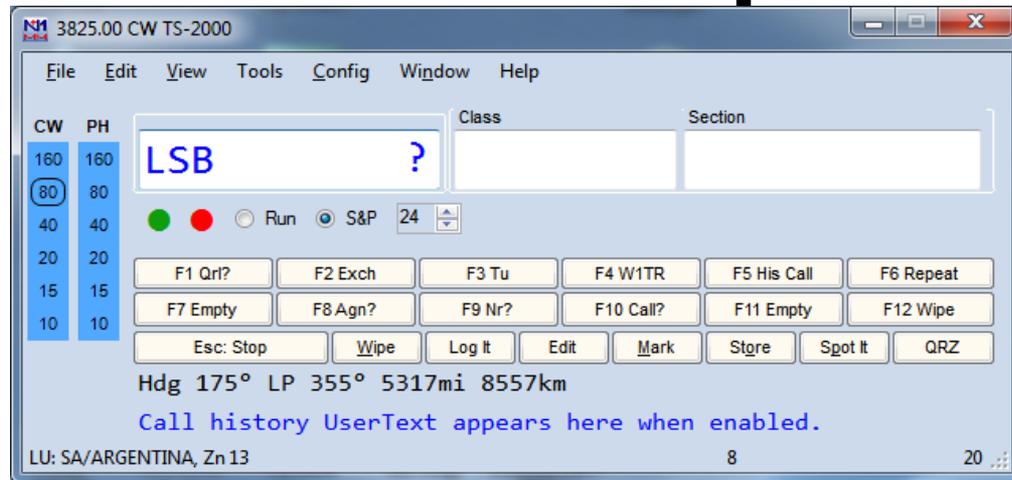
Use a **typical Phone or CW Frequency** if **NOT CAT Controlled**, N1MMplus only needs to know the **Band**.

**NO NEED to CHANGE** it as you tune up and down the band.

Note: the Title Bar of the Main Window will reflect the change



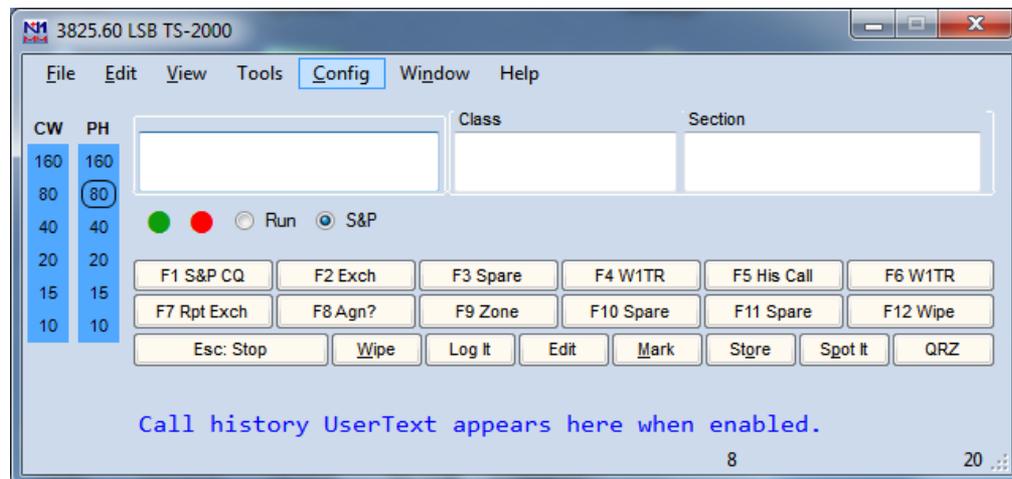
# Mode Setup



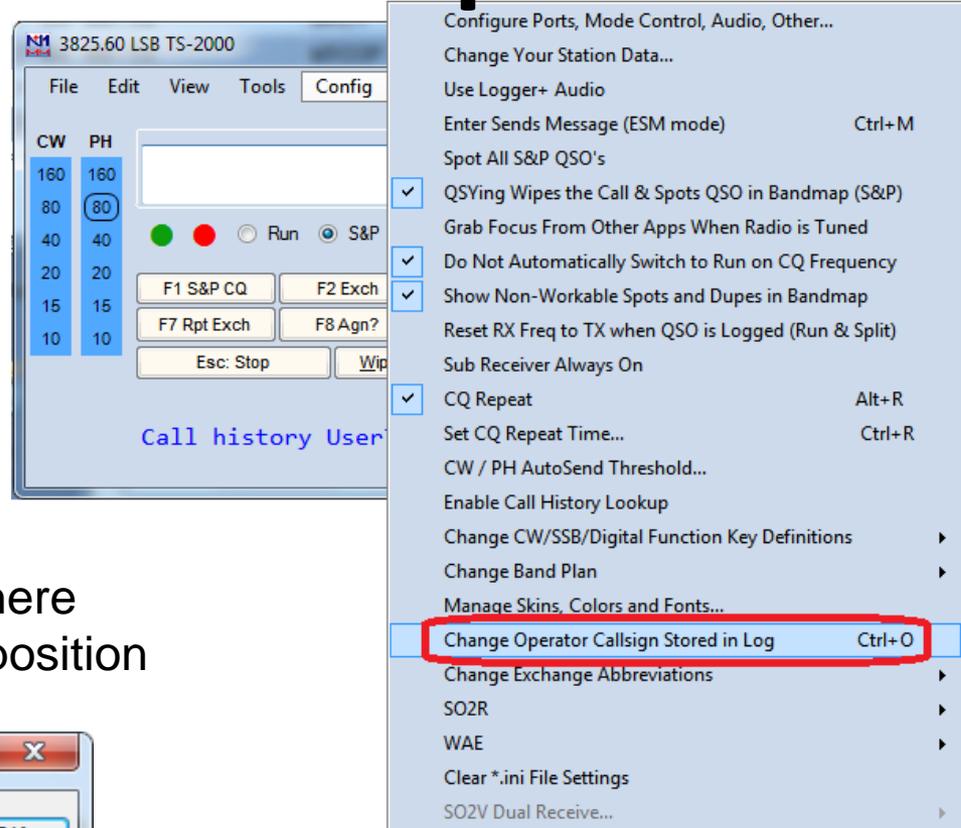
To Set or Change Mode:

Type the Mode (CW, USB, LSB, AM, FM, RTTY, PSK31) into the Callsign Field (left) **if NOT CAT controlled.**

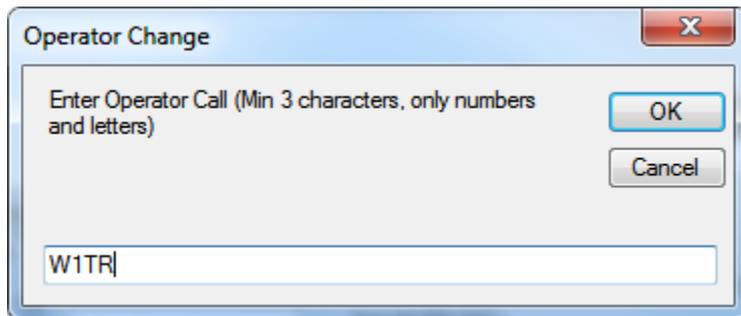
Note: the Title Bar of the Main Window will reflect the change



# Operator Setup

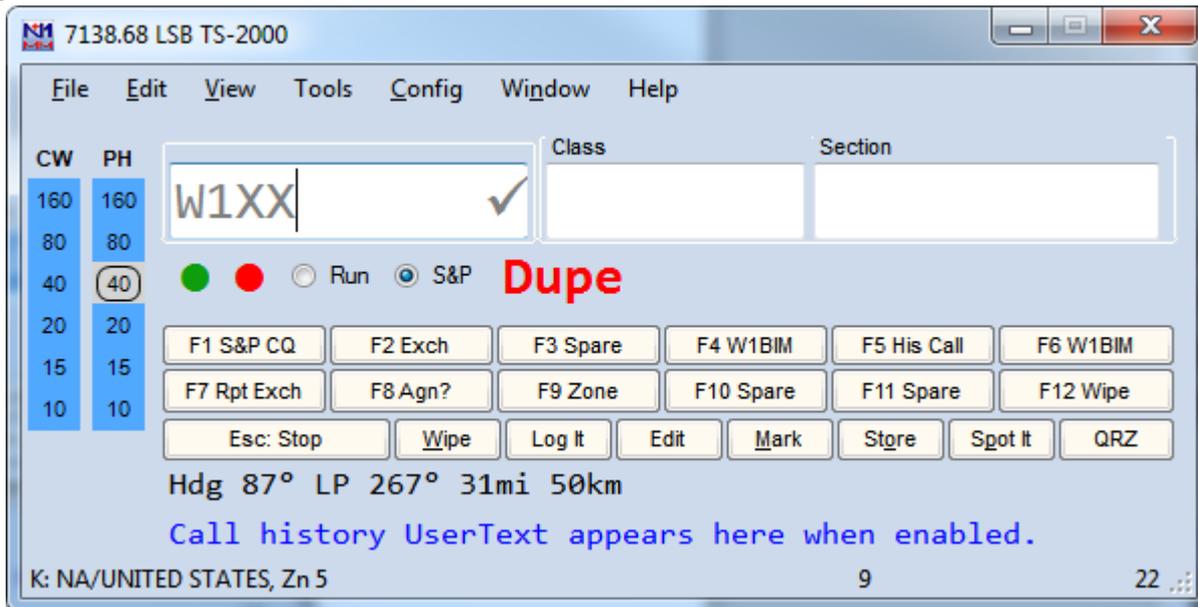


Use PERSONAL CALLSIGN here  
Use **OFF** if leaving operating position



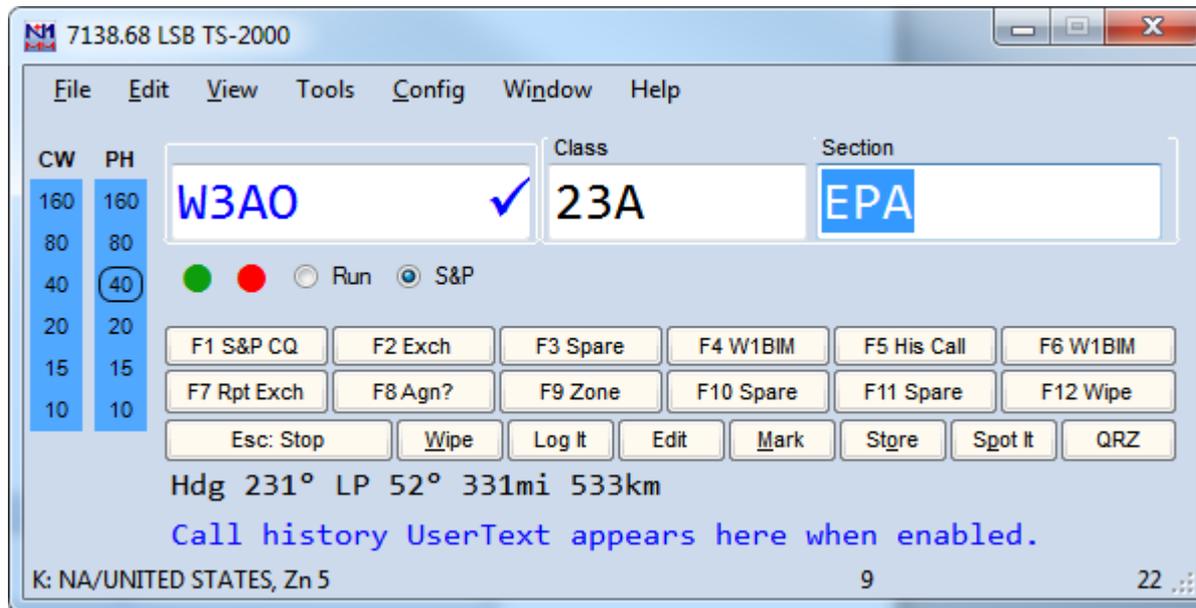
# QSO Logging

- Enter
  - Callsign
  - Class
  - Section
  - New in 2012 – Ontario is no longer **ON**  
ARRL made 4 sections out of Ontario (ON):
    - ONE – Ontario East
    - ONN – Ontario North
    - ONS – Ontario South
    - GTA - Greater Toronto Area (West)
- Dupes will be Indicated



# QSO Entry Form

- Callsign Field = Prefix + Number + Suffix, e.g. **W3AO**
- Class Field = Number of Stations + Class, e.g. **23A**
- Section Field = USA Section, CANADA Province, or DX, e.g. **EPA**



The screenshot shows a software window titled "7138.68 LSB TS-2000" with a menu bar (File, Edit, View, Tools, Config, Window, Help). On the left is a vertical frequency scale with CW and PH columns and values 10, 15, 20, 40, 80, 160. The 40 MHz mark is selected. The main area contains three input fields: "Callsign" with "W3AO" and a checkmark, "Class" with "23A", and "Section" with "EPA". Below these are radio buttons for "Run" and "S&P" (selected). A grid of function buttons (F1-F12) is present, including "F1 S&P CQ", "F2 Exch", "F3 Spare", "F4 W1BIM", "F5 His Call", "F6 W1BIM", "F7 Rpt Exch", "F8 Agn?", "F9 Zone", "F10 Spare", "F11 Spare", "F12 Wipe". A row of buttons includes "Esc: Stop", "Wipe", "Log It", "Edit", "Mark", "Store", "Spot It", and "QRZ". At the bottom, it displays "Hdg 231° LP 52° 331mi 533km" and "Call history UserText appears here when enabled." The status bar at the bottom shows "K: NA/UNITED STATES, Zn 5", "9", and "22".

# Classes

- A – Club or Non-Club Portable Operation
- B – One or two person portable
- C – Mobile
- D – Home Station
- E – Home Station, Emergency Power
- F – Official Emergency Operation Stations (EOC)

# ARRL / RAC Sections

see <http://www.arrl.org/contest-sections-list>

## W1BIM 6A EMA

### Whiskey One Bravo India Mike

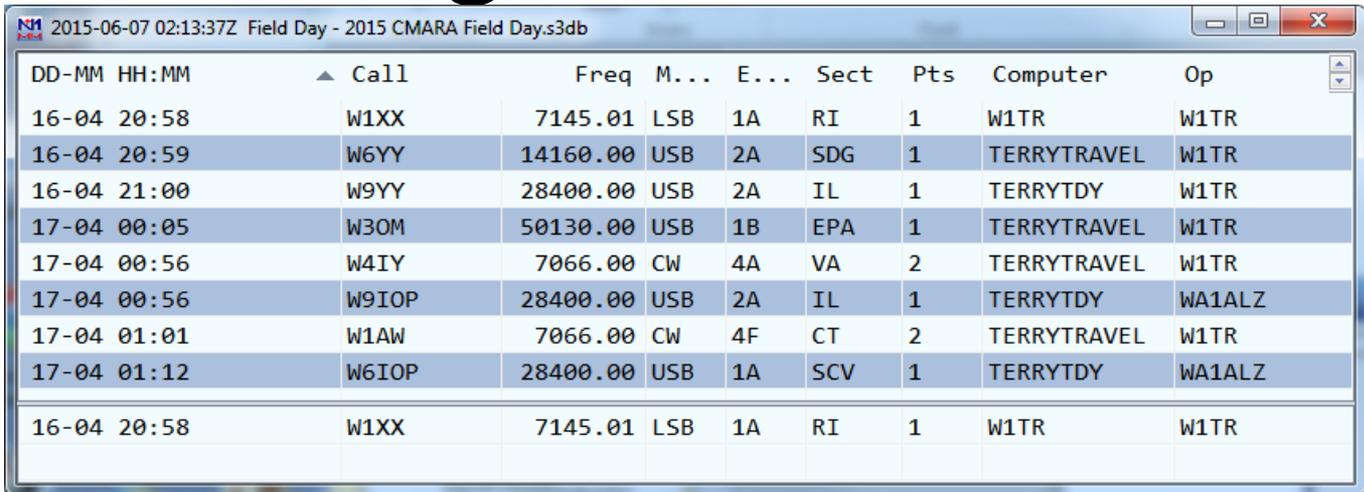
W1	W2	W3	W4	W5	W6	W7	W8	W9	W0	VE	Other
CT	NNJ	DE	AL	AR	EB	AK	MI	IL	CO	AB	DX
EMA	SNJ	MDC	NFL	LA	ORG	AZ	OH	IN	IA	BC	
WMA	ENY	EPA	SFL	MS	SB	ID	WV	WI	KS	MAR	
ME	NNY	WPA	WCF	NM	SCV	MT			MN	MB	
NH	WNY		GA	OK	SDG	NV			MO	ONN	
RI	NLI		KY	NTX	SF	OR			NE	ONS	
VT			NC	STX	SJV	UT			ND	ONE	
			SC	WTX	SV	EWA			SD	GTA	
			TN		PAC	WWA				QC	
			VA			WY				SK	
			PR							NT	
			VI								

MESH Network for 2016

SSID: CMARA

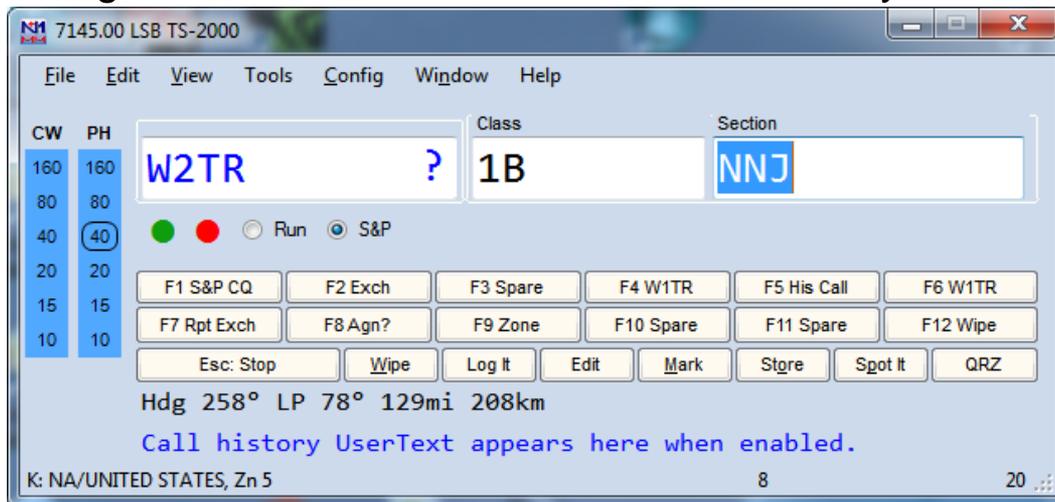
Password: fieldday

# Log Window



DD-MM HH:MM	Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04 20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR
16-04 20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04 21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04 00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04 00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL	W1TR
17-04 00:56	W9IOP	28400.00	USB	2A	IL	1	TERRYTDY	WA1ALZ
17-04 01:01	W1AW	7066.00	CW	4F	CT	2	TERRYTRAVEL	W1TR
17-04 01:12	W6IOP	28400.00	USB	1A	SCV	1	TERRYTDY	WA1ALZ
16-04 20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR

Note: the LOG Contains Some Contacts, but NOT W2TR  
To log W2TR 1B NNJ, type the information as follows:  
Note: the ? Indicates Callsign is NOT in  
Log, Master Database, Telnet, or Call History File



7145.00 LSB TS-2000

File Edit View Tools Config Window Help

CW PH Class Section

160 160 W2TR ? 1B NNJ

80 80

40 40  Run  S&P

20 20

15 15

10 10

F1 S&P CQ F2 Exch F3 Spare F4 W1TR F5 His Call F6 W1TR

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

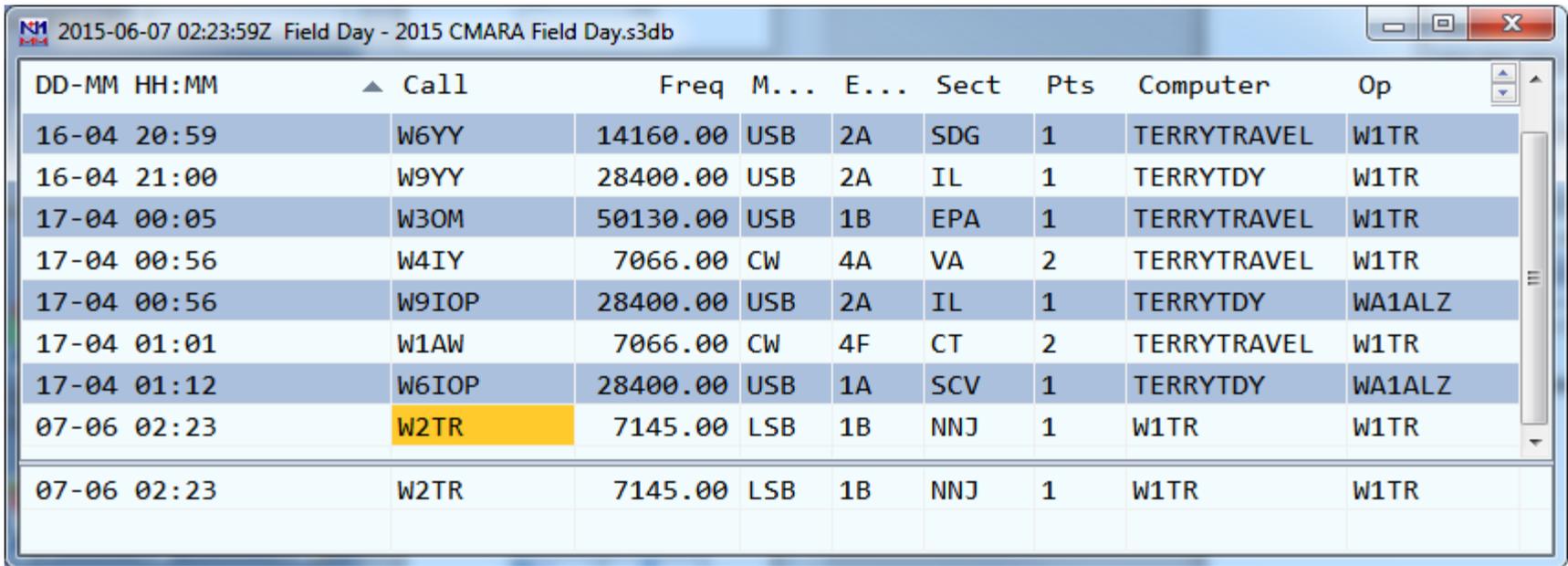
Esc: Stop Wipe Log It Edit Mark Store Spot It QRZ

Hdg 258° LP 78° 129mi 208km

Call history UserText appears here when enabled.

K: NA/UNITED STATES, Zn 5 8 20

# QSO Added to Log



DD-MM HH:MM	▲ Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04 20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04 21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04 00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04 00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL	W1TR
17-04 00:56	W9IOP	28400.00	USB	2A	IL	1	TERRYTDY	WA1ALZ
17-04 01:01	W1AW	7066.00	CW	4F	CT	2	TERRYTRAVEL	W1TR
17-04 01:12	W6IOP	28400.00	USB	1A	SCV	1	TERRYTDY	WA1ALZ
07-06 02:23	W2TR	7145.00	LSB	1B	NNJ	1	W1TR	W1TR
07-06 02:23	W2TR	7145.00	LSB	1B	NNJ	1	W1TR	W1TR

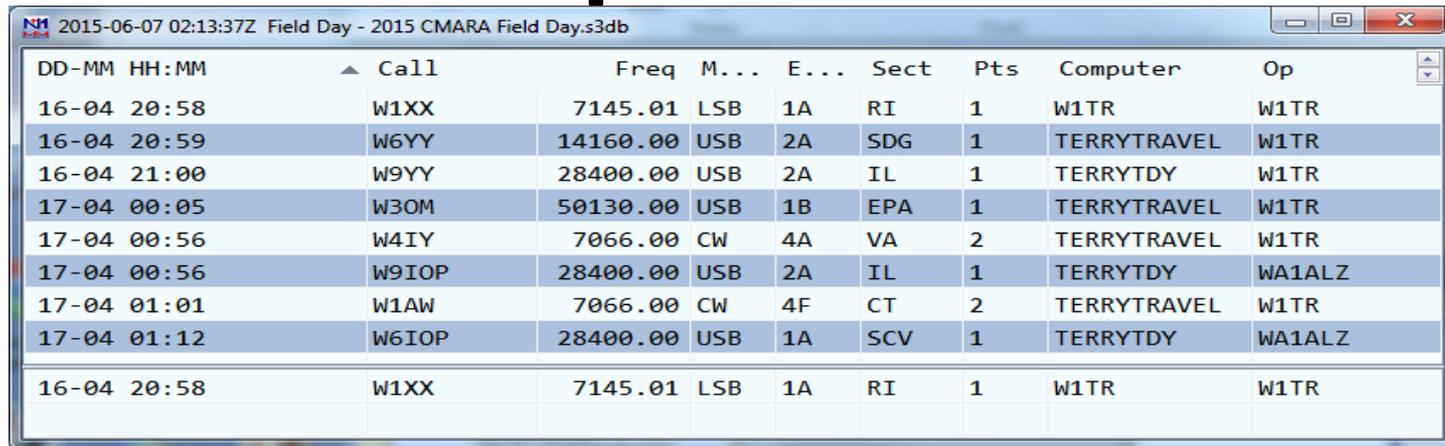
the LOG NOW Contains W2TR 1B NNJ

Note:

The **Orange Color** Indicates W2TR is NOT in  
Master Super Check Partial Callsign Database: master.scp

**Dates / Times are Fictitious here, It's a Demo!**

# Dupe Check

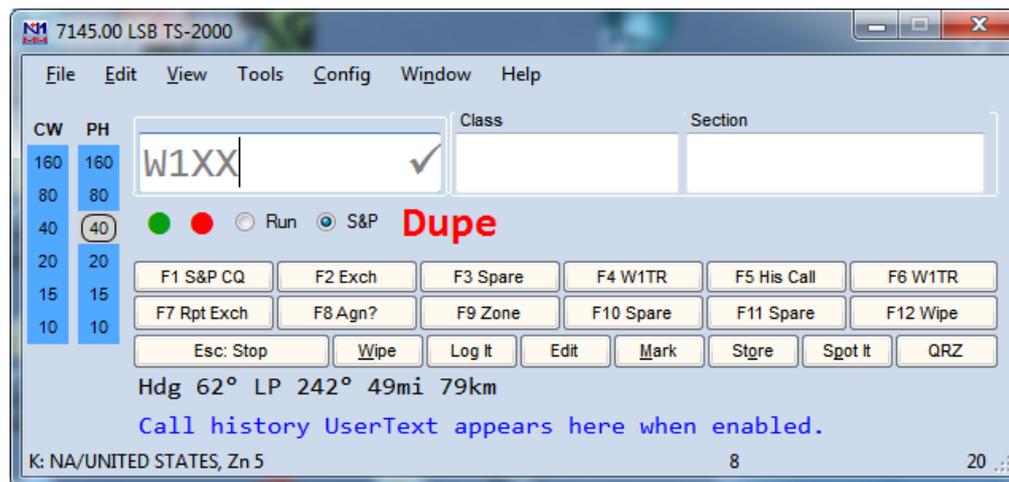


DD-MM	HH:MM	Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04	20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR
16-04	20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04	21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04	00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04	00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL	W1TR
17-04	00:56	W9IOP	28400.00	USB	2A	IL	1	TERRYTDY	WA1ALZ
17-04	01:01	W1AW	7066.00	CW	4F	CT	2	TERRYTRAVEL	W1TR
17-04	01:12	W6IOP	28400.00	USB	1A	SCV	1	TERRYTDY	WA1ALZ
16-04	20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR

Note: We already worked W1XX on 40 LSB, that station is IN THE LOG. If we try to LOG him **again, same band, same mode**, the **DUPE!** message will show.

N1MM handles dupes OK by not scoring them.

If the other station insists, work him anyway, don't waste time arguing!



7145.00 LSB TS-2000

File Edit View Tools Config Window Help

CW PH Class Section

160 160 W1XX ✓

80 80

40 40 **Run S&P Dupe**

20 20

15 15

10 10

F1 S&P CQ F2 Exch F3 Spare F4 W1TR F5 His Call F6 W1TR

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

Esc: Stop Wipe Log It Edit Mark Store Spot It QRZ

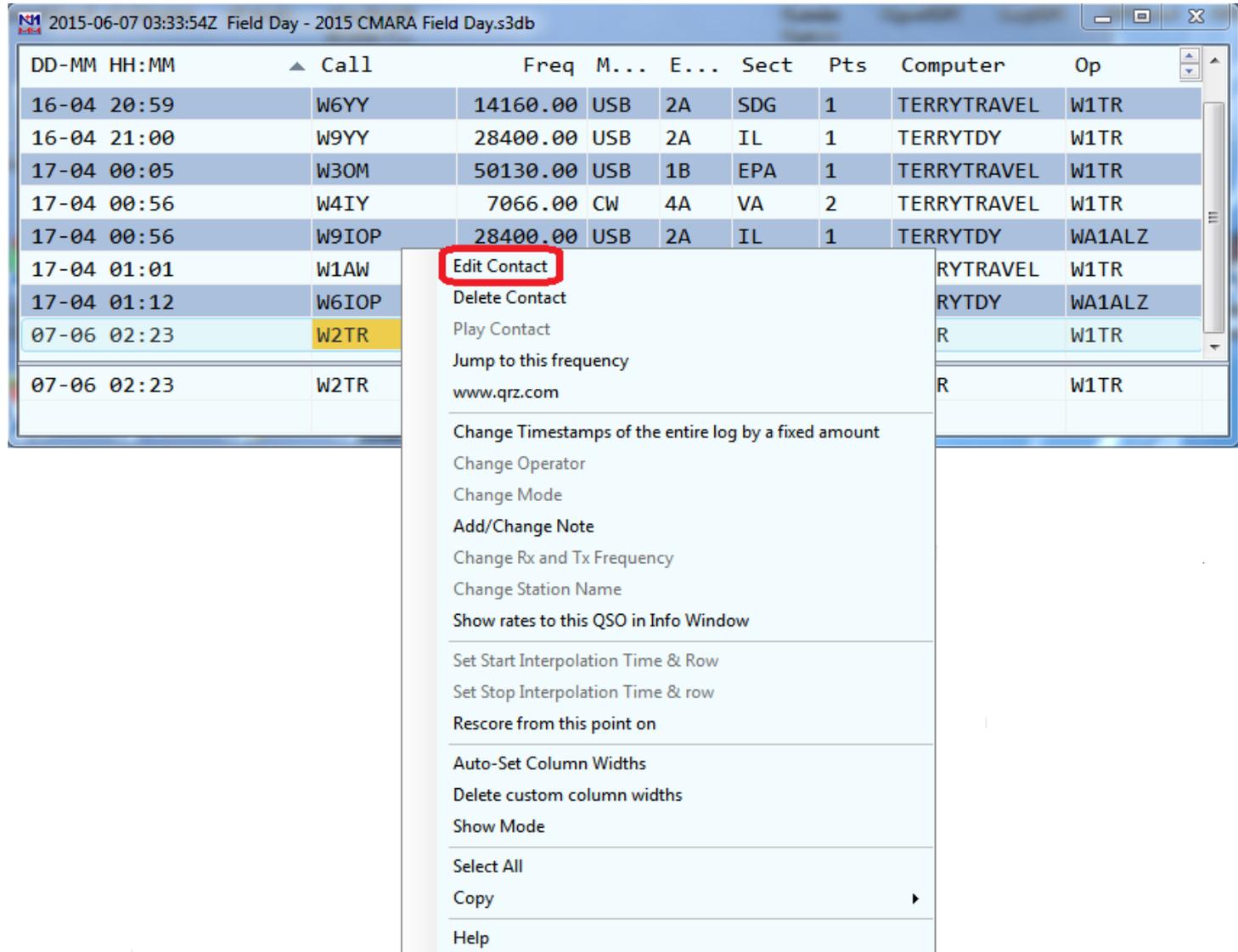
Hdg 62° LP 242° 49mi 79km

Call history UserText appears here when enabled.

K: NA/UNITED STATES, Zn 5 8 20

# Make Corrections

Right Click on Log Entry to be Edited



The screenshot shows a software window titled "2015-06-07 03:33:54Z Field Day - 2015 CMARA Field Day.s3db". It contains a table of log entries. A right-click context menu is open over the entry "07-06 02:23 W2TR". The "Edit Contact" option in the menu is highlighted with a red rectangle.

DD-MM	HH:MM	Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04	20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04	21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04	00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04	00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL	W1TR
17-04	00:56	W9IOP	28400.00	USB	2A	IL	1	TERRYTDY	WA1ALZ
17-04	01:01	W1AW						RYTRAVEL	W1TR
17-04	01:12	W6IOP						RYTDY	WA1ALZ
07-06	02:23	W2TR						R	W1TR
07-06	02:23	W2TR						R	W1TR

- Edit Contact
- Delete Contact
- Play Contact
- Jump to this frequency
- www.qrz.com
- Change Timestamps of the entire log by a fixed amount
- Change Operator
- Change Mode
- Add/Change Note
- Change Rx and Tx Frequency
- Change Station Name
- Show rates to this QSO in Info Window
- Set Start Interpolation Time & Row
- Set Stop Interpolation Time & row
- Rescore from this point on
- Auto-Set Column Widths
- Delete custom column widths
- Show Mode
- Select All
- Copy
- Help

# Log Edit Form

Make Changes in Edit Contact Form

The screenshot shows a software window titled "Edit Contact" with a standard Windows-style title bar (minimize, maximize, close buttons). The window is divided into two main sections: "General Contact Information" and "Contest Information".

**General Contact Information:**

- Call: W2TR (highlighted in blue)
- Timestamp: 2015-06-07 02:23:44
- Rx: 7145
- Tx Frequency: 7145
- Mode: LSB
- Contest Name: FD
- RST Sent: 59
- RST Received: 59
- Country: K
- Station Call: W1TR
- Name: (empty)
- QTH: (empty)
- Comment: (empty)

**Contest Information:**

- Nr: 0
- Nr Sent: 17
- Points: 1
- Power: (empty)
- Zone: 5
- Section: NNJ
- Mult:
- Band: 7
- Che: 0
- Precedence: (empty)
- Mult:
- WPX: W2
- Exchange: 1B
- Run1/: 1
- Mult:
- Radio: 1
- Grid: (empty)
- Op: W1TR
- Misc: (empty)
- Rover QTH: (empty)

At the bottom of the window, there are several buttons: "Update" (highlighted with a blue border), "Delete", "Help", "Exit", an up arrow button, and a down arrow button.

# Restarting N1MM Mid Contest

- If a Computer Fails, Substitute a NEW computer.  
Do NOT Name the NEW Computer Same as the OLD.  
Use a DIFFERENT Name.
- If the Generator Goes Out,  
or Station (Computer) is Shut Down Normally...
  - N1MMplus should REMEMBER  
what Database and Log it is using and restart OK.
  - After Restart, or Changing Operators  
Check the Network Status Window to see  
Who is on What Bands and Modes Before Operating
  - The Database and Log Name Appear at the  
Title Bar at the TOP of the Log Window
  - IF NOT Correct:
    - File / Open Database instead of New Database
    - File / Open Log in Database instead of New Log In Database

# Contingency Plan

## If Networking Doesn't Work

- Each Station will be assigned a Fixed Set of Allowable Bands and Modes to avoid DUPES.
- Each Station will have its own individual Log Database.
- The Field Day Chairman will collect the individual logs and consolidate them.
- Any Questions, Ask the Field Day Chairman

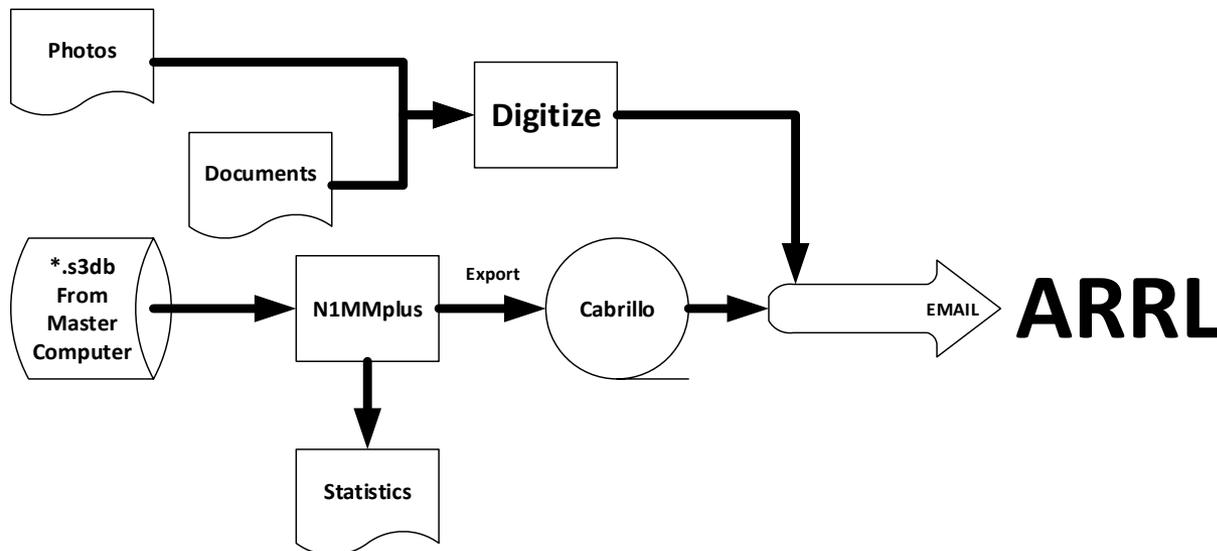
# At End of Field Day ...

- Close N1MMplus Logger
- Copy the Log Database (\*.s3db) file to the Thumb Drive (in case of log troubles)
- Return the Thumb Drive to the FD Log Mgr
- Wait for the FD Log Manager  
to check that the FD Log seems OK on Master  
ALL QSOs should be in the log on everyone's computer,  
SLAVES and MASTER.
- Questions? Ask the FD Chairman or Log Mgr

# Log Consolidation and Submittal

Field Day Log Manager will Consolidate and Verify Logs  
Field Day Chairman will submit FD Package to ARRL:

- 1) **FD Log Manager** will Check that Log is OK on Master Computer
- 2) Give OK to Shut Down Computers, Stations
- 3) If NOT OK, Problem Resolution will Begin  
Computers stay ON  
Stations can Begin Tear Down
- 4) **FD Chairman** will load Field Day Log, \*.s3db, into N1MMplus
- 5) Statistics will be calculated for FD Report Presented at Sept Meeting
- 6) The Log will be Exported to Cabrillo Format for ARRL Submission
- 7) The Cabrillo File and Field Day Materials will be sent to ARRL via EMAIL



# User Support

- N1MMplus Web

<http://n1mm.hamdocs.com/tiki-index.php>

Home source of information about N1MM, downloads, documentation, etc.

- N1MMplus Email User Groups

[http://n1mm.hamdocs.com/tiki-index.php?page=Overview#N1MM Logger Discussion Groups](http://n1mm.hamdocs.com/tiki-index.php?page=Overview#N1MM%20Logger%20Discussion%20Groups)

Get notification of bugs and hints & kinks on how to use N1MM

Post questions, comments, and report BUGS to the developers

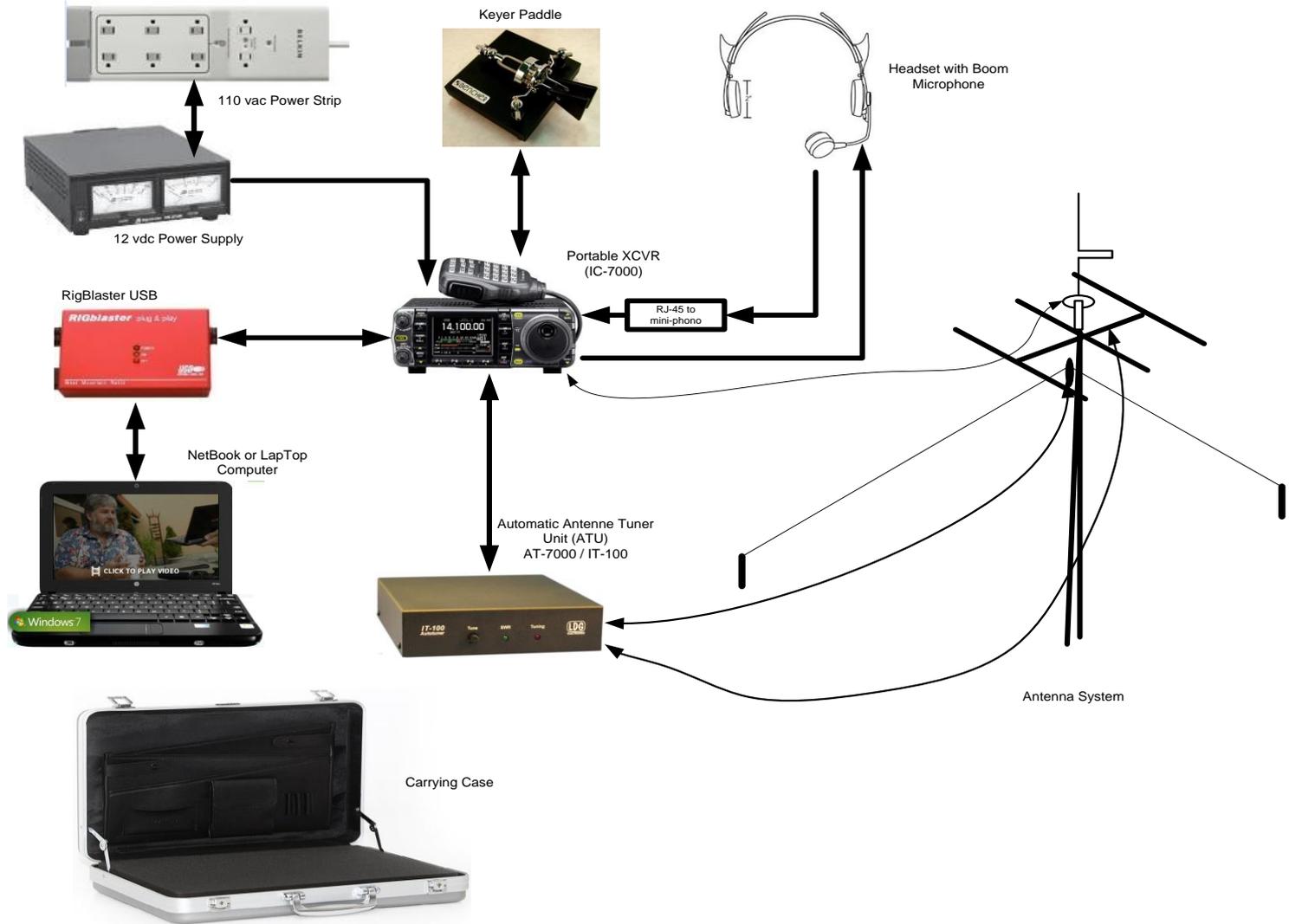
# Summary

- Free !! 😊 😊
- Widely Used and Supported 😊
- Works on Microsoft Windows (only), XP thru Win 8 😞
- Supports nearly EVERY contest 😊
- Works with most radios, coupled, or stand alone 😊
- CW automatic keying
- Digital Voice Keying (uses computer sound card)
- Digital sound card modes: MMTTY, MMVARI, FLDIGI
- Easy to setup
- Easy to use
- Remember to Setup:  
Operator – CTRL+O  
Frequency and Mode are Automatic – CAT Control  
Date / Time are Automatic – N1MMplus Networking

# Extra Topics

- W1TR Go-Kit Diagram
- CAT Control
- CW Keying
- Digital Voice Keying (DVK)
- Audio Files
- Audacity Audio Editor
- Digital Modes (RTTY, PSK, Etc.)

# W1TR Go-Kit Diagram



# CAT Control

- USB or RS-232 to C-I-V translator to Rig (ICOM)
- RS-232 directly to Rig (Kenwood)
- RS-232 to TTL converter to Rig (Yaesu)
- USB to RS-232 converter may be needed  
Most USB to RS-232 converters work OK for CAT control  
and for PTT, CW, FSK RTTY using EXTFSK
- CAT Control Monitors Rig Data (frequency, mode)
- CAT Control Can Control Rig Data (frequency, mode)
- Other items can be Monitored / Controlled  
Mic Gain, CW Speed, RF Gain (depends on RIG)

# CW Keying

- RS-232 or LPT used
- USB to RS-232 may be needed
- RS-232 DTR for CW Keying
- RS-232 RTS for PTT
- RS-232 TXD for RTTY FSK
- Need RS-232 ( $\pm 12$  VDC) to TTL (0/+5 vdc)  
Level Converter (RigBlaster Provides This)
- Function Key Macros Automatically Send CW
- Ctrl-K Keyboard Window  
Eliminates Need for Keyer Paddle  
Most Operators Keep the Keyer Paddle Anyway, Just In Case !!

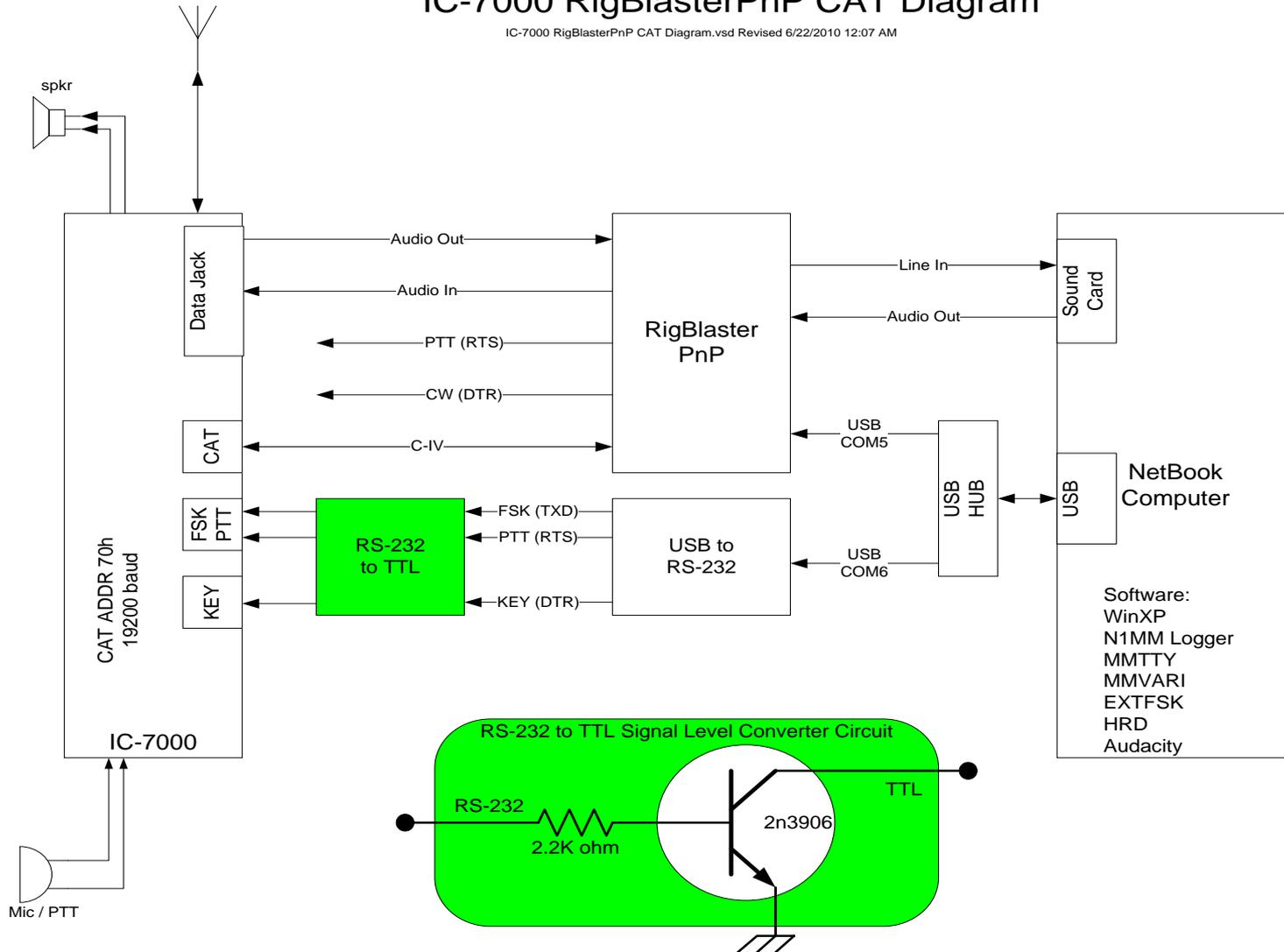
# Digital Voice Keying

- Use Computer Sound Card
- Computer Microphone to Rig Speaker Output
- Computer Speaker Out to Rig Microphone Input
- Isolation Transformer for Both  
(RigBlaster and other sound card interfaces provide this)
- All Modulation and Demodulation in Software  
(Digital Modes)

# Digital Modes Equipment Interconnect

## IC-7000 RigBlasterPnP CAT Diagram

IC-7000 RigBlasterPnP CAT Diagram.vsd Revised 6/22/2010 12:07 AM



# Audio Files

- Pre-Recorded Messages (CQ, This Is..., etc)
- Letters (Phonetics) and Numbers, Pieced Together
- N1MMplus can play back messages  
as defined in macro files associated with program function keys (Function Keys)
- N1MMplus can play back internal data items
  - Callsign of other station
  - Your callsign
  - Signal report
  - Contest exchange
  - using letter phonetics and numbers pieced together
- It is possible to work a phone contest  
**without ever saying a single word**  
into the microphone

# Audacity Audio Editor

- Use Audacity to Edit Audio Phrases
- Audacity Web Site  
<http://audacity.sourceforge.net/download/>

# Digital Modes (RTTY, PSK, Etc.)

- N1MMplus does NOT do Digital Modes by Itself
- N1MMplus works with MMTTY for RTTY (FSK)  
Use of USB to Serial Device for FSK MAY need EXTFSK driver (software)  
<http://mmhamsoft.amateur-radio.ca/>
- N1MMplus works with MMVARI for Digital Modes  
<http://mmhamsoft.amateur-radio.ca/>
- N1MMplus works with FLDIGI for Digital Modes  
<http://www.w1hkj.com/Fldigi.html>

# N1MMplus Check List

- W1BIM 6A WMA – Whiskey One Bravo India Mike
- Set Computer Date/Time (WWV: 2.5,5,10,15,20 MHz, CHU: on 3.330, 8.850, 14.670 MHz) (Network will Override)
- Install N1MMplus Software (Full Install then a Recent Update)
- **Recent Updates will be Installed by the Field Day Log Manager**
- Run N1MM+ as Administrator (Change ICON Properties)
- Open Existing Database ...\\2016 Field Day W1BIM.s3db
- Open Log In Database - FD
- All Station and Contest Parameters are Already Setup in Log
- Set Operator Callsign (KB1VUA, etc) – CTRL-O not to be confused with Field Day Station Callsign W1BIM
- Set Frequency in KHz (e.g. 3550, 3850) (CAT CTRL will override)
- Set Mode (USB, LSB, CW, AM, FM) (CAT CTRL will override)
- With CAT Control, just dial up Frequency and Mode with Bandswitch, VFO, Mode Switch
- Enter QSO: Callsign, Class, Section while logging
- Remember ON (Ontario) is now ONN, ONE, ONS, GTA starting Fall 2012
- Edit or Quick Edit to fix Errors
- Delete to Remove bad QSOs
- **Copy Log File to Thumb Drive at End of Contest**

# Field Day Morning Updates

- **Field Day Log Manager Will Do This**
- Copy the Following Directory (Updates)
  - \N1MM Logger+
  - From: E:\CMARA Field Day Thumb Drive\N1MMplus Logger\N1MMplus Latest Updates
  - To: C:\Users\TGlagowski\Documents
  - Note: E:\ is the root directory of the USB CMARA Field Day Thumb Drive
- Update the N1MM+ Software
  - Run N1MM Logger+ Update 1.0.xxxx.exe
  - From: E:\CMARA Field Day Thumb Drive\N1MMplus Logger\N1MMplus Latest Updates
- Verify Software / Hardware Configuration
  - Verify Database and Log is Correct
  - Verify CAT Control is Working, PTT/CW/FSK and Audio Optional
  - Verify Band, Mode are Correct
  - Verify Operator is Correct