N1MM+ Use for CMARA Field Day

By Terry G. Glagowski / W1TR
Updated 19-Jun-2019 13:16

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/2018/2018-Field-Day-Rules.pdf

N1MM WEB Site:

http://n1mm.hamdocs.com

N1MM Field Day Training Videos (K8UT):

http://videos.hamdocs.com/

http://n1mmplus.hamdocs.com/tiki-index.php?page=Video+-+N1MM+LoggerPlus+on+Field+Day#Video_N1MM_LoggerPlus_on_Field_Day

TOPICS: CMARA FD N1MM+ Use

- CMARA FD Class: 6A WMA (Six Alpha, Western Mass)
- Download and Install N1MM+ Watch K8UT Video
- N1MM+ First Run and Setup Watch K8UT Video
- Field Day Usage N1MM+ K8UT Video
- CMARA Field Day Usage N1MM W1TR Slide Show

TOPICS: CMARA FD N1MM+ Use

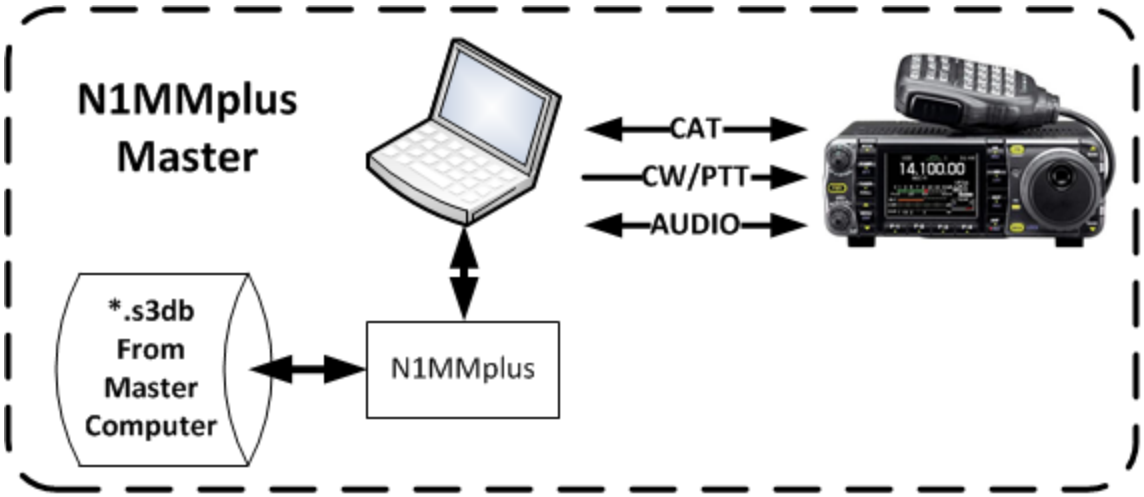
- **Download and Install N1MM+ Watch K8UT Video**
  - Software Installation – ***Full Install***, followed by ***Latest Update***
    - All this is necessary so that ***Networking*** will work properly
    - All stations ***must*** use same ***N1MM+ software version***
    - All stations ***must*** use same ***log database*** and ***log***
    - All stations ***must*** use same ***support files:*** country file, super check partial file
    - Enable "***Run as Administrator***" on Desktop Icon
      so ***Master Computer*** can update Time Clock on ***Slave Computers***
    - Install ***Log Database*** and ***Support Files*** provided by FD Chairman

TOPICS: CMARA FD N1MM+ Use

- **N1MM+ First Run and Setup Watch K8UT Video**
  - Hardware / Software Setup – different per radio and computer
    - USB/RS-232 CAT Control – ***Required*** for Network Reporting of Rig Frequency
    - USB/RS-232 PTT / CW / FSK – ***Optional*** for Digital Voice Keyer (DVK), Automatic CW, FSK RTTY
    - Computer Sound Card Interface– ***Optional*** for DVK & Digital Modes
    - Digital PSK/RTTY/FT8 – ***Optional***, Soundcard Interface and PTT required.
    - Available for Setup Help: Terry / W1TR
  - Network Setup – Open Network Status Window and Enable Networking
  - Operator Setup – use CTRL+O then callsign when starting to operate
    use ***OFF***, LUNCH, DINNER, SLEEP, etc. when leaving to indicate station is idle
  - Band Setup – CAT Control, or type frequency in KHz into callsign field
  - Mode Setup – CAT Control, or type mode {SSB, CW, etc.} in callsign field

Field Day Operations - System Block Diagram:

N1MM+ Networking and Radio / Computer Interfacing



SSID = CMARA
Password: fieldday
USE DHCP
in TCP/IP Properties
to get IP, Mask, Gateway

N1MMplus Network

N1MMplus
Slave

N1MMplus
Slave

Available for network help:
Bob / W1TAB
Jim / KC1BHD
Terry / W1TR

Software Installation – Full Install

- Refer to K8UT Video: N1MMplusDownloadAndInstall_2017.mp4
- N1MM Logger + Website
  http://n1mm.hamdocs.com/tiki-index.php
- Select “Files”
- Download and Install “N1MM+ Full Install”
  - **FD Chairman will provide the Full Install to use at FD meeting or FD site**
  - Install by clicking on the self-installing .exe file
  - This can also be found on the CMARA FD Thumb Drive
- 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!

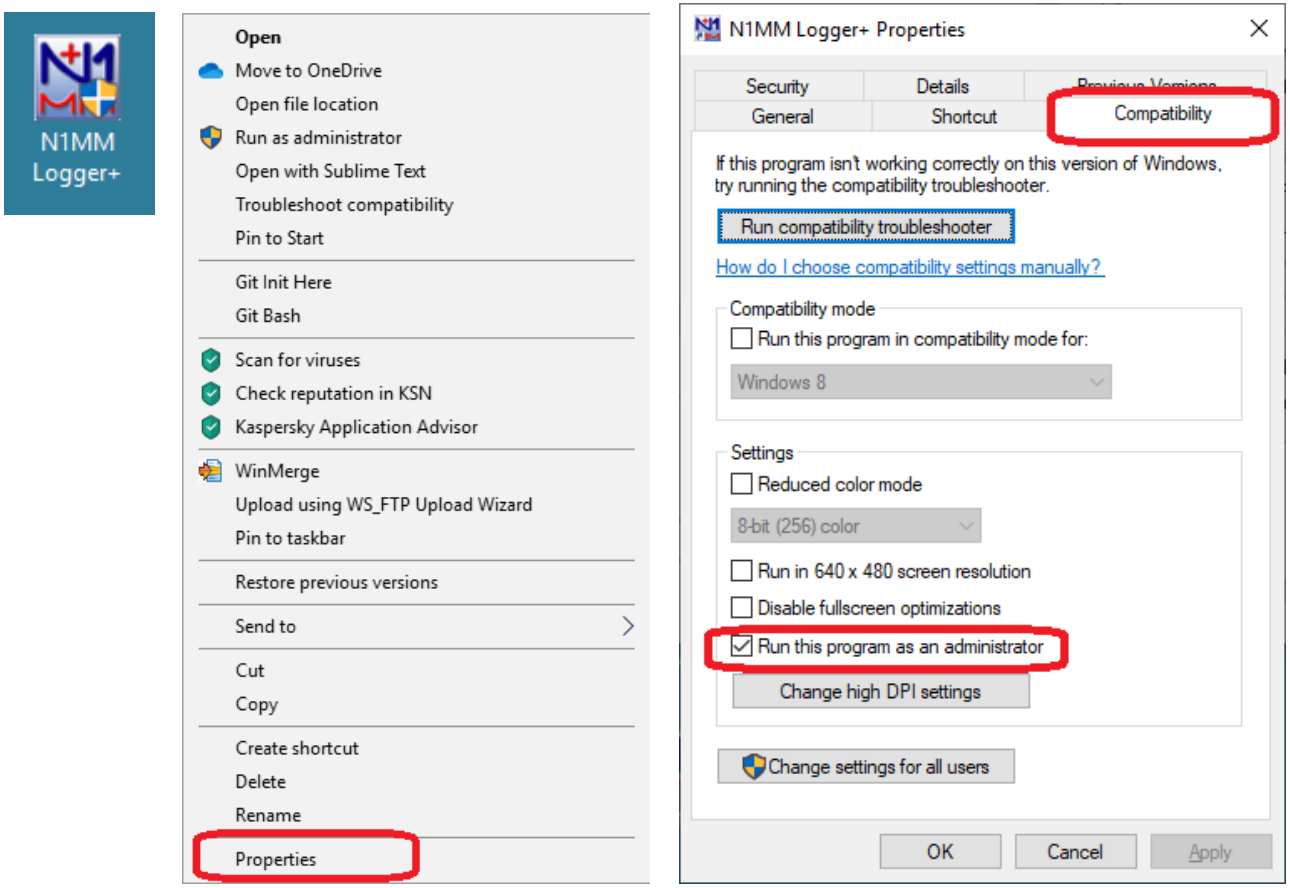
Software Installation – Install Update

- Refer to K8UT Video: N1MMplusDownloadAndInstall_2017.mp4
- N1MM Logger + Website
  http://n1mm.hamdocs.com/tiki-index.php
- Select “Files”
- Download and Install “N1MM+ Latest Update” use latest version
  - **FD Chairman will provide the latest update to use at FD meeting or FD site**
  - All computers must run the SAME version of N1MM+
  - 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)

N1MM+ Run as Administrator

Networking requires everyone to Update Time Clocks by Master

1. Right Click on N1MM+ Icon
2. Select Properties
3. Enable Run as Administrator



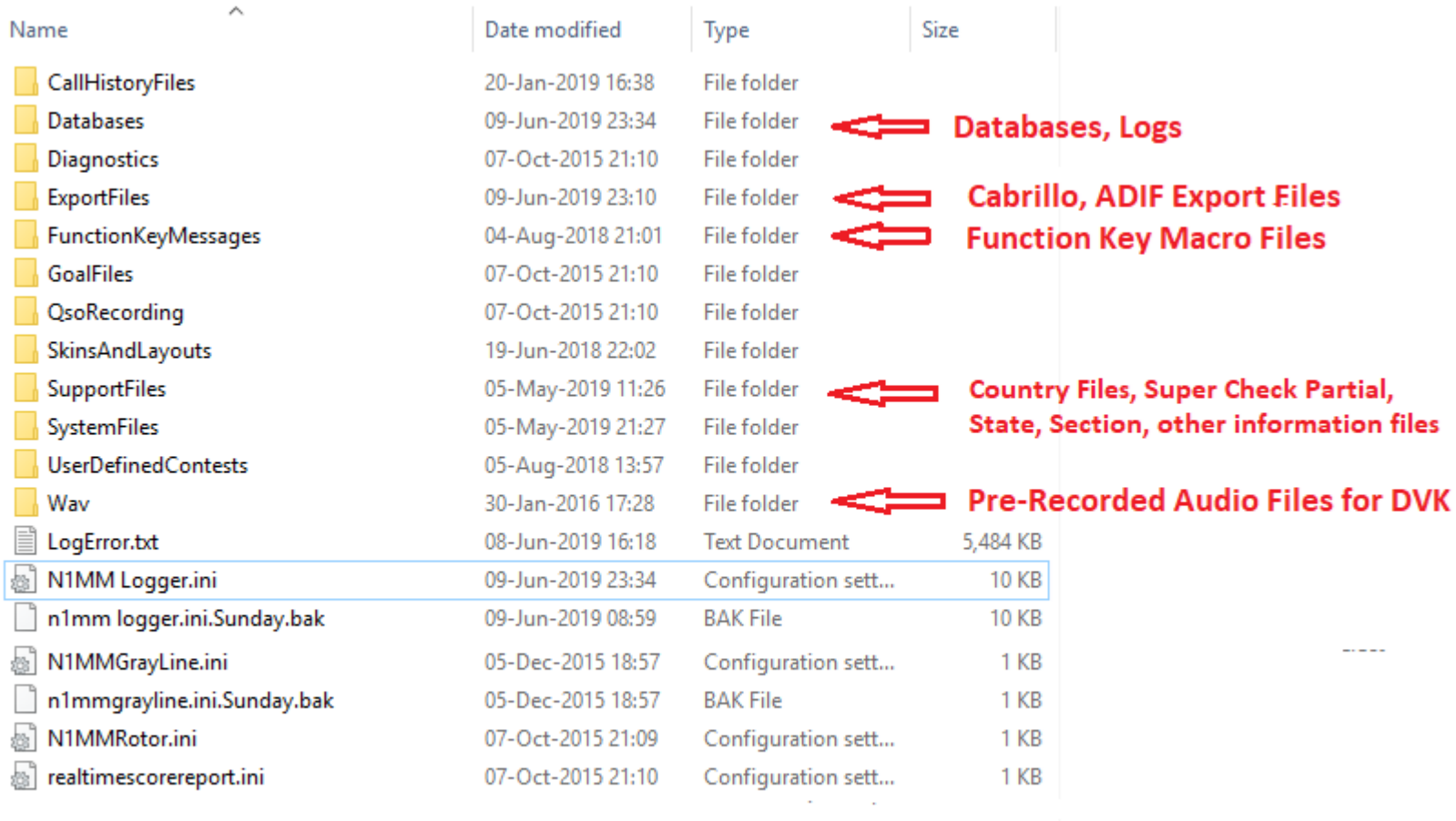
N1MM+ Installation Folder (Win 10)

C:\Program Files (x86)\N1MM Logger+

Have a look, but don't touch !

N1MM+ Data Folder (Win 10)

C:\Users\<UserName>\Documents\N1MM Logger+



Software Installation – Data Files

- Networking requires everyone to:
  - Use the SAME N1MM+ version (1.0.7763.0)
  - Use the SAME Country File (wl_cty.dat).
  - Use the SAME Super Check Partial file (master.scp)
  - Start with the SAME FD Log Database (2019 ARRL FD W1BIM.s3db) file.
  - Start with the SAME Log in the Database (Field Day)
- Copy the Data Files from the CMARA Field Day Thumb Drive:
  - From: \CMARA Field Day Thumb Drive\N1MMplus Logger\N1MMplus Latest Updates\N1MM Logger+
  - To: C:\Users\<UserName>\Documents\N1MM Logger+
  - Don't Worry:
    - New Files will be added
    - Old Files will be updated
    - Other Files will be undisturbed
- Use Batch Files:
  - Field Day Thumb Drive\N1MM Logger+ Updates\N1MMplus Latest Updates\N1MM Logger+\
  - **N1MM_Update.bat** – Updates Computer with Latest N1MM Data Files
  - **N1MM_LogCapture.bat** – Captures Log After Field Day Contest Finishes

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 N1MM+ Logger will override when your station is connected to the network**
  - Set the time anyway in case we have a problem with networking.
- Start N1MM+ 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 already 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 Setup in Standard FD Log
- Configure CAT Control – Port, Baud Rate, Rig Type
- Configure PTT/CW/FSK port (optional)
- Configure Audio Interface between Radio and Computer (optional)
- Open Necessary N1MM+ Windows
- Enable Networking

Hardware / Software Setup (2)
Set Computer Clock

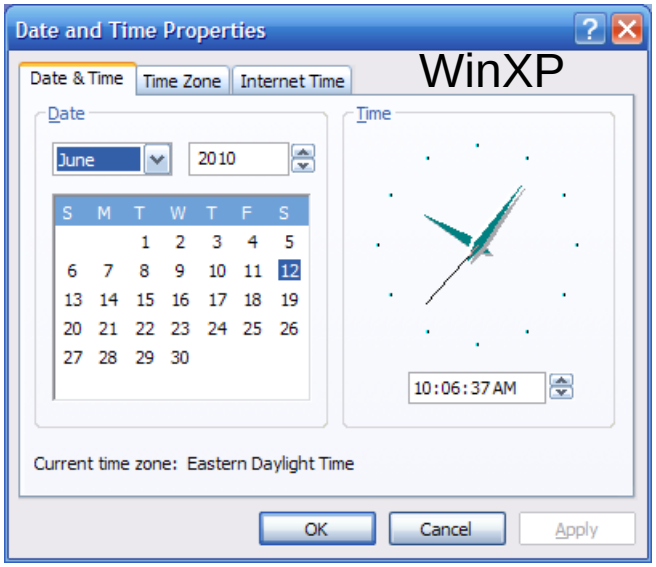
Not Necessary if Networking is Used

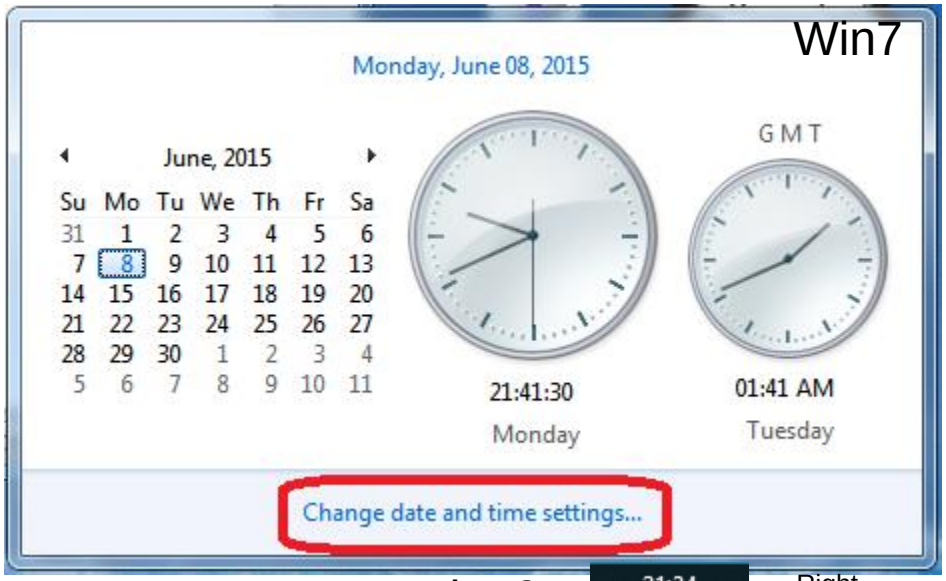
- Click on Desktop Clock (lower right of desktop)
- Set the Date (local time)
- Set the Time (local time)
- Set the Time Zone (eastern daylight time)
- Internet Time Will Not Work (no internet)
- With N1MM+, Master will set time for SLAVES
  this requires N1MM+ run as administrator

Hardware / Software Setup (3)

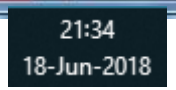
Set Computer Clock

Not Necessary if Networking is Used

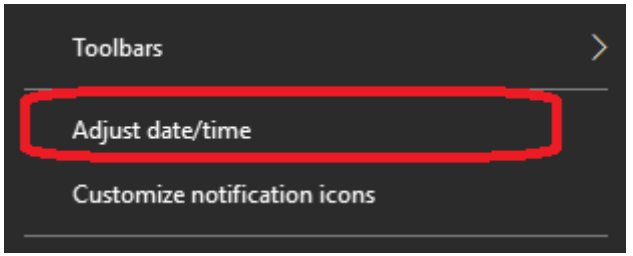


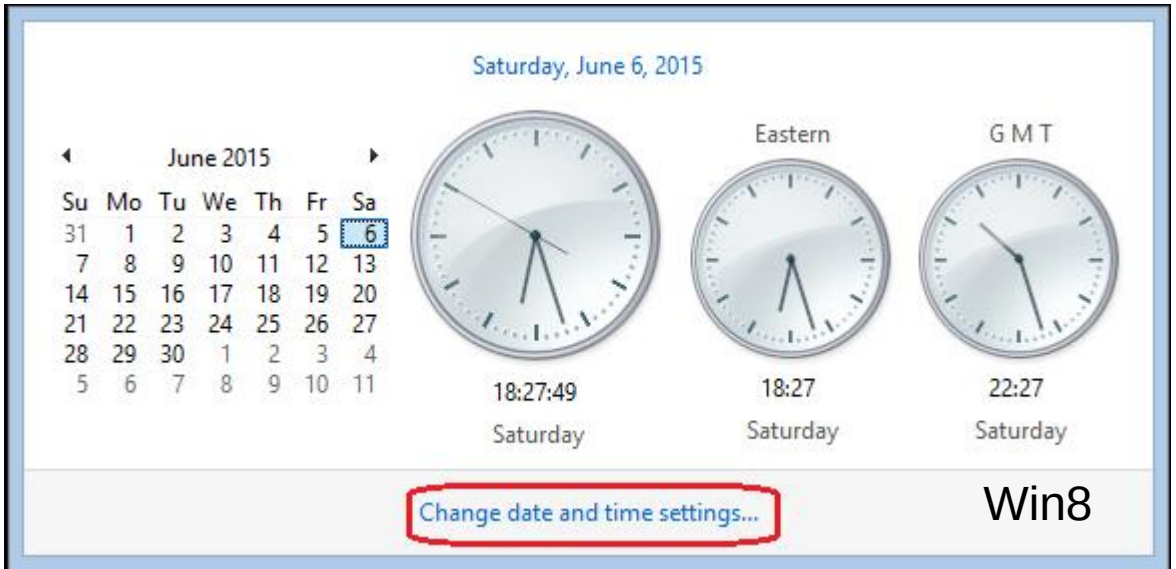


Win10



Right Click

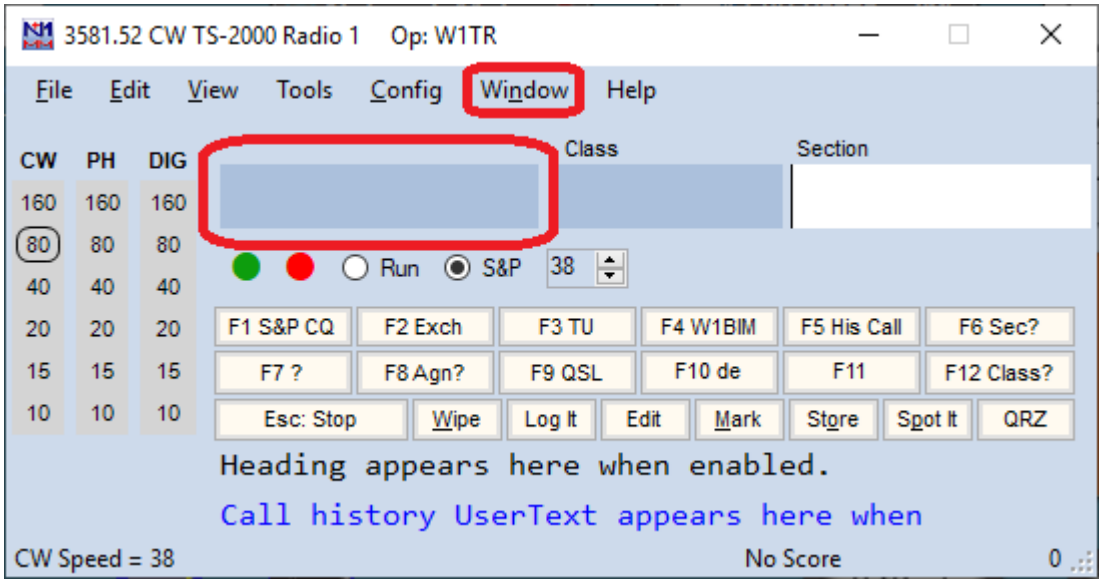


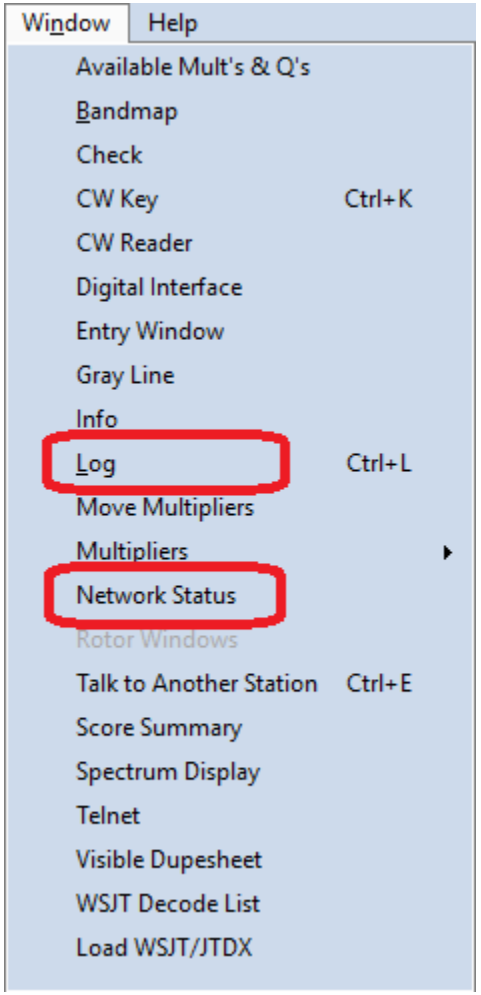


1) Set Time Automatically - ON
2) Set Time Zone Automatically – OFF
3) Time Zone – UTC-5 Eastern
4) Adjust for Daylight Time - ON

N1MM+ QSO Entry Form

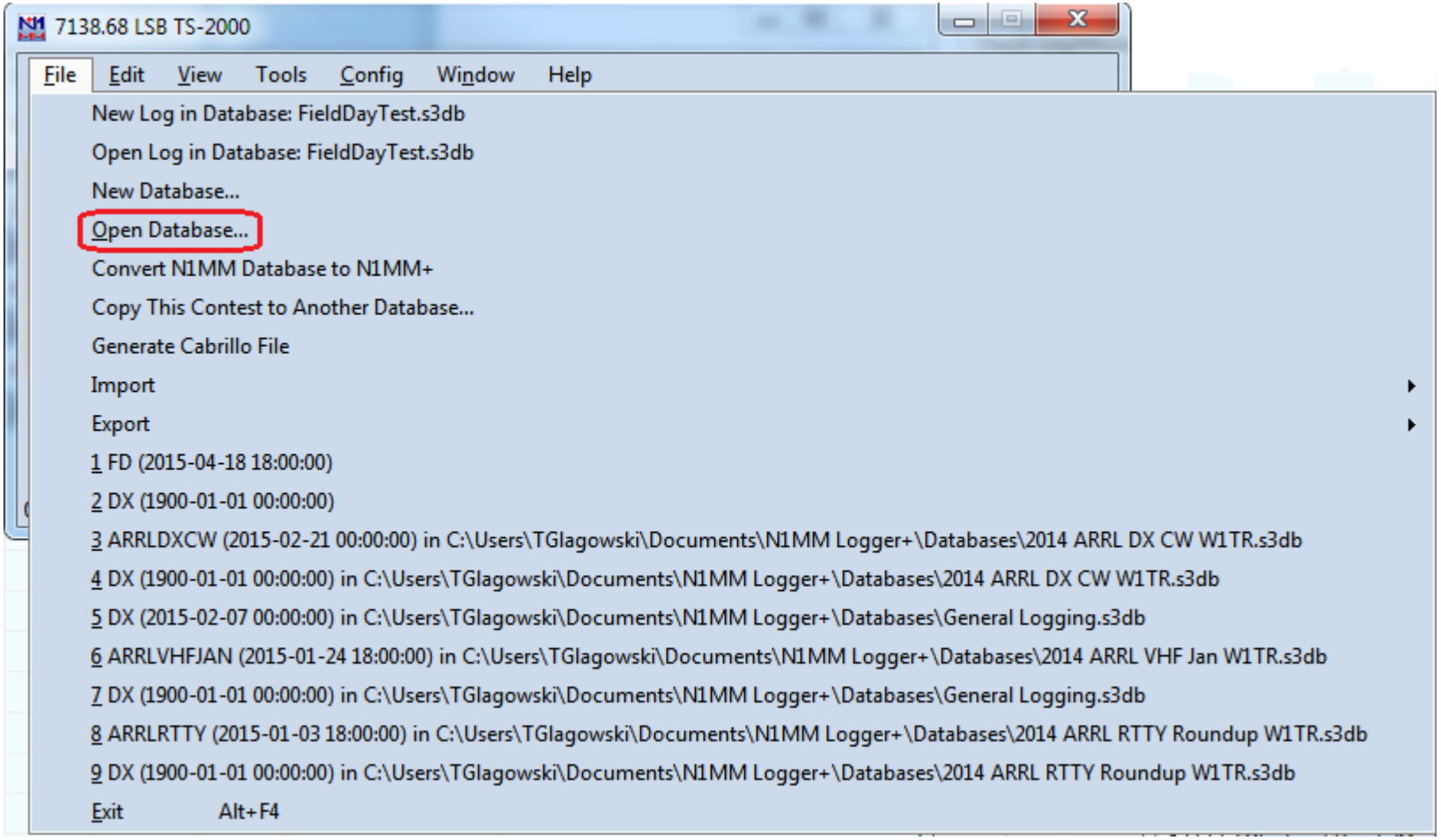
1) When you start N1MMplus, the Entry Window opens.
2) Close ALL other N1MMplus windows (for now).
3) Select the Window Menu Item to Open the Log.
4) Select the Window Menu Item to Open Network Status.
5) Use MOUSE to select field in the Entry Window.
6) Use TAB or SPACEBAR to move to next field.
7) The Left Most field is where
   the ***Callsign***, ***Frequency*** in KHz, or ***Mode*** are entered.





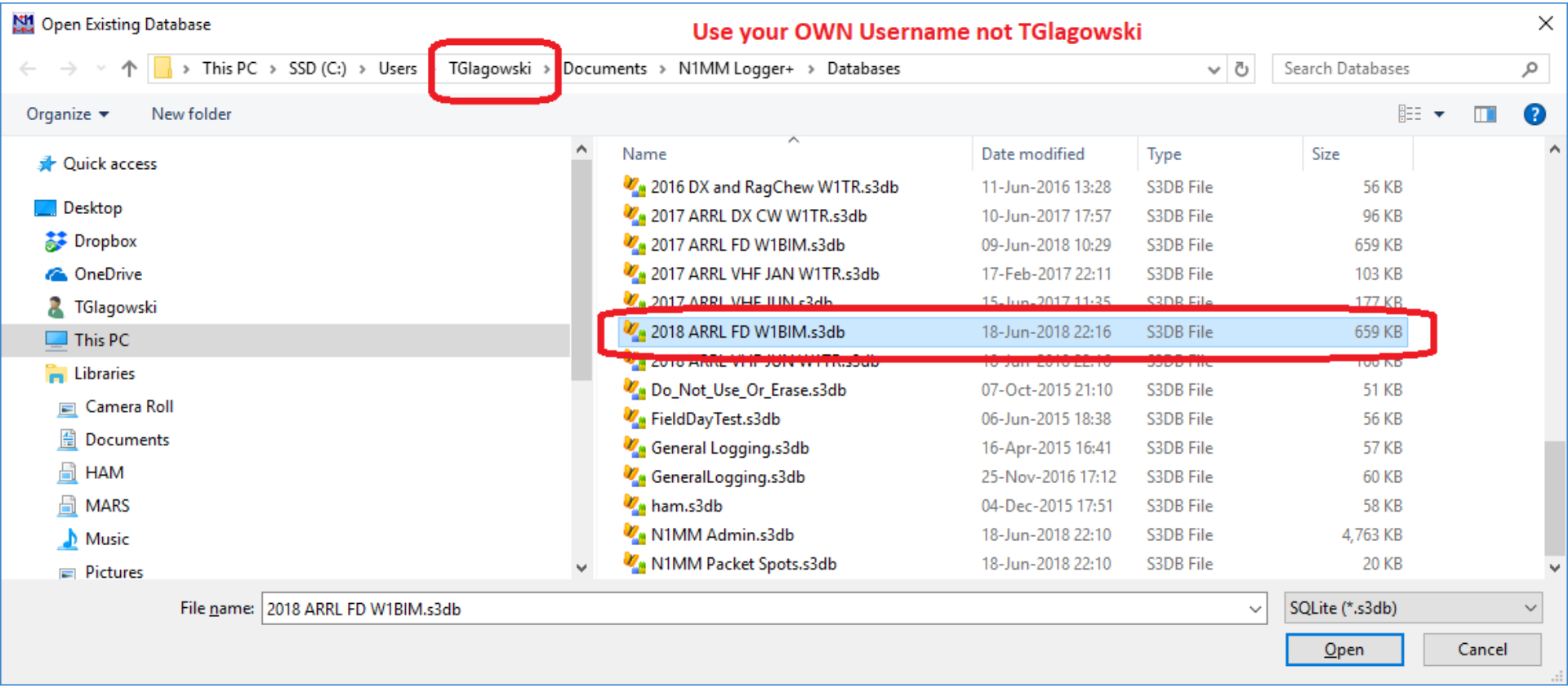
Open Database

Select: Open Database



Select Database

Pretend it is 2019 not 2015

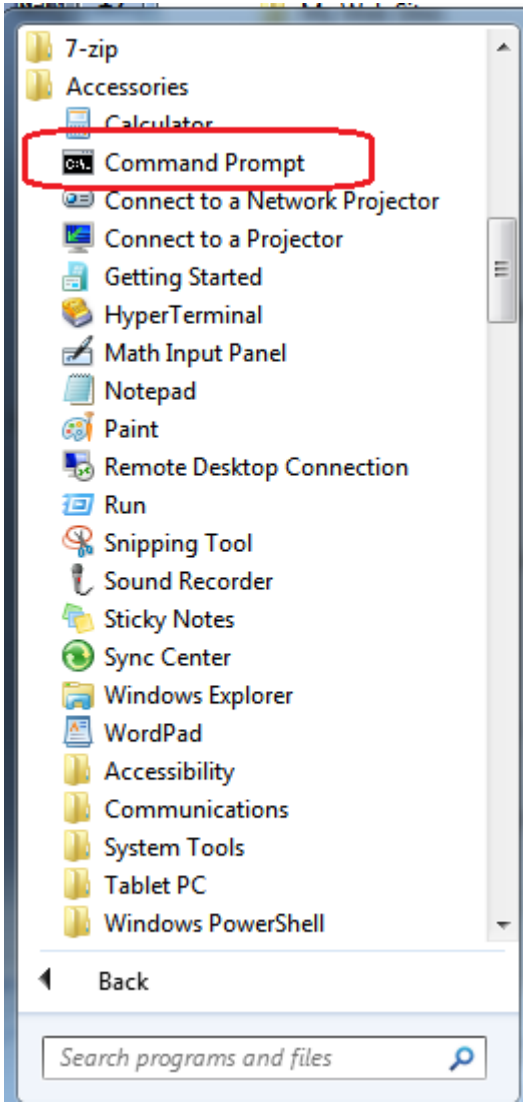


Log Database Is In a Standard Place

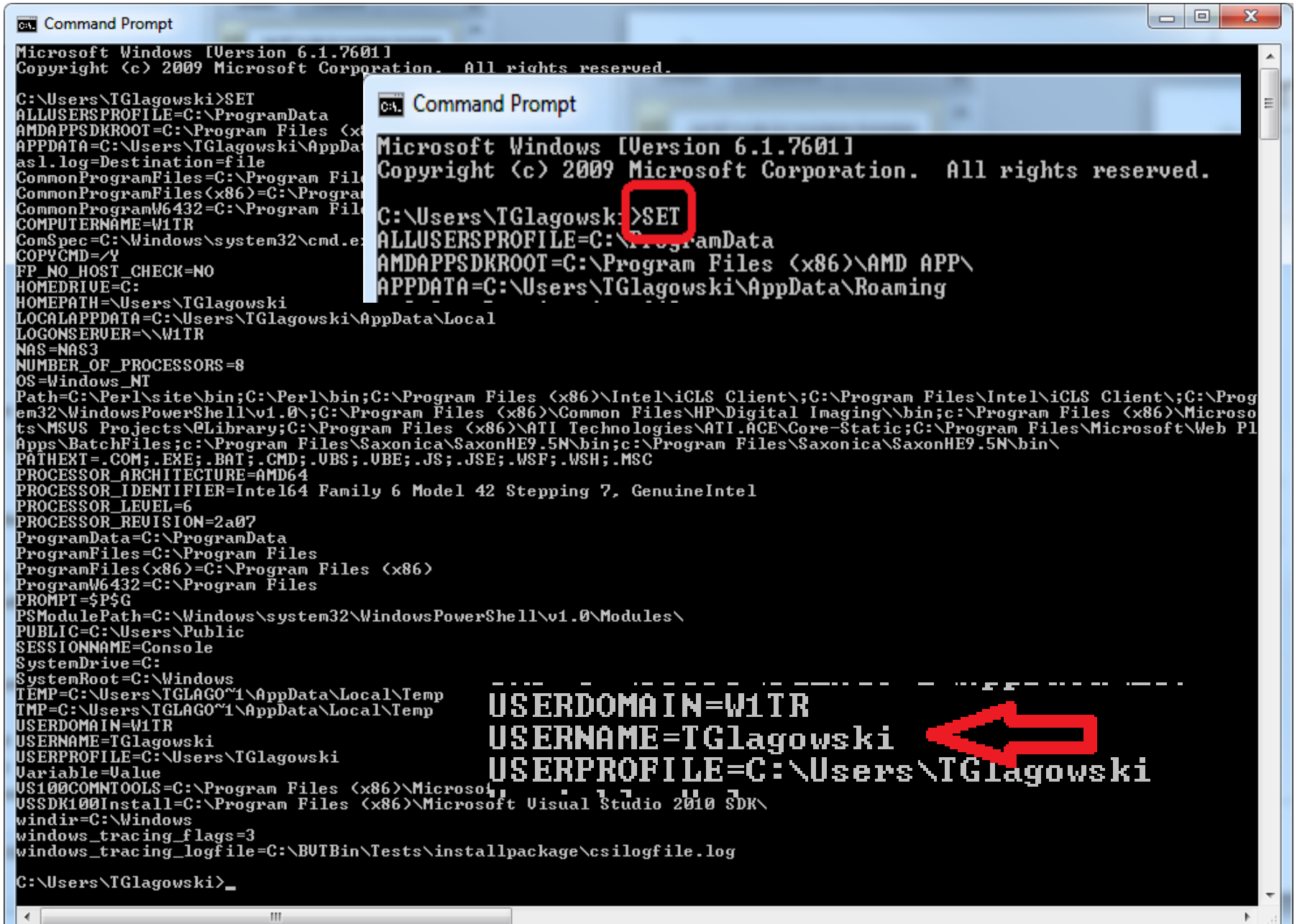
- Log Database Folder Name
  C:\Users\<USERNAME>\Documents\N1MM Logger+\Databases
- Log Database File Name
  2019 CMARA Field Day.s3db
- How to Determine <USERNAME> (next slide)
- The MASTER computer in the N1MM network will have the ENTIRE log at end of contest
- So will all the SLAVE computers !

How To Determine <USERNAME>

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

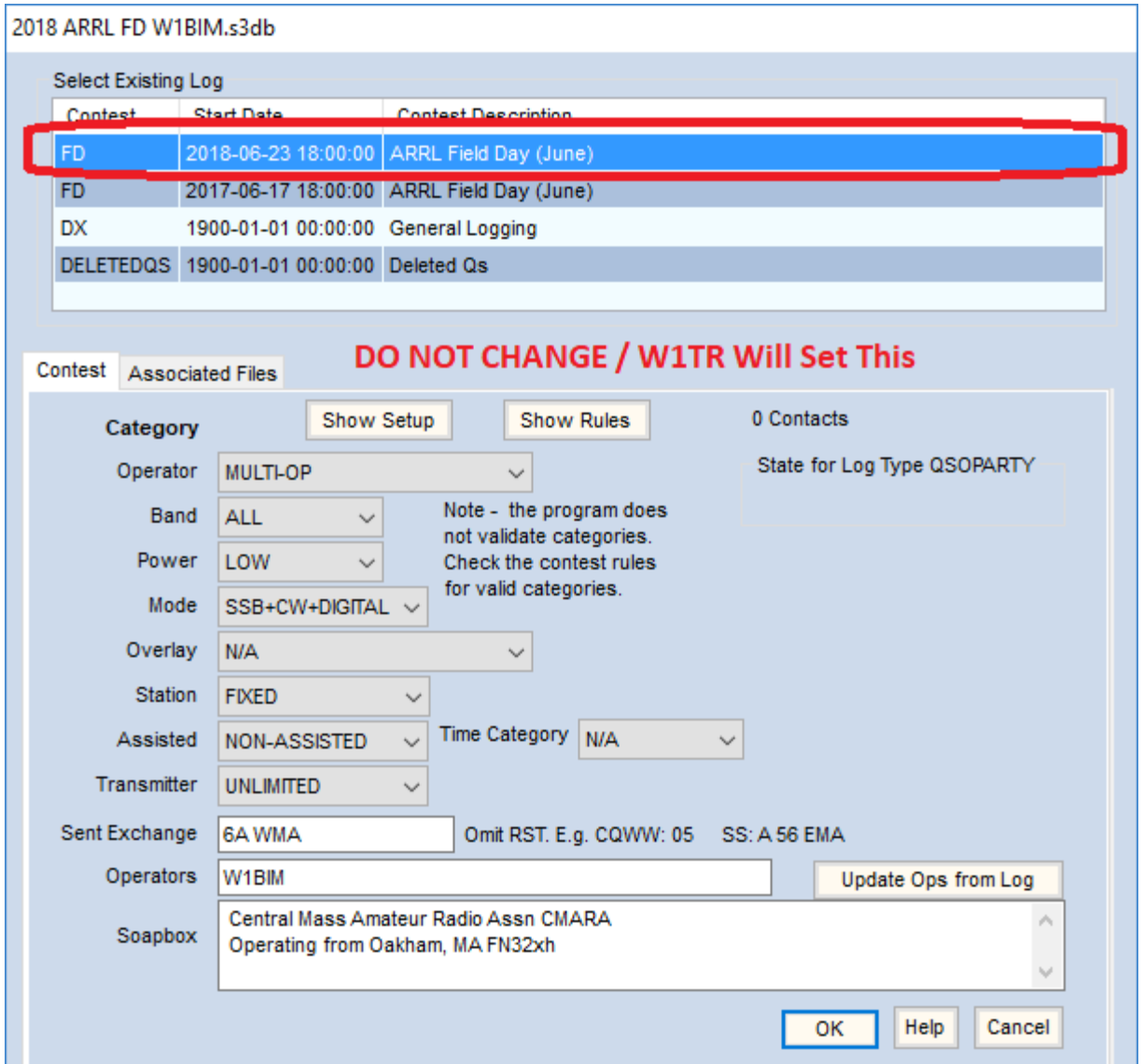


Use SET to Get Environmental Parameters



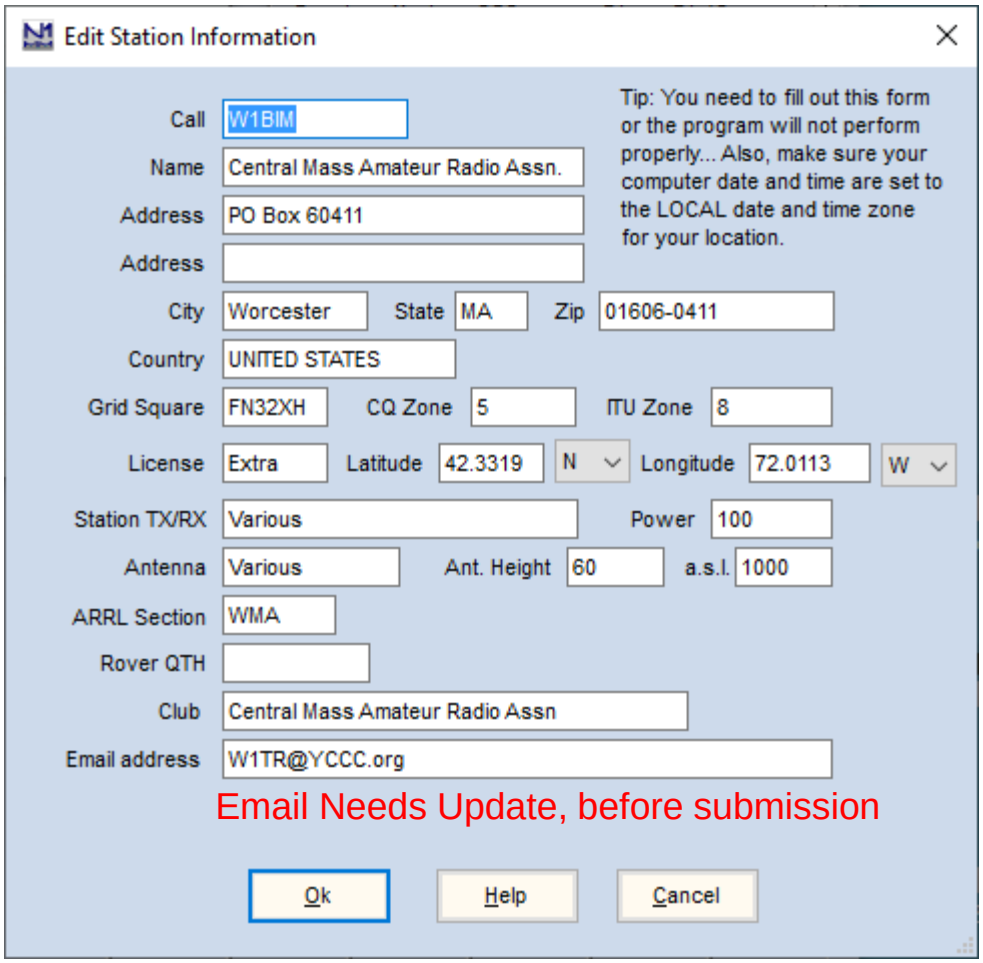
Open Log in Database

Note: 2019 not 2018

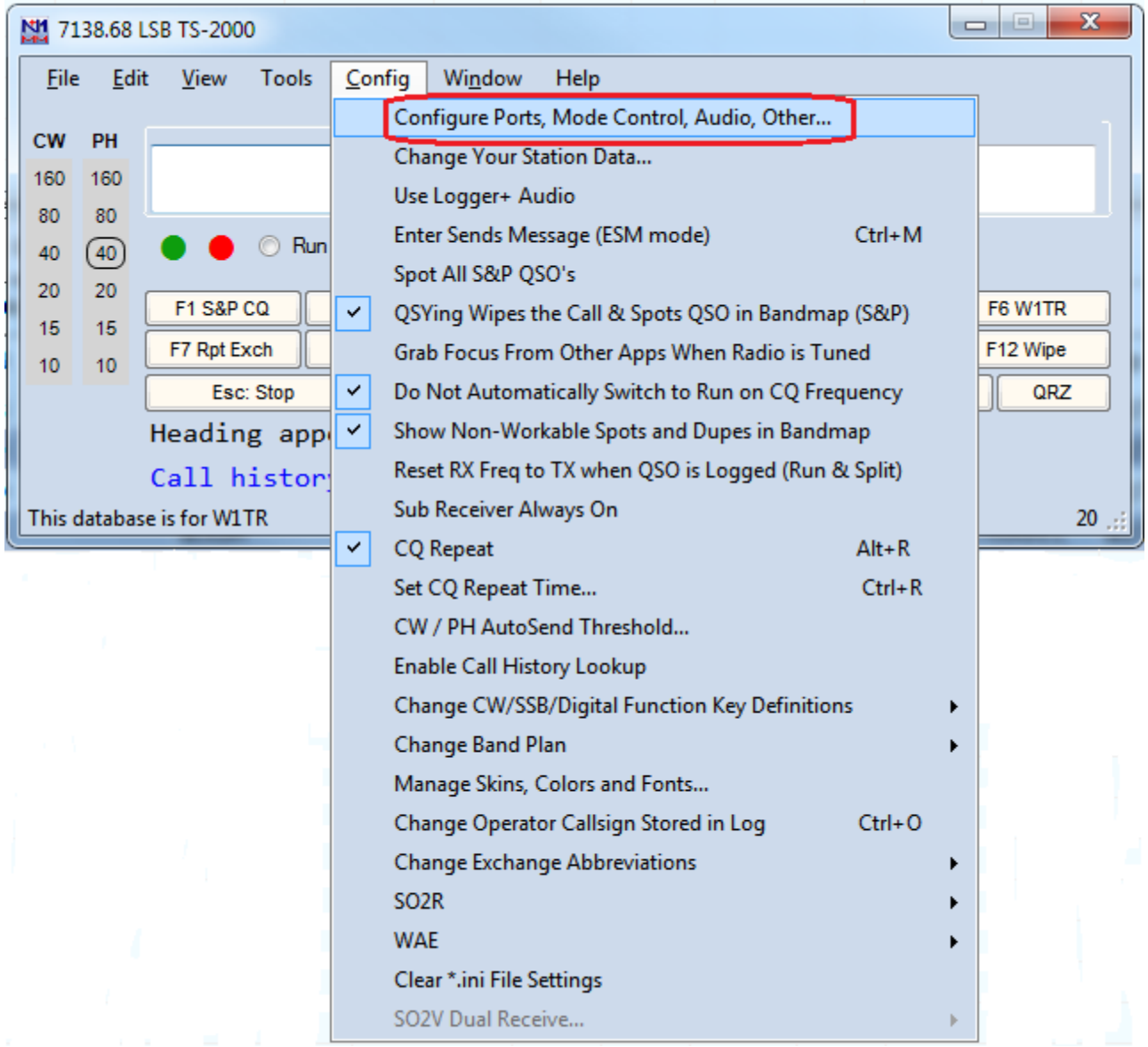


Station Information

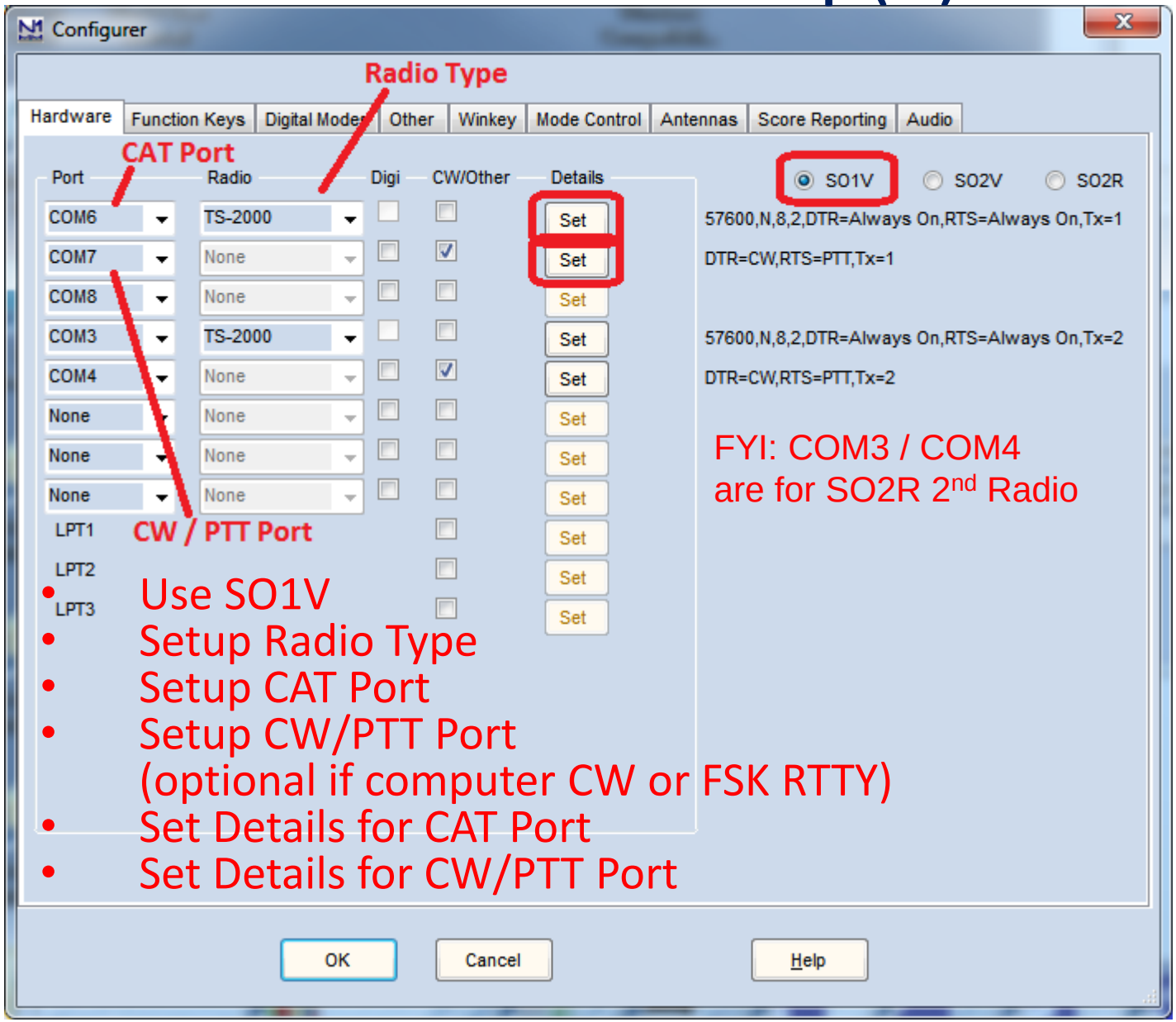
Do Not Change, Provided by FD Chairman



CAT Control Setup (1)

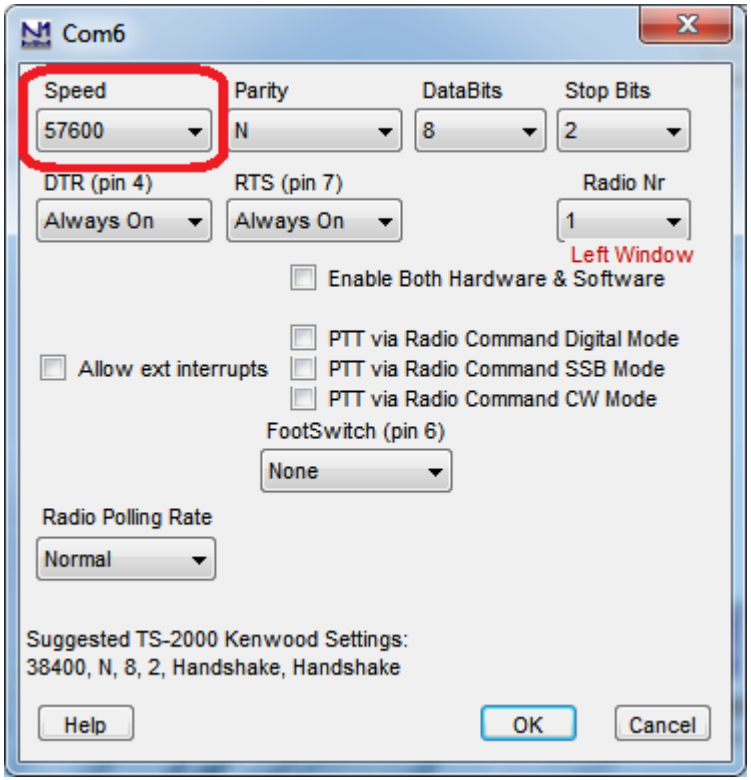


CAT Control Setup(2)



Details for CAT Port

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

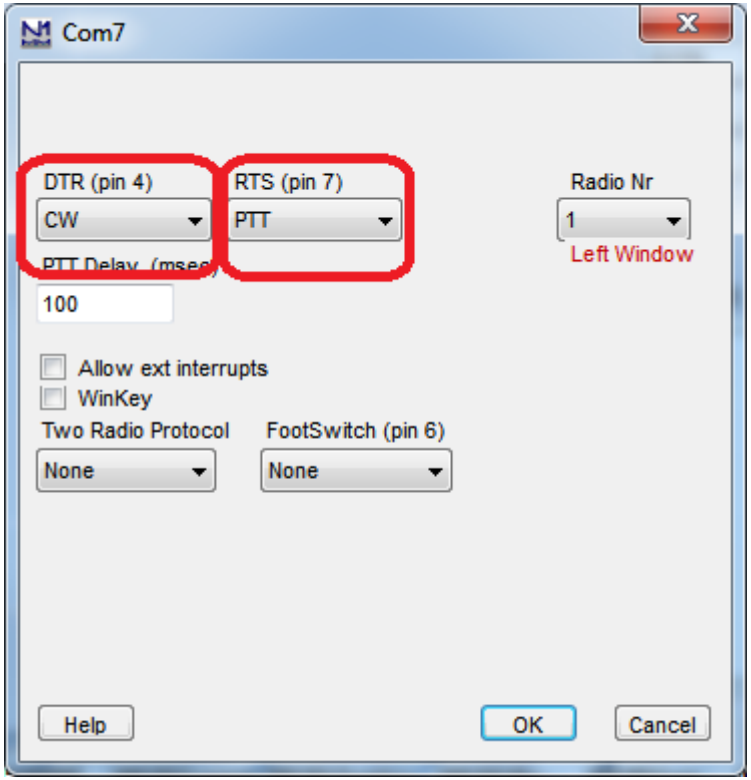


USB to RS-232 Serial

USB to Icom C-IV

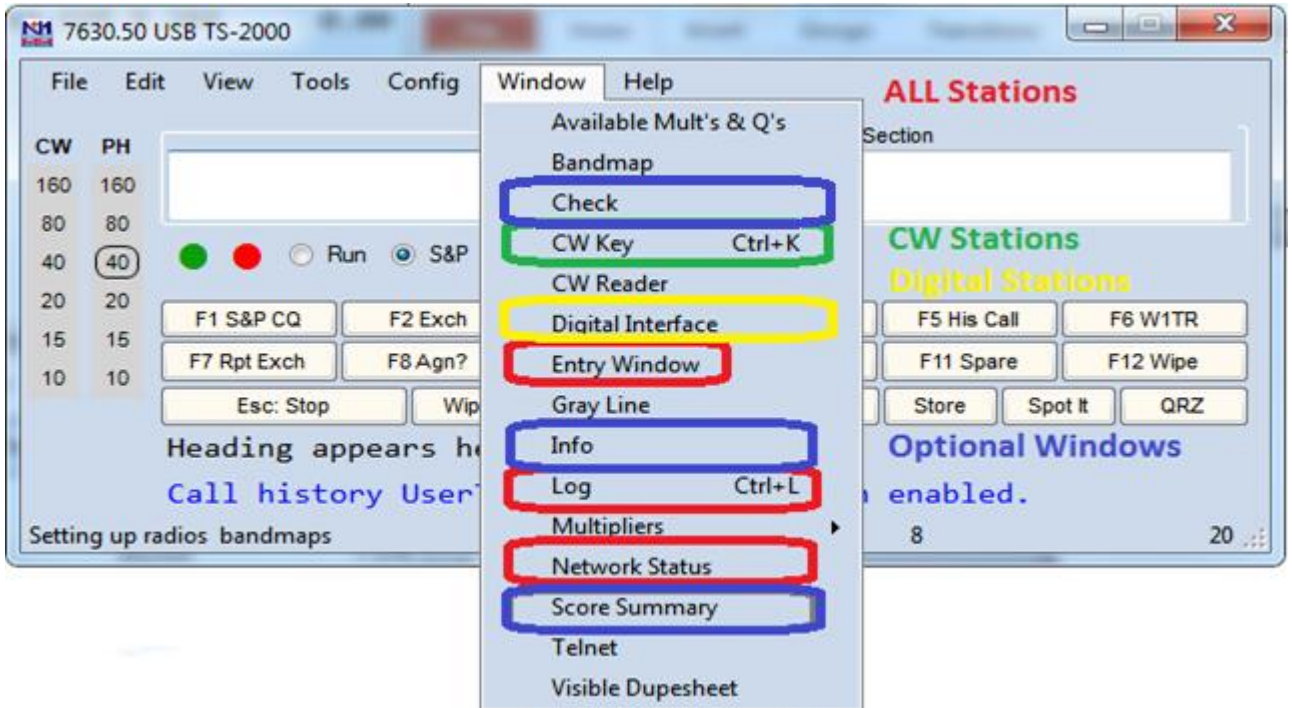
Details for CW/PTT Port

- Set DTR = CW
- Set RTS = PTT



Activate N1MM+ Windows

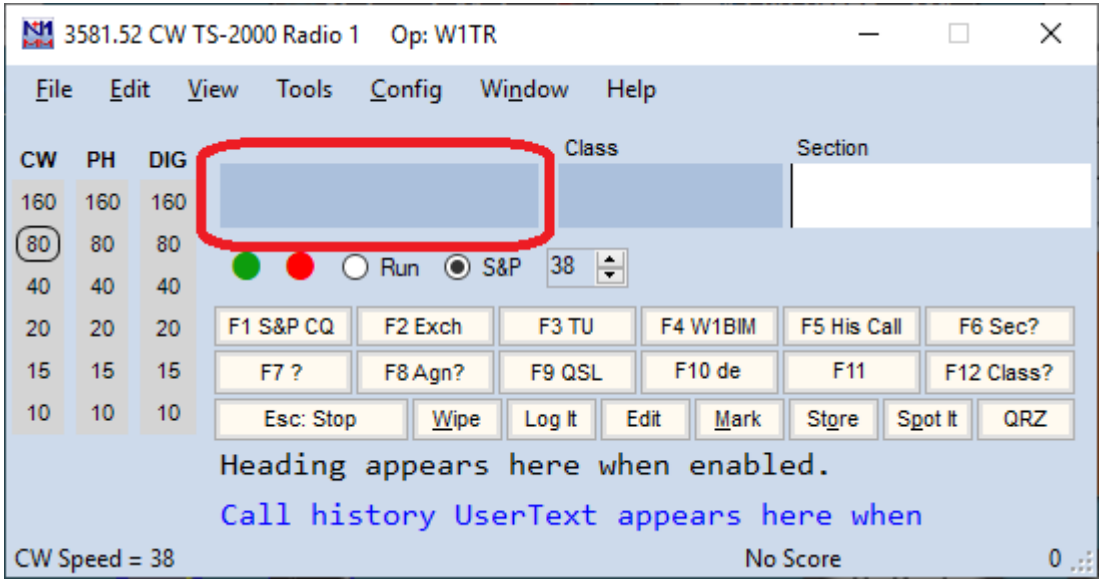
- **All Stations Use**
  - Entry Window (Default Window, already set up)
  - Network Status – to enable networking and know what other stations are doing
  - Log Window – to see what has been logged
- **Optional Windows**
  - Check – shows similar callsigns already in log, possible TYPOs
  - Info – shows QSO rate
  - Score Summary – shows score by band and mode
- **CW Stations Use CW Key for ad-lib 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, Mode, Radio Type, Radio Number, Operator.
Graphical Indicator for current band and mode
Graphical 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.
Enter Callsign, Frequency (KHz), Mode in leftmost field.

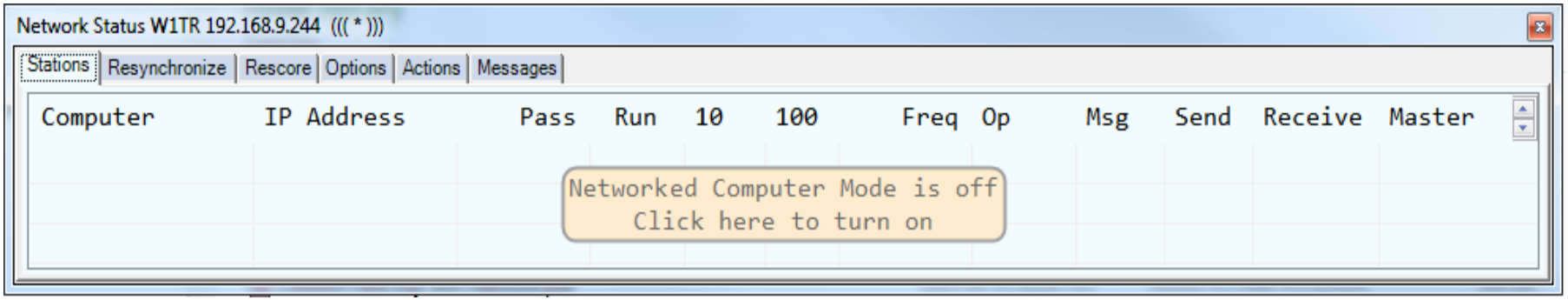


Network Status Window (1)

This window shows computers currently on the network

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

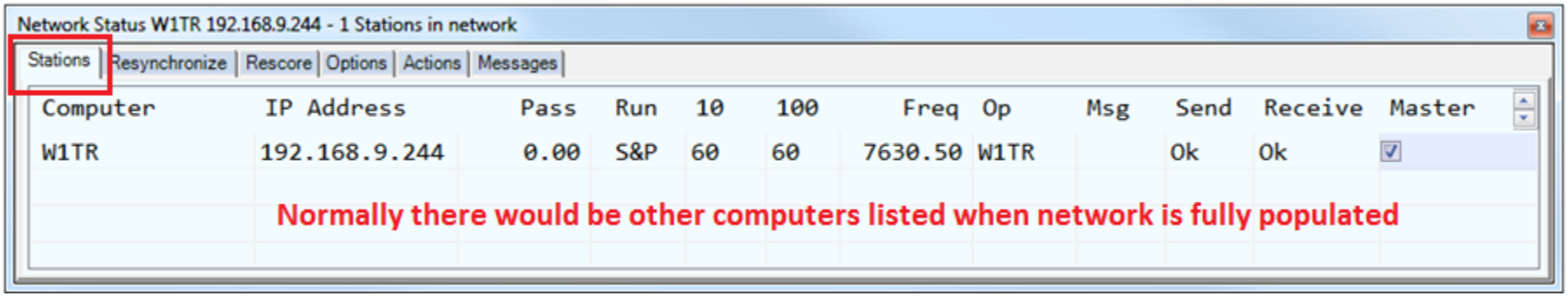
If the Network Status Window Looks Like This,
Click on the Yellow / Orange Button to Start Networking.
Do NOT check MASTER, your station is a SLAVE!

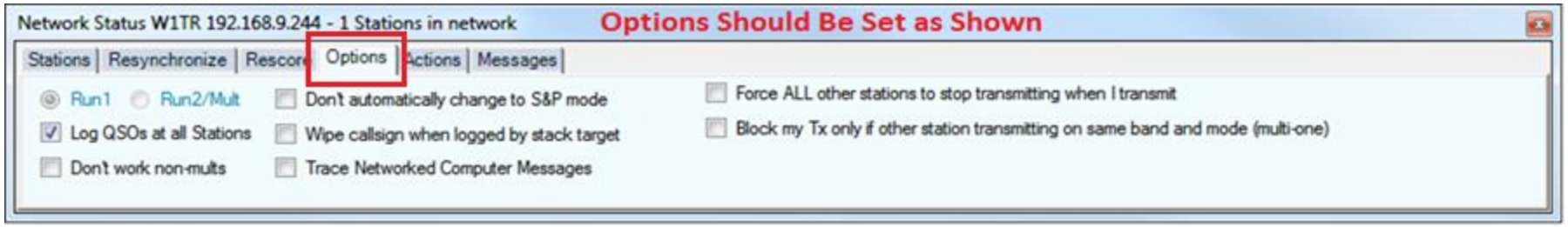


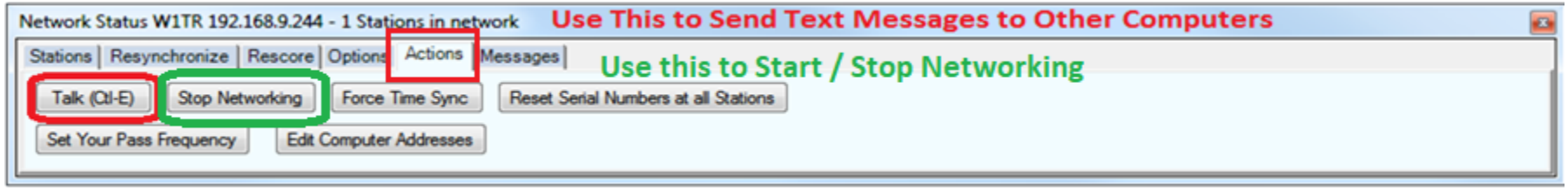
Network Status Window (2)

This window shows computers currently on the network

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



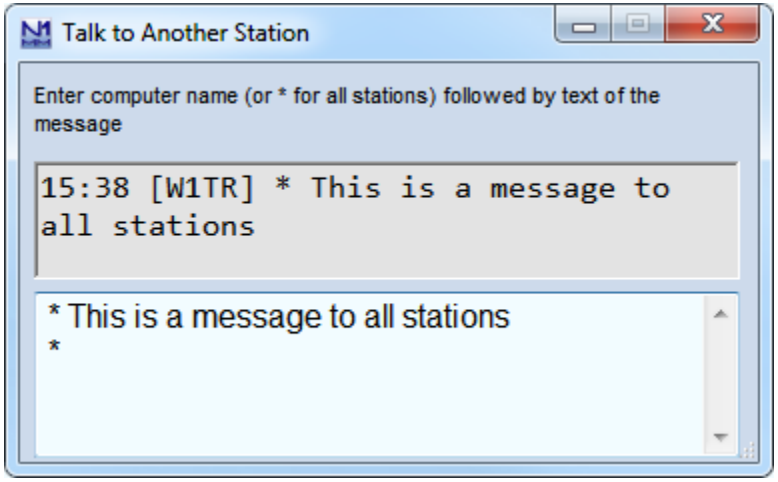




Talk Window

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

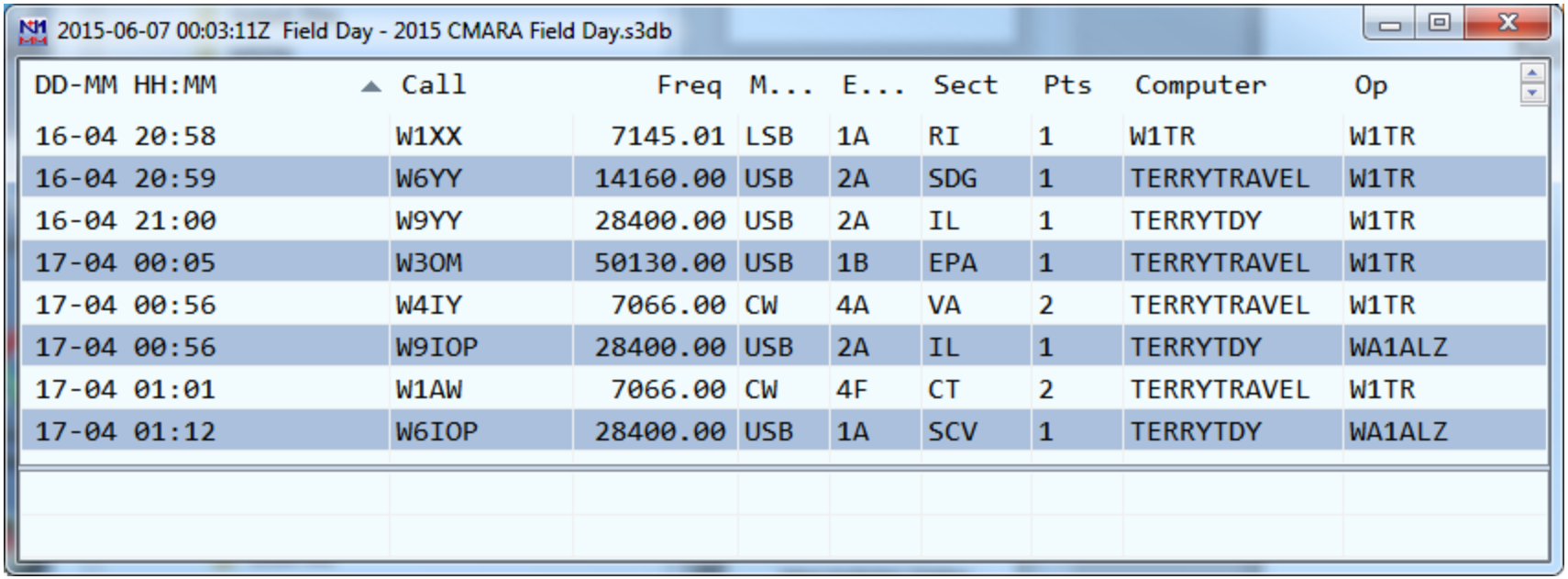
Lower Window Displays Sent Messages

- Destination * for all or Computer Name
- Message Text

Log Window

This window shows stations CMARA has worked

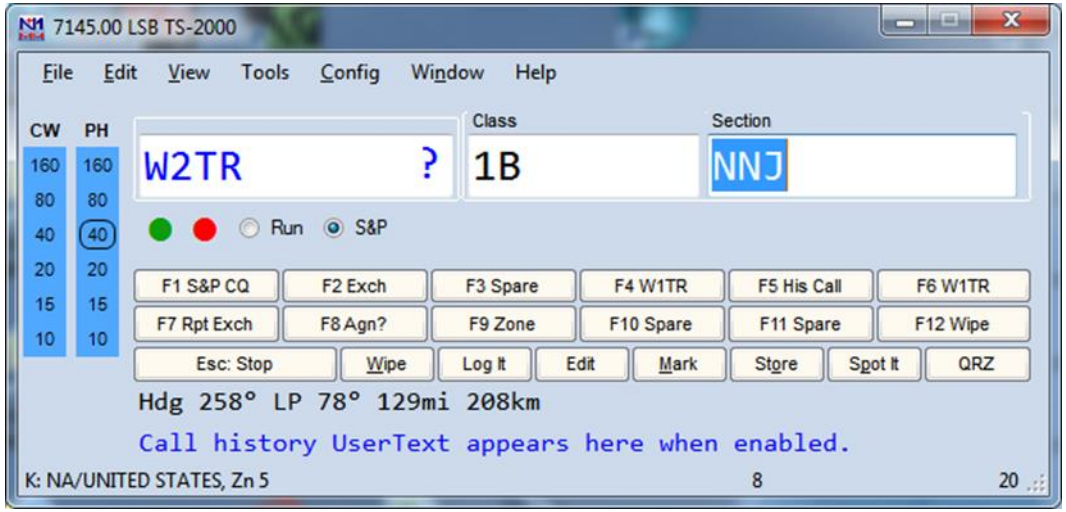
Date, Time, Call, Frequency, Mode, Section, Points, Computer, Operator.
Title Bar at Top of Window shows Date/Time, Contest Name, Database Name.

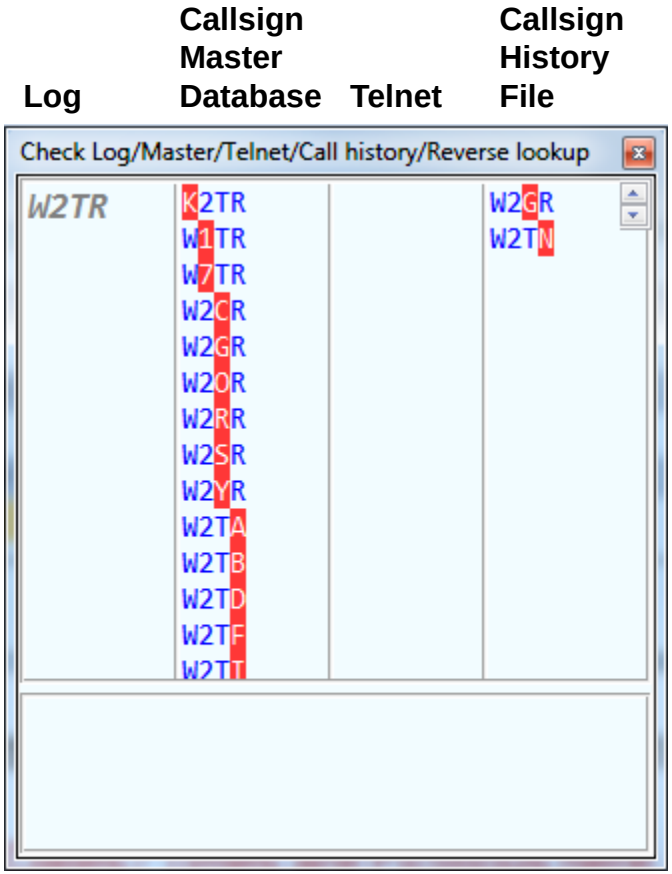


DD-MM HH:MM	Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04 20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR
16-04 20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04 21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04 00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04 00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL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

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.

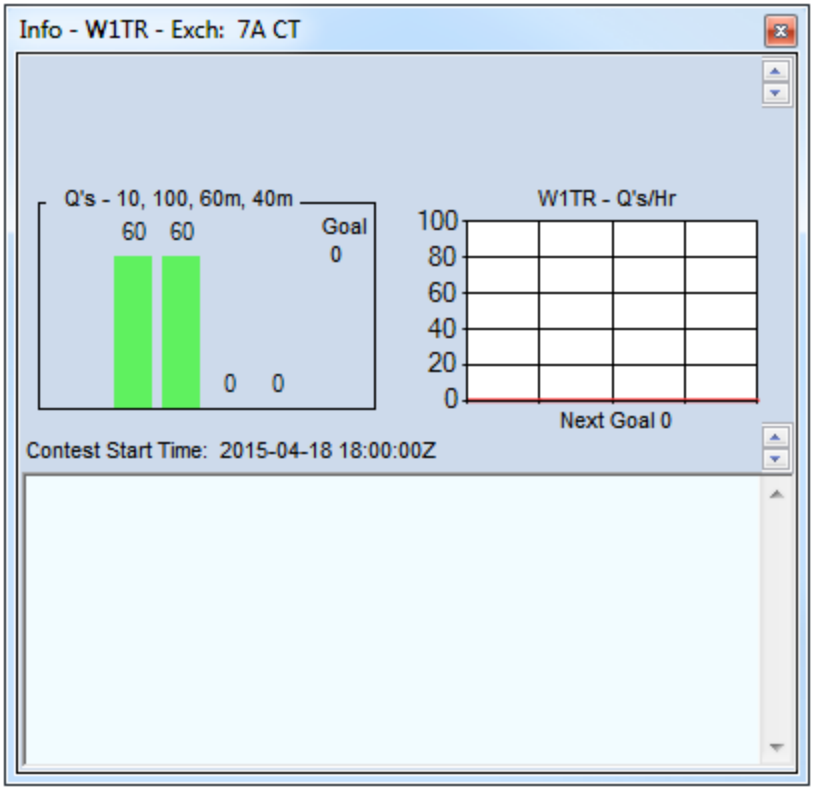




Info Window

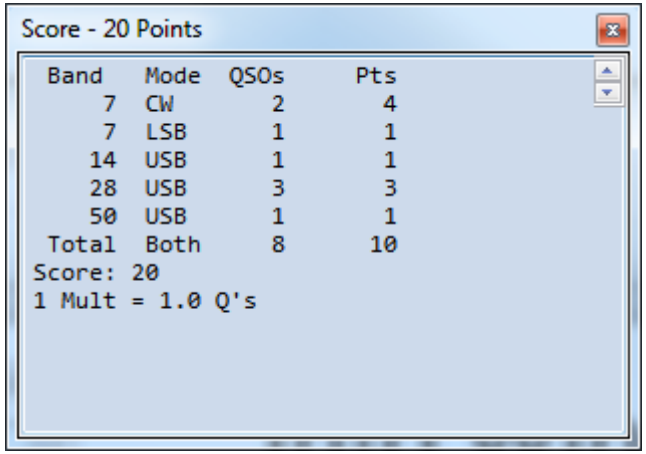
This window shows QSO rate statistics versus goals.

10 – rate for last 10 QSOs
100 – rate for last 100 QSOs
60m – rate for last 60 minutes
40m – rate for last 40 minutes



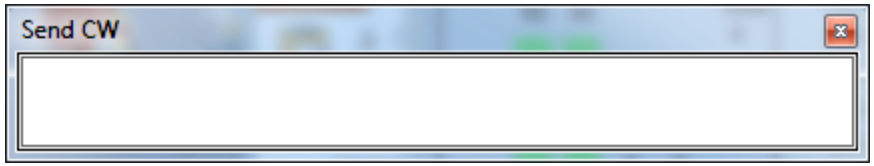
Score Summary Window

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



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 Closes Window but Transmission Continues.
Window must be closed before other actions can be taken.

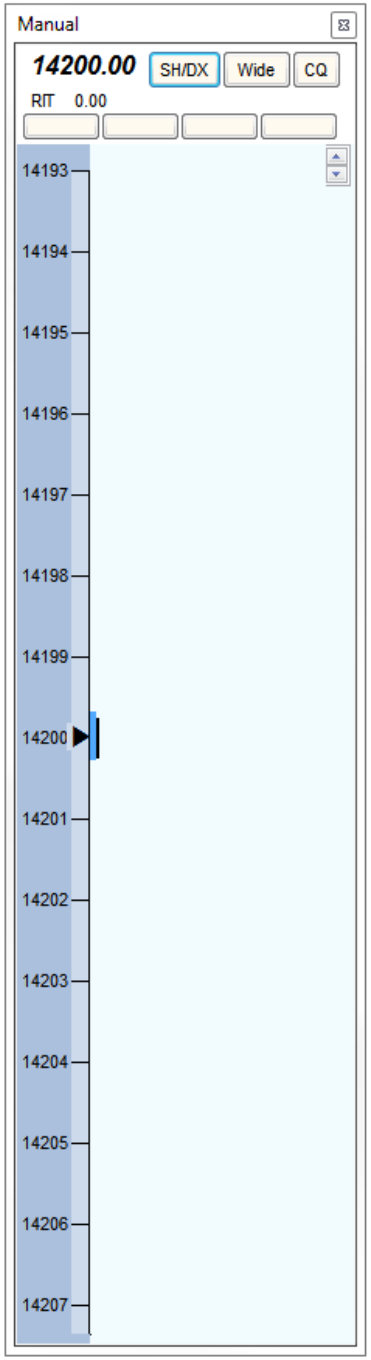


Band Map Window

This Window Shows Spots from

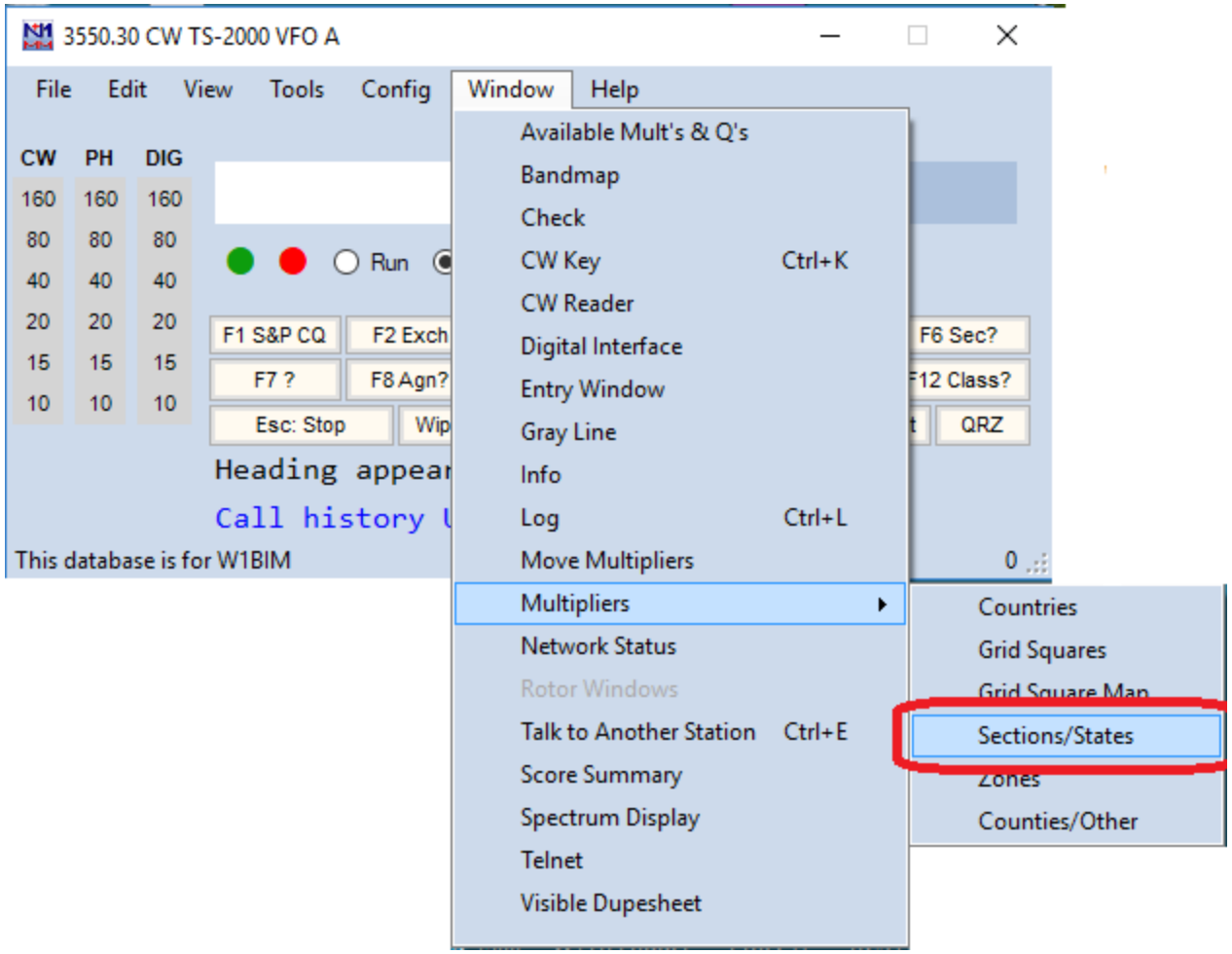
1. Self
2. Others
3. Packet Cluster

Station Callsigns will be Shown Next to Frequency.
Click on Callsign to Move VFO to Frequency
Note: we are NOT using Packet Cluster!



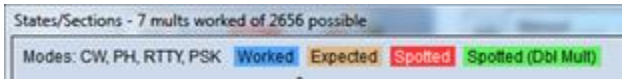
Multiplier Window Selection

Select an Appropriate Multiplier Window.
Field Day uses Sections.
However, Sections are NOT a Field Day Contest Score Multiplier.
Use for Information ONLY.

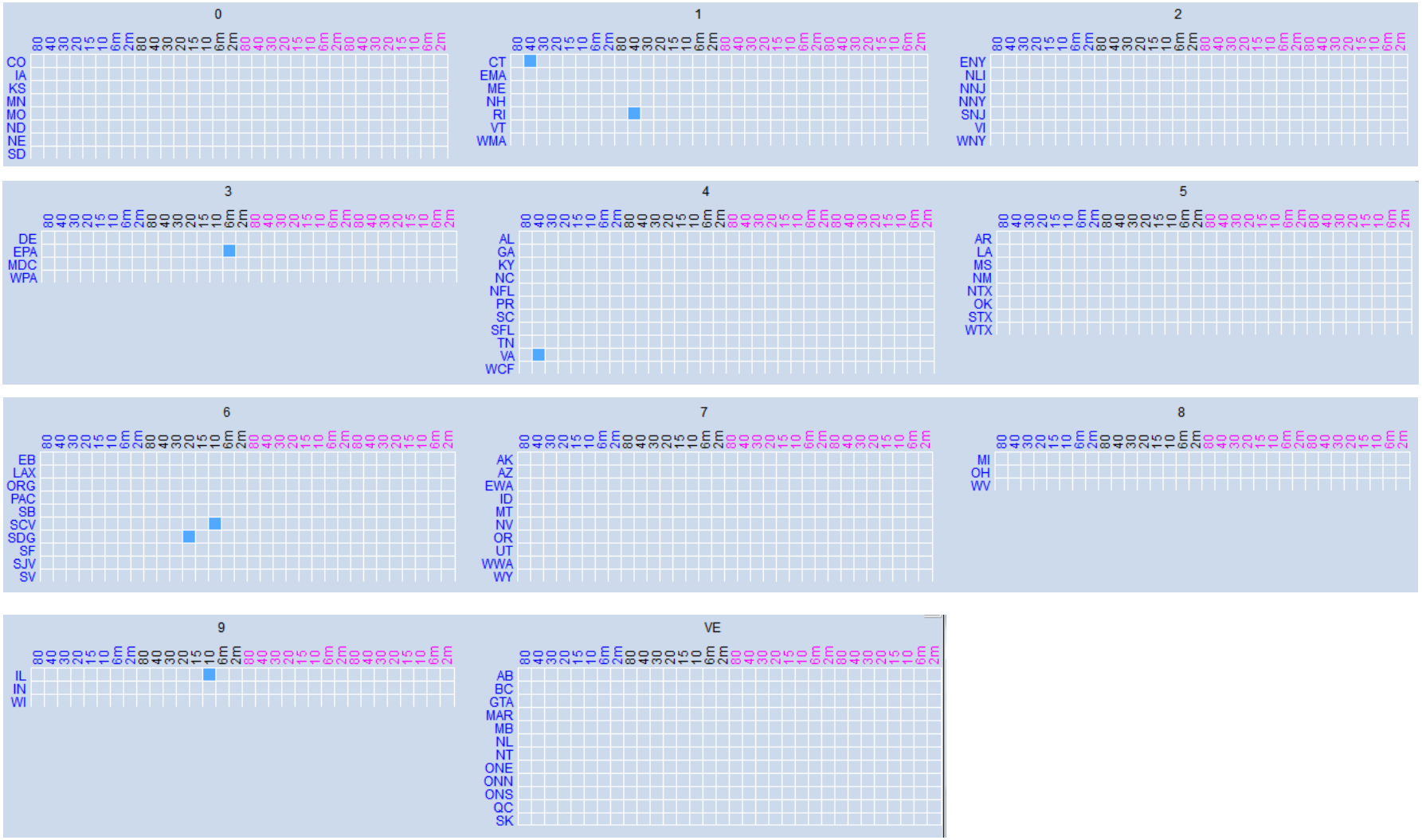


Multiplier Window

This Window Shows Sections Worked versus Band and Mode

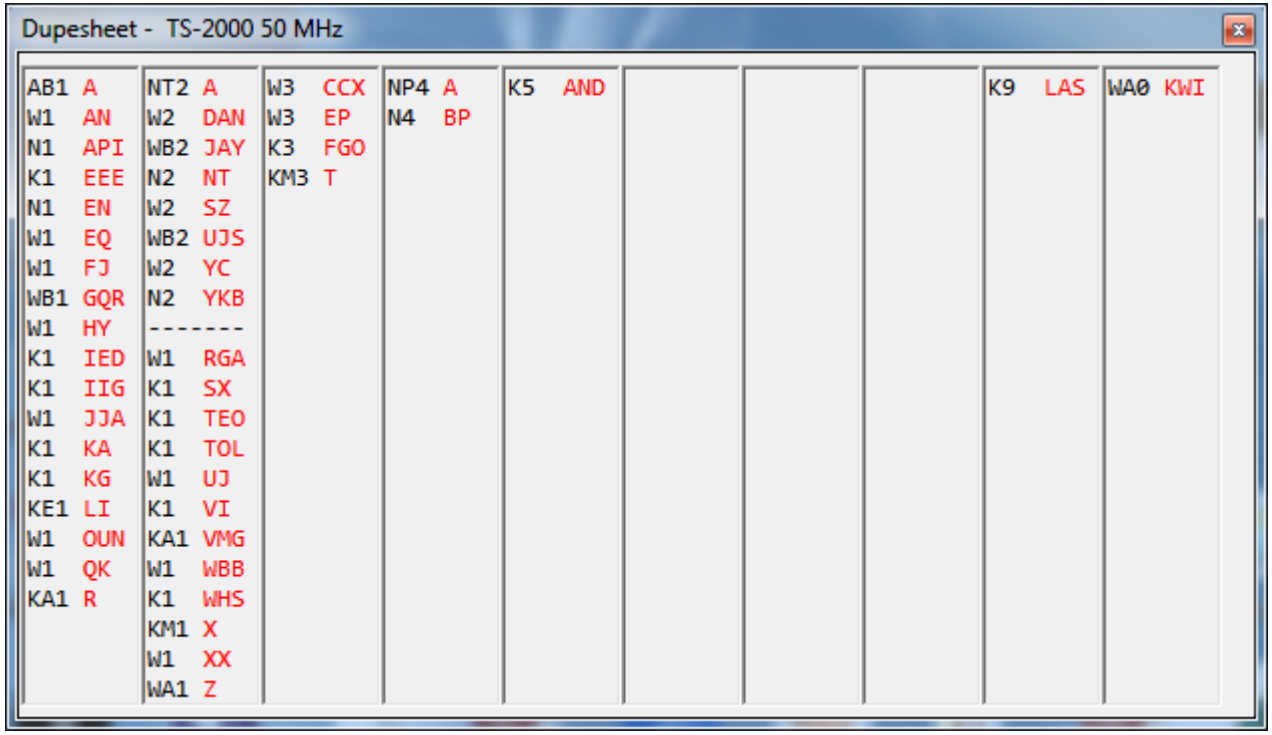


Note: Window is Very Wide, Window Segments are shown!



Visible Dup Sheet

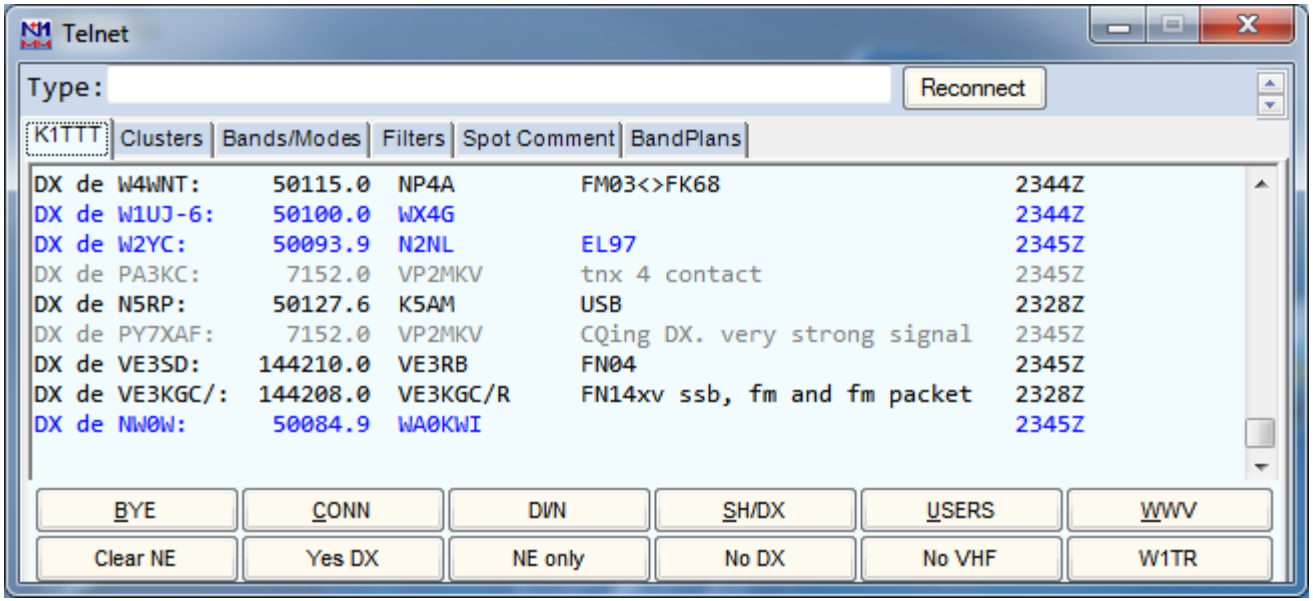
This window is useful for very quickly checking for DUPES without typing.
It is organized by call suffix within call number zone.
If there is room, each call number zone has its own column.
If there are too many calls in a zone, the column will overflow to the next column.



Telnet Window

This Window Shows Spots from Internet DX Clusters

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



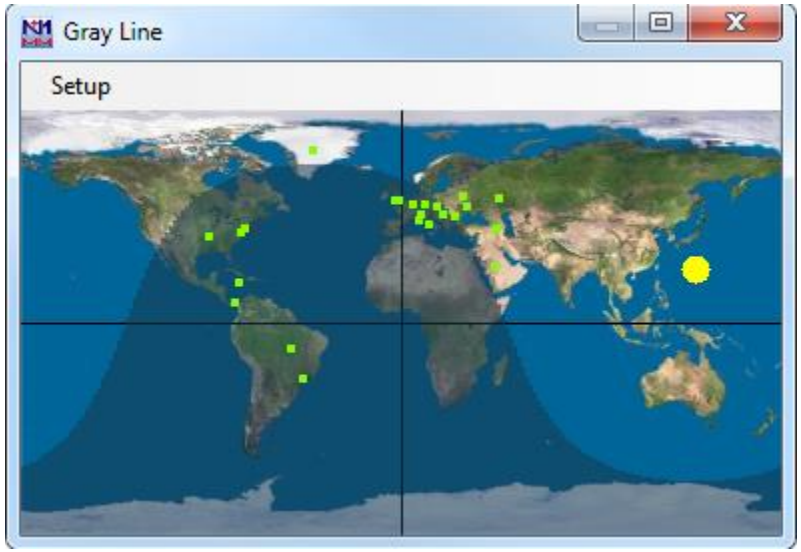
Grey Line Window

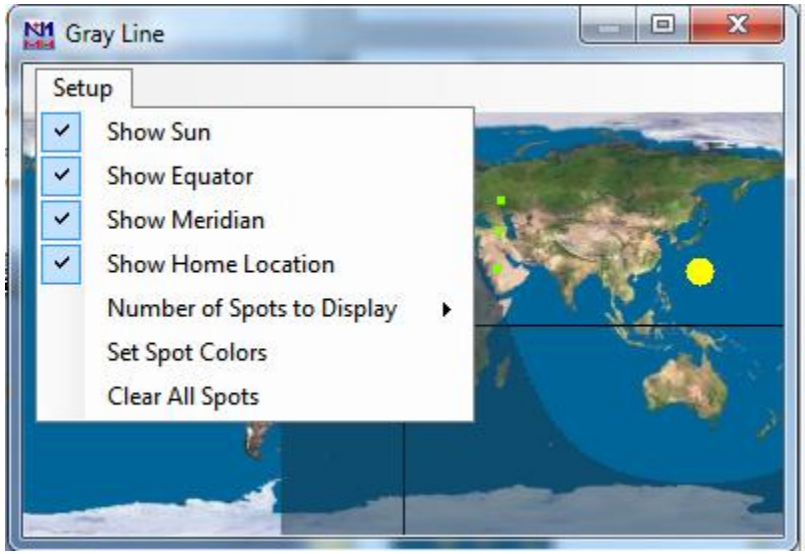
This Window Shows

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





Band 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

- Set Frequency

  Type Frequency in KHz (e.g. 3550 or 21350) into callsign field
  Extremely Important to DO !!!, Otherwise Log Data Will Be Garbage.
  With CAT control, simply use your bandswitch and VFO.

- Set Mode

  Type Mode (e.g. CW, USB, LSB, AM, FM, RTTY, PSK31) into callsign field
  Extremely Important to DO !!!, Otherwise Log Data Will Be Garbage.
  With CAT control, simply use your mode switch.

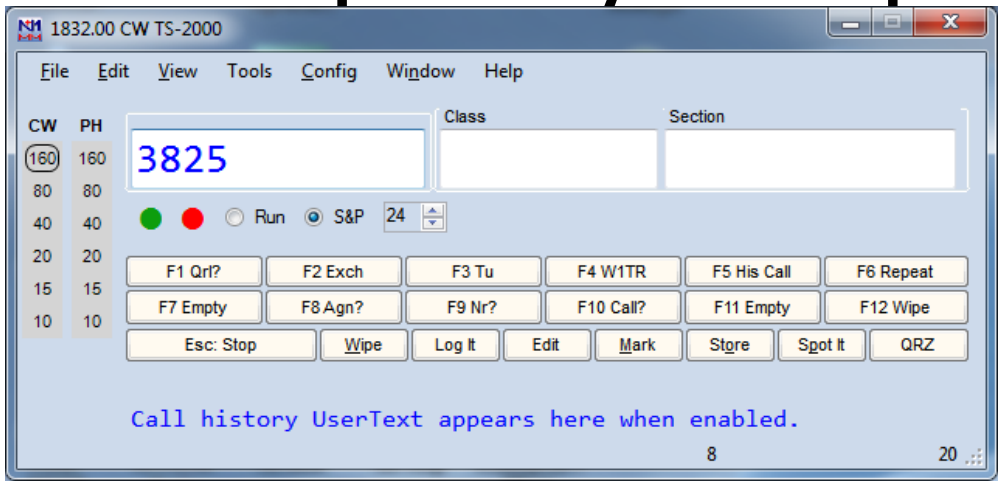
- Very Important to Set These Items

  It is possible to correct all other items later *except*:
  Date/Time (computer clock) – Slave Computer Should Synchronize with Master
  Frequency – Should Be Using CAT Control
  Mode – Should Be Using CAT Control
  Operator – Whenever Change of Operator Occurs (CTRL-O)

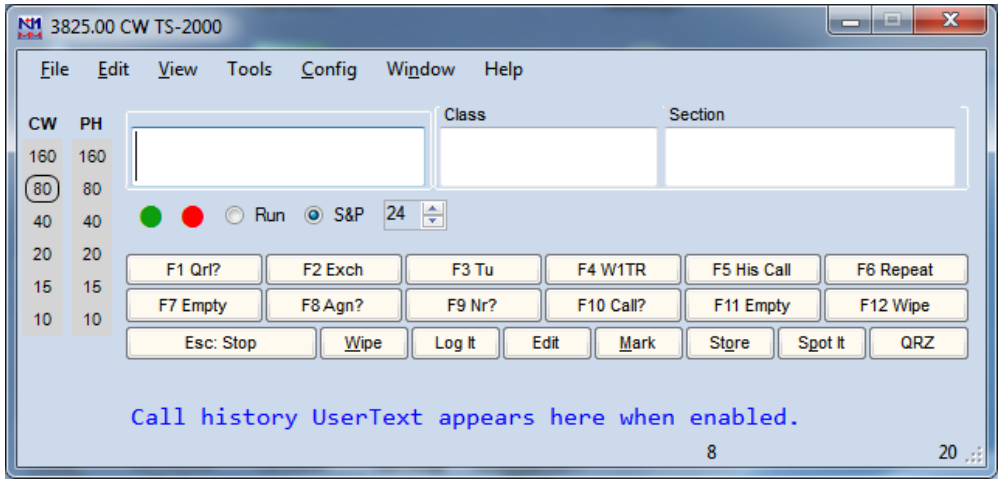
- Use Operator = OFF when leaving operator position

  to let other stations know band / mode not in use.

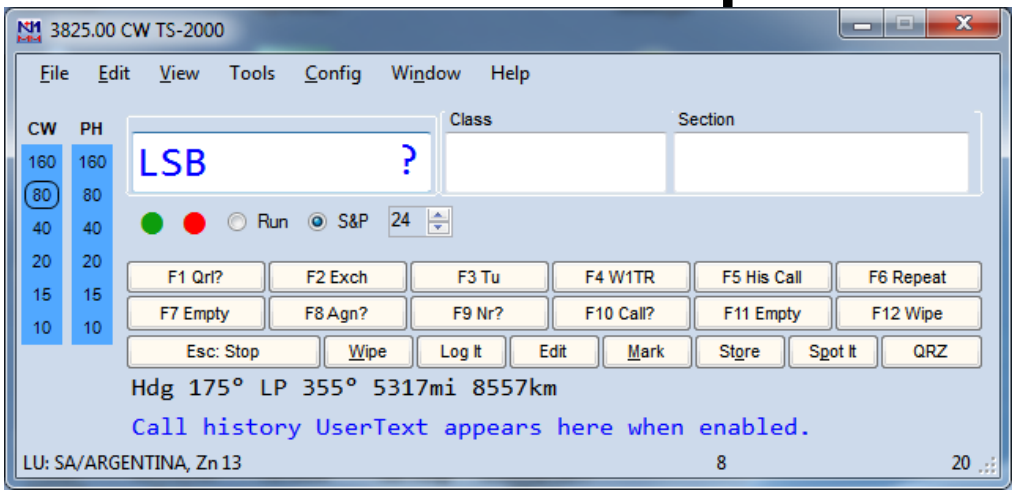
Frequency Setup



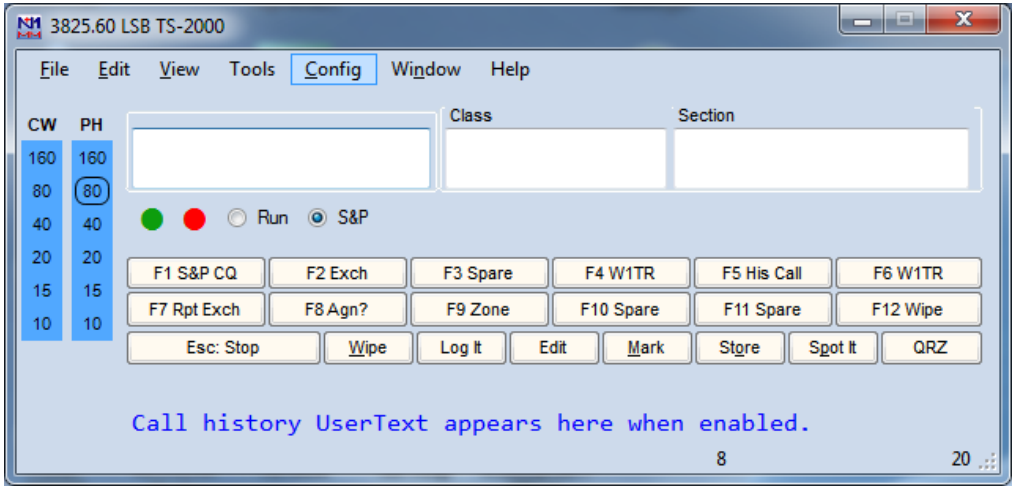
To Set or Change Frequency:
type the Frequency in KHz in the Callsign Field (left).
Use a typical Phone or CW Frequency if NOT CAT Controlled,
N1MMplus only needs to know the Band.
NO NEED to CHANGE it as you tune up and down the band.
Note: the Title Bar of the Main Window will reflect the change



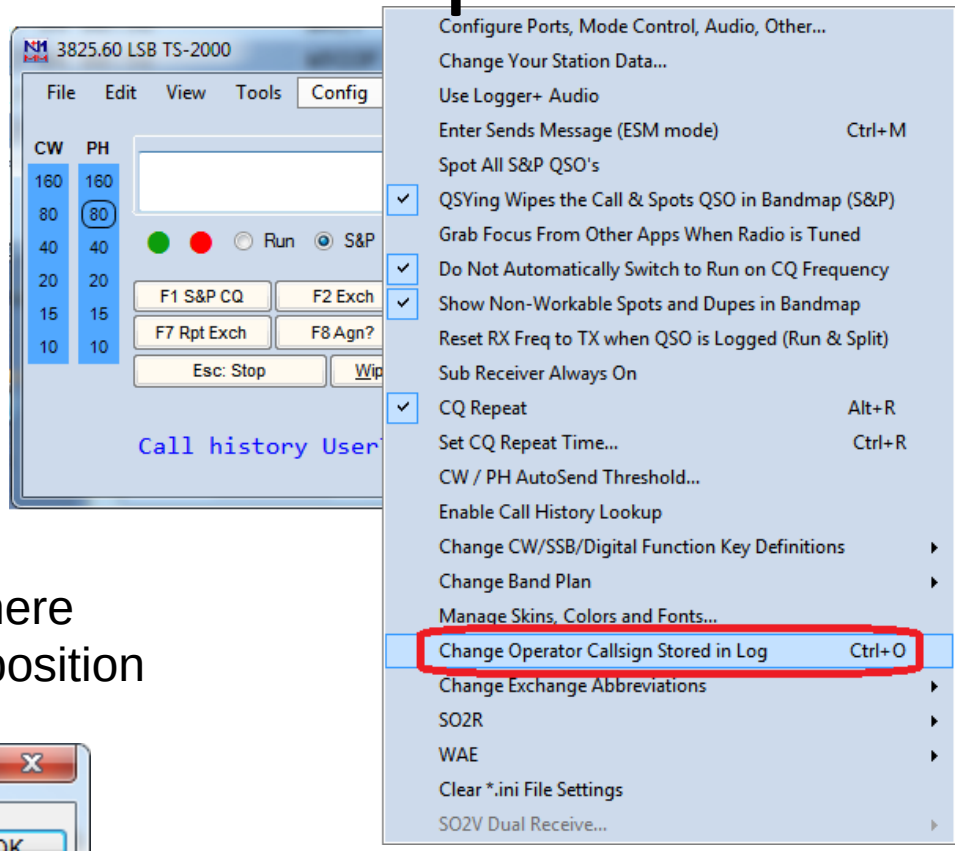
Mode Setup



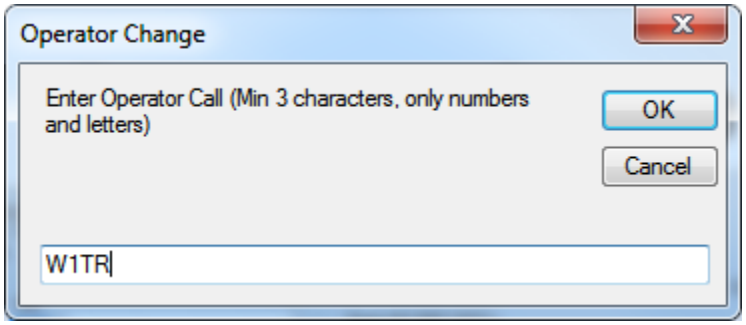
To Set or Change Mode:
Type the Mode (CW, USB, LSB, AM, FM, RTTY, PSK31) into the Callsign Field (left) if NOT CAT controlled.
Note: the Title Bar of the Main Window will reflect the change



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

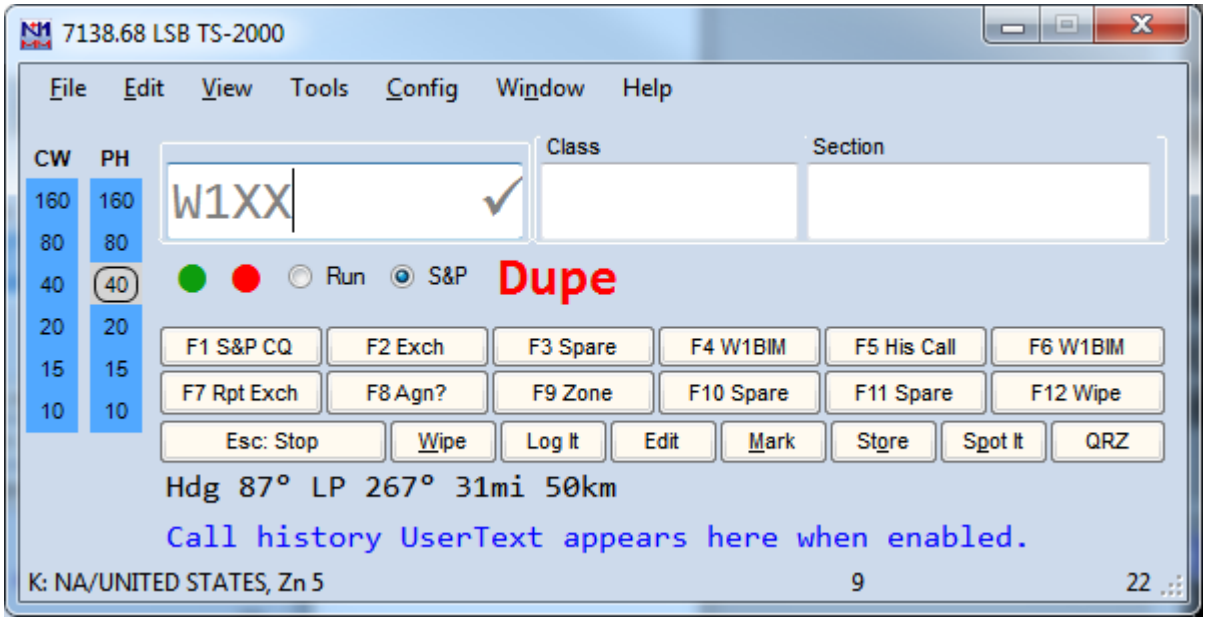
    ARRL made 4 sections out of Ontario (ON):

    ONE – Ontario East

    ONN – Ontario North

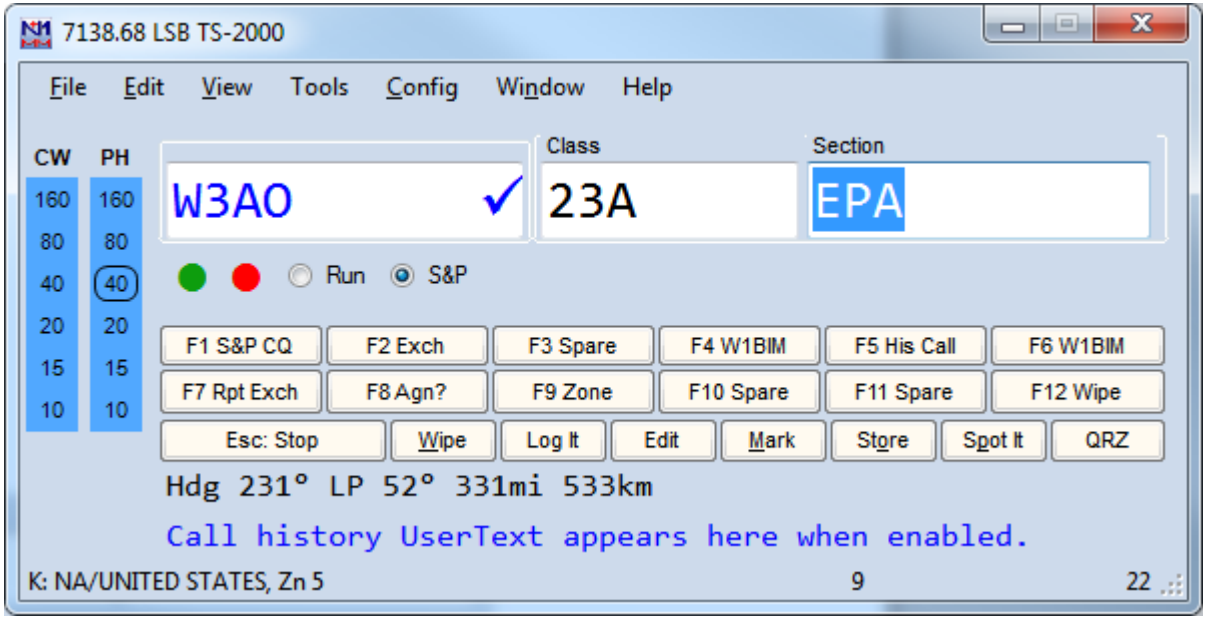
    ONS – Ontario South

    GTA - Greater Toronto Area (West)
- Dupes will be Indicated



QSO Logging – 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**



QSO Logging - Classes

- A – Club or Non-Club Portable Operation
- B – 0ne or two person portable
- C – Mobile
- D – Home Station
- E – Home Station, Emergency Power
- F – Official Emergency Operation Stations (EOC)

QSO Logging – Sections

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

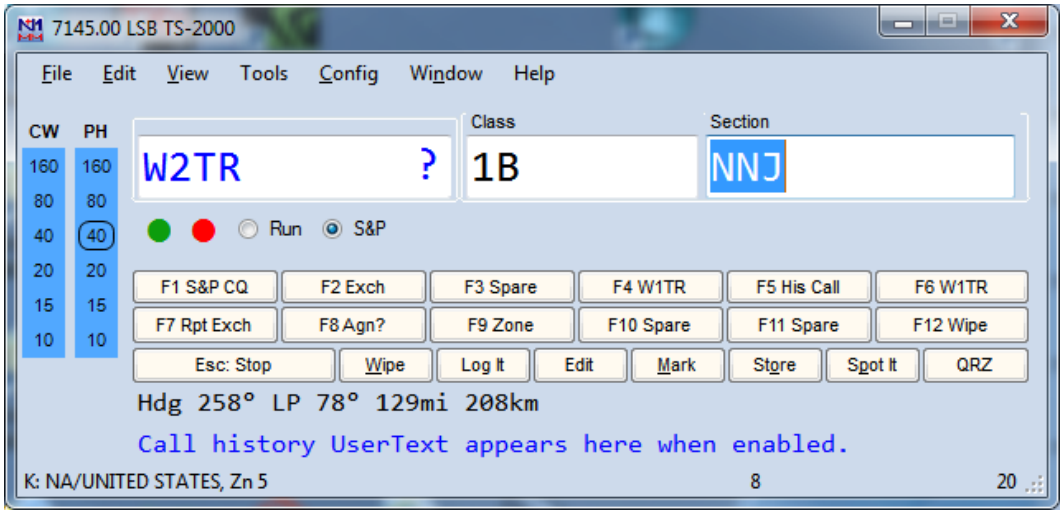
W1	W2	W3	W4	W5	W6	W7	W8	W9	W0	VE	Other
CT	NNJ	DE	AL	AR	EB	AK	MI	IL	CO	AB	DX
EMA	SNJ	MDC	NFL	LA	ORG	AZ	OH	IN	IA	BC	
WMA	ENY	EPA	SFL	MS	SB	ID	WV	WI	KS	MAR	
ME	NNY	WPA	WCF	NM	SCV	MT			MN	MB	
NH	WNY		GA	OK	SDG	NV			MO	ONN	
RI	NLI		KY	NTX	SF	OR			NE	ONS	
VT			NC	STX	SJV	UT			ND	ONE	
			SC	WTX	SV	EWA			SD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

QSO Logging – Log Window

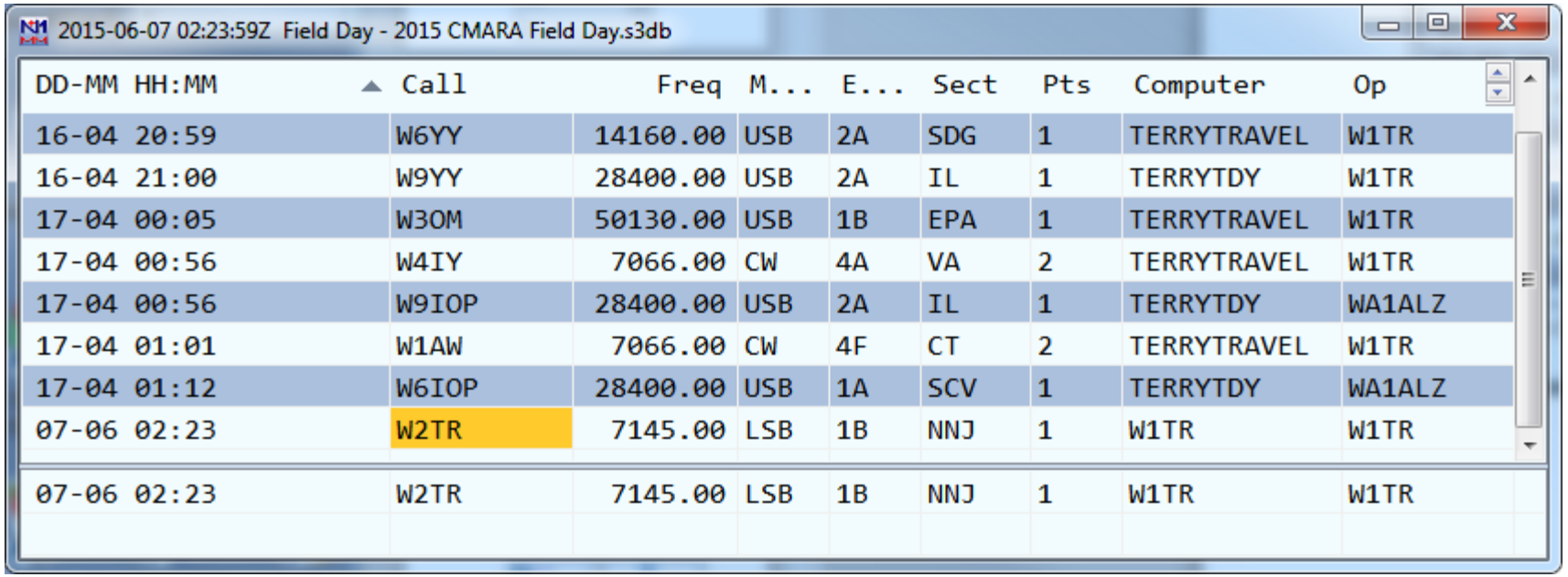
2015-06-07 02:13:37Z Field Day - 2015 CMARA Field Day.s3db

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



QSO Logging – 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

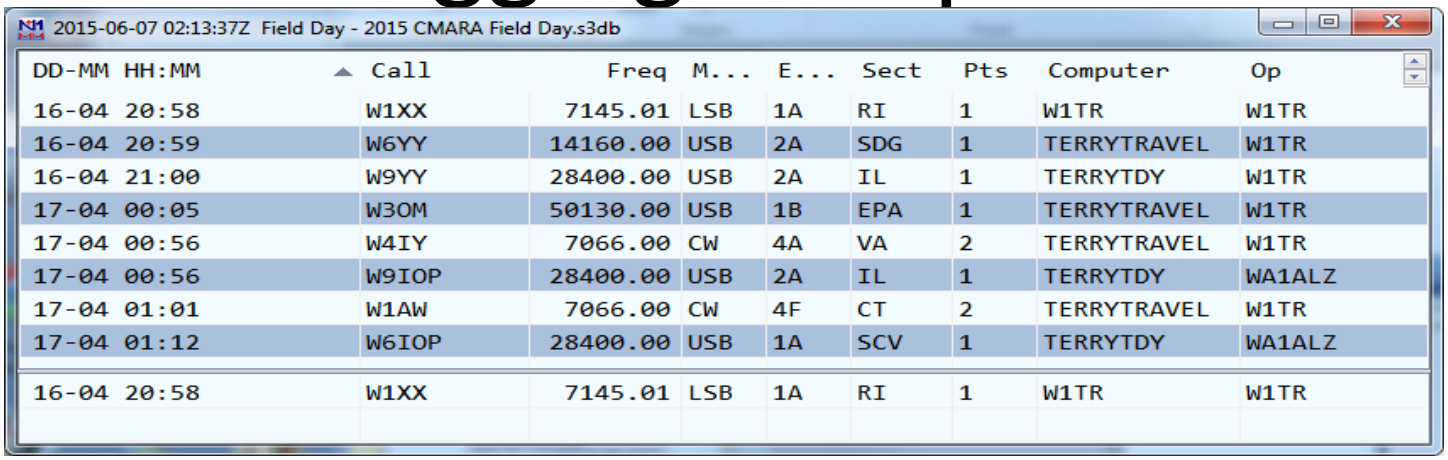
the LOG NOW Contains W2TR 1B NNJ

Note:

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

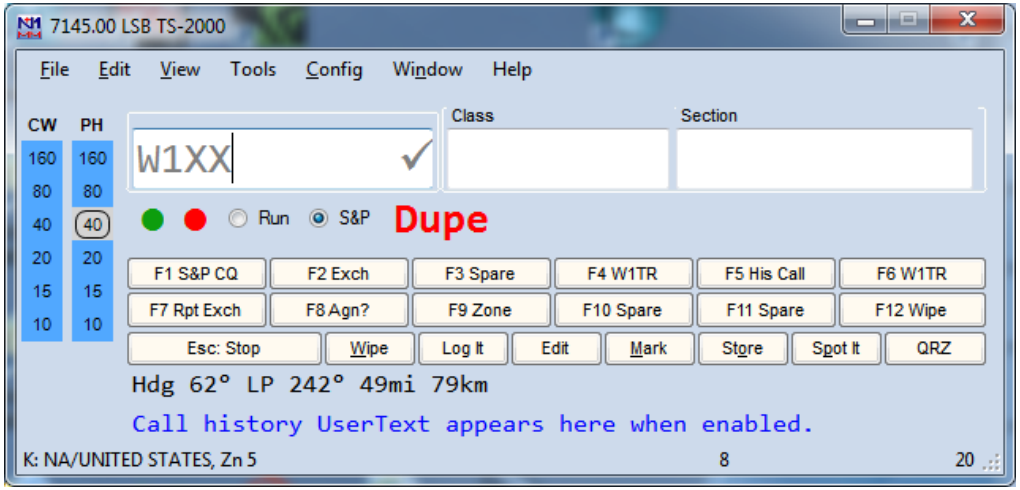
Dates / Times are Fictitious here, It's a Demo!

QSO Logging – Dupe Check



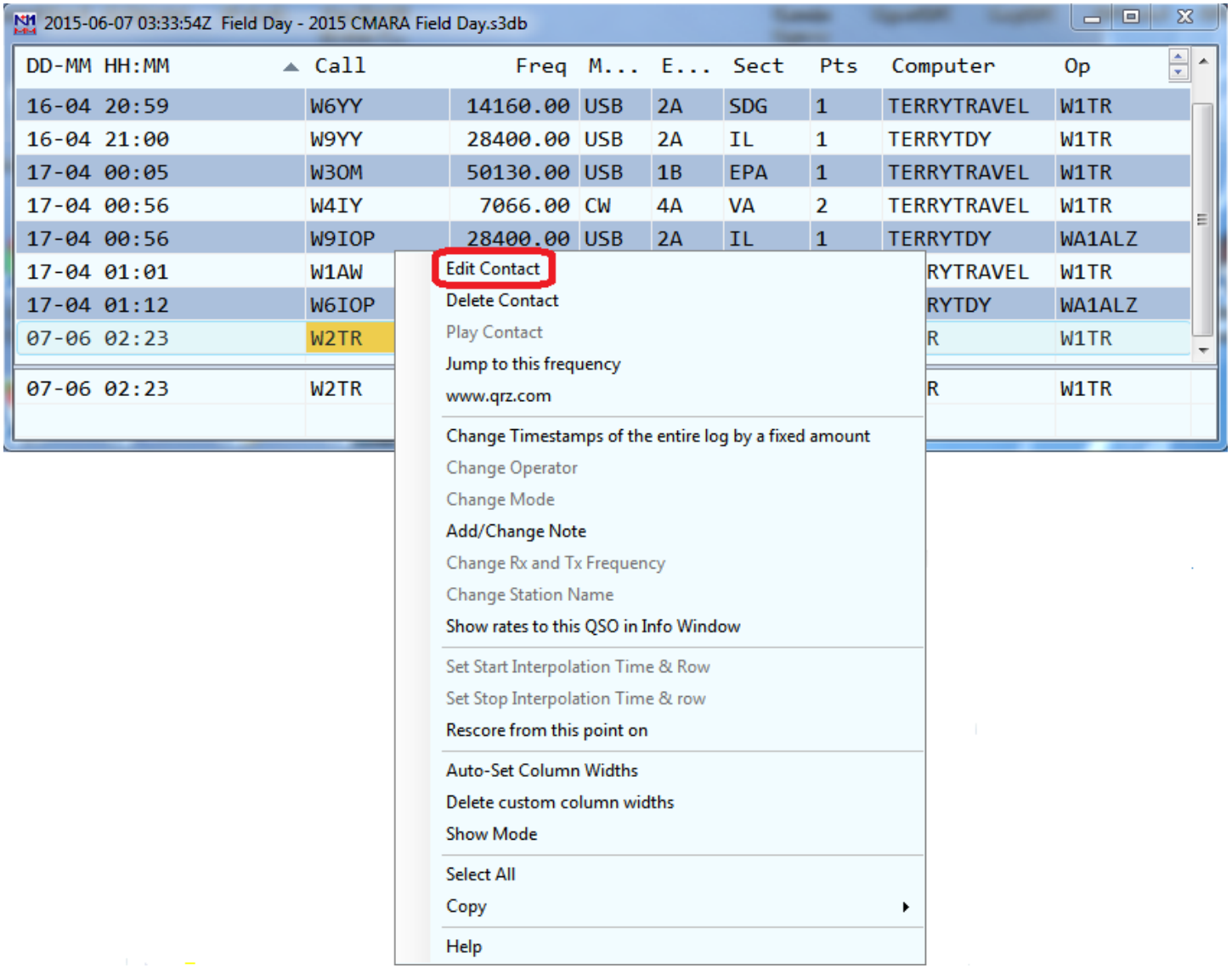
DD-MM	HH:MM	Call	Freq	M...	E...	Sect	Pts	Computer	Op
16-04	20:58	W1XX	7145.01	LSB	1A	RI	1	W1TR	W1TR
16-04	20:59	W6YY	14160.00	USB	2A	SDG	1	TERRYTRAVEL	W1TR
16-04	21:00	W9YY	28400.00	USB	2A	IL	1	TERRYTDY	W1TR
17-04	00:05	W3OM	50130.00	USB	1B	EPA	1	TERRYTRAVEL	W1TR
17-04	00:56	W4IY	7066.00	CW	4A	VA	2	TERRYTRAVEL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



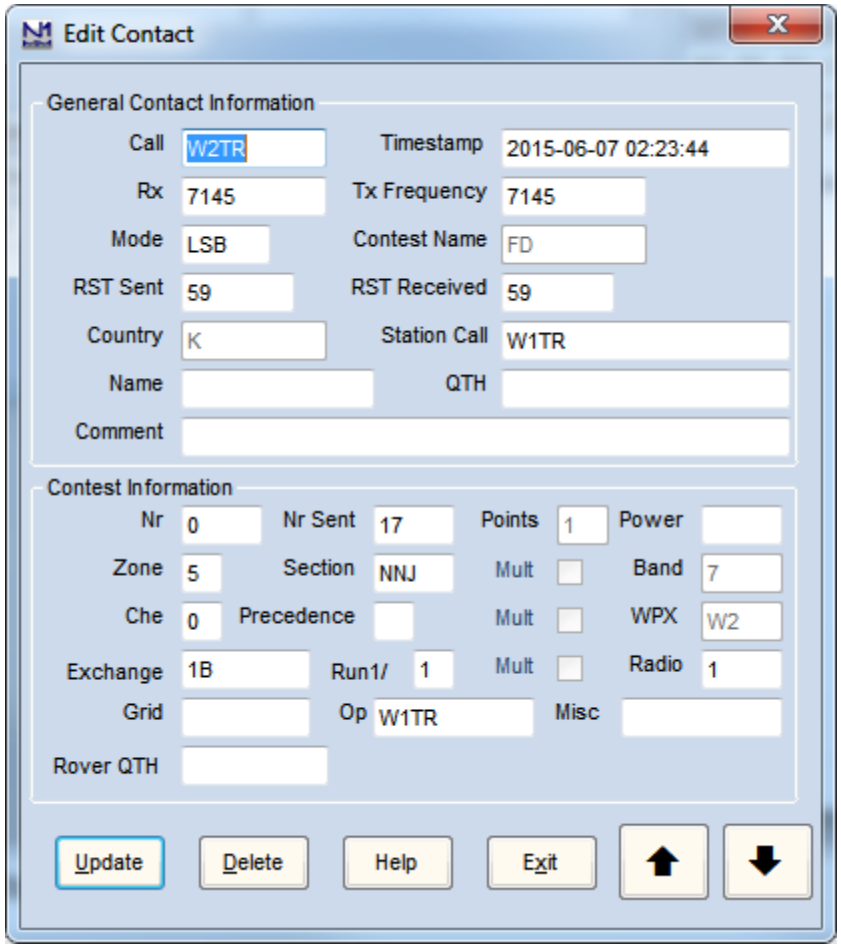
Edit Log – Make Corrections

Right Click on Log Entry to be Edited



Edit Log – Log Edit Form

Make Changes in Edit Contact Form



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

- All Stations will be assigned a fixed set of 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

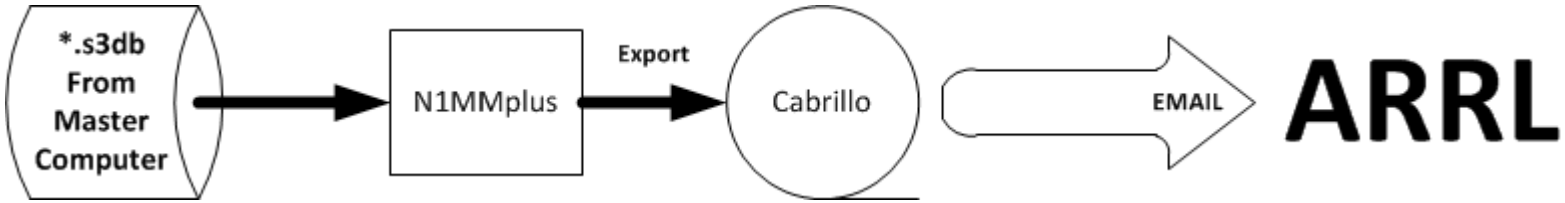
At End of Field Day …

- 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 Chairman
- Wait for the FD Chairman
  to check that the FD Log seems OK on Master
  ALL QSOs should be in the log on everyone's computer, SLAVES and MASTER.
- Any Questions, Ask the FD Chairman

Log Consolidation and Submittal

This is what the Field Day Chairman will do to submit FD Logs to ARRL:

1) 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) The Field Day Log, *.s3db, will be Loaded into N1MMplus
5) The Log will be Exported to Cabrillo Format for ARRL Submission
6) The Cabrillo File 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

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

  Post questions, comments, and report BUGS to the developers

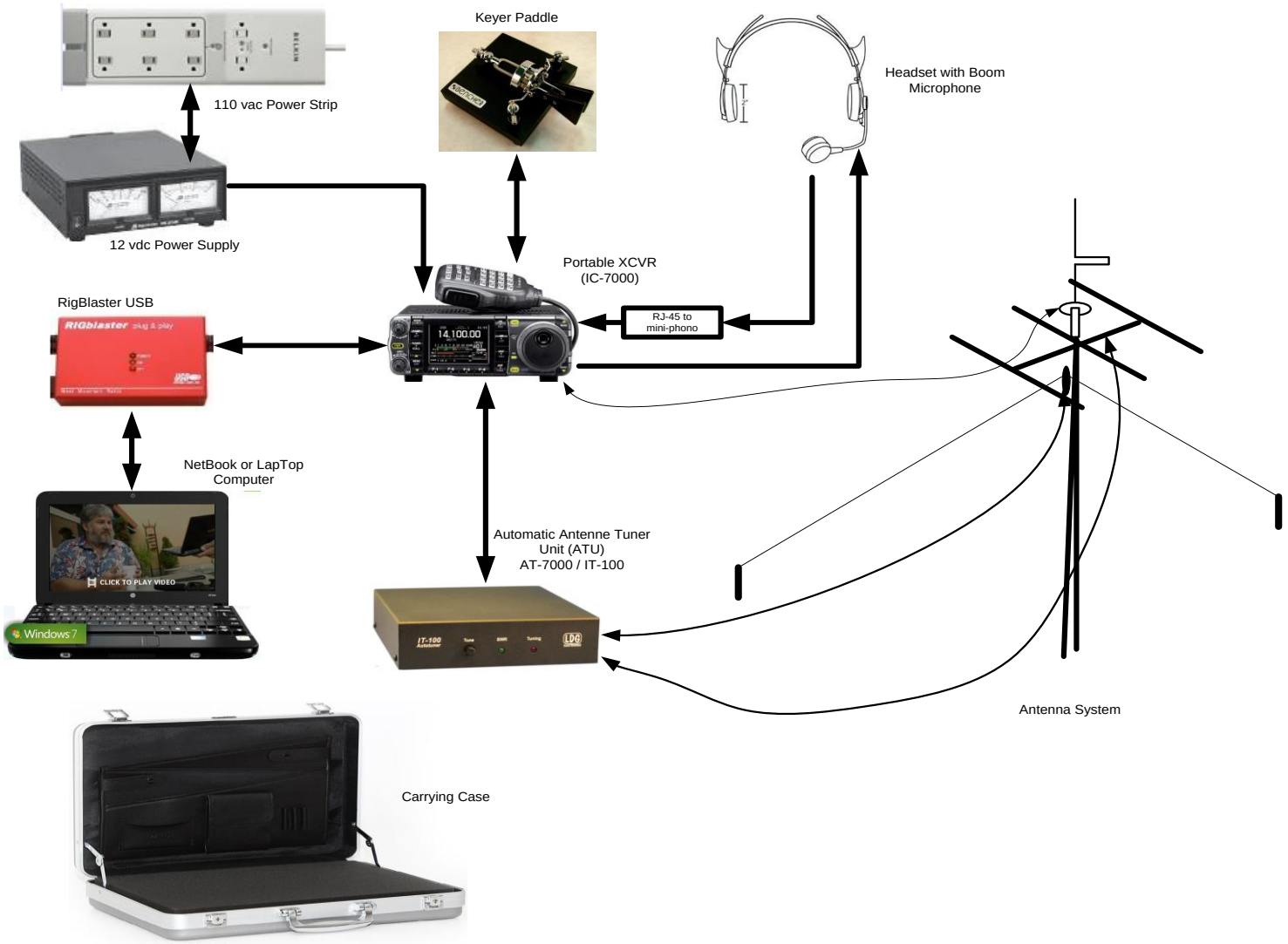
Summary

- 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 CI-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)

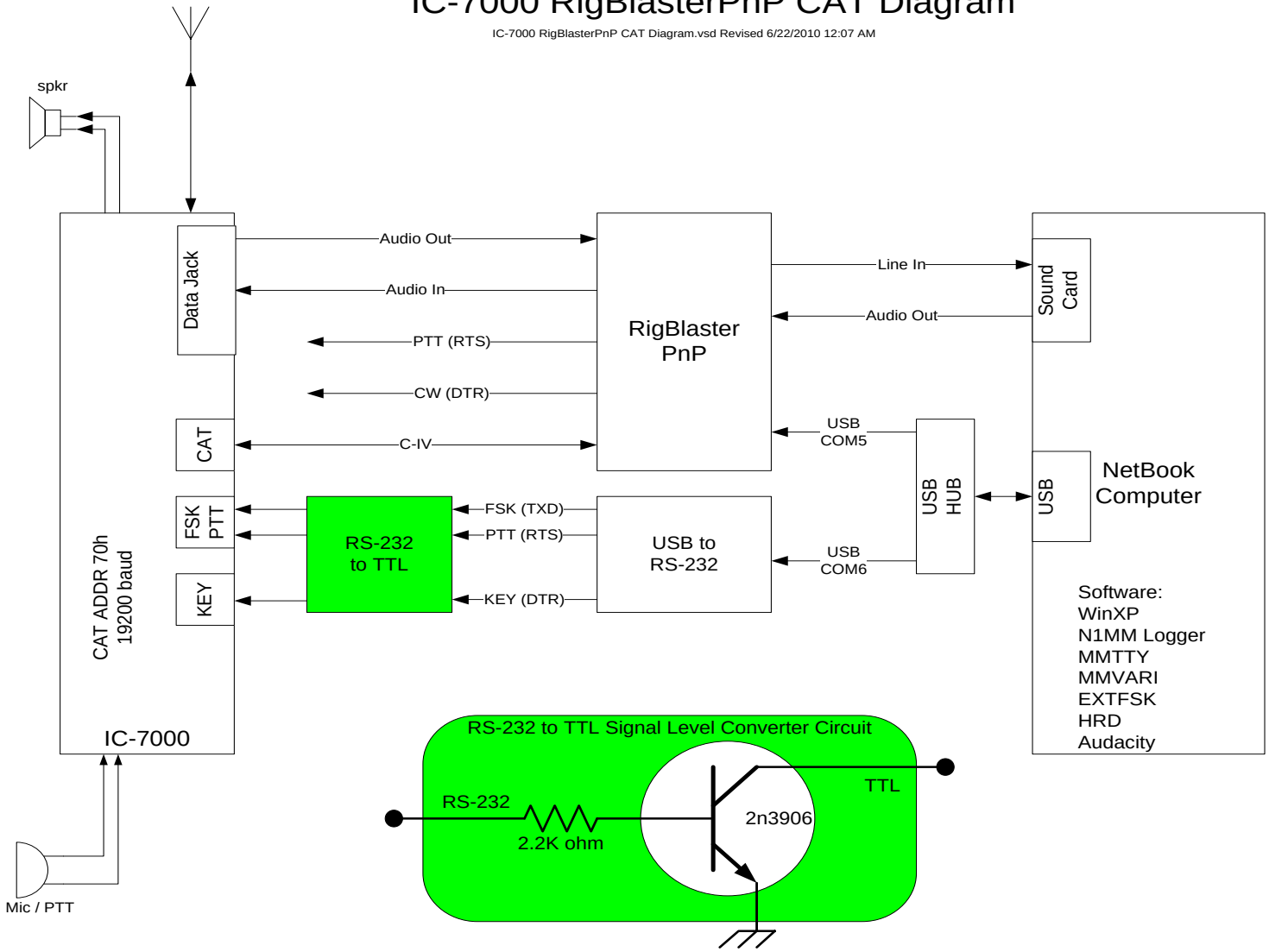
CW Keying

- 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 (± 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 Provides This)
- All Modulation and Demodulation in Software
  (Digital Modes)

Digital Modes Equipment Interconnect



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

N1MM Videos - YouTube

- Google Search: **N1MM Video**
- N1MM Instructional Videos (K8UT)
  http://n1mm.hamdocs.com/tiki-index.php?page=Instructional+Videos
- N1MM Plus for Beginners
  https://www.youtube.com/watch?v=KxHOCMAxyVQ
- N1MM Basics
  https://www.youtube.com/watch?v=SAS5iHPg78c
- N1MM Plus
  https://www.youtube.com/watch?v=fONJ2dOfGxA
- N1MM and ARRL Field Day VE3DVY
  https://www.youtube.com/watch?v=s6wQK4c1s7M
- N1MM RTTY FSK, Spectrum Display, VSPE K0PIR
  https://www.youtube.com/watch?v=YaOo3D3NAlQ
- N1MM FLDIGI CW Contesting K0PIR
  https://www.youtube.com/watch?v=T-qavP7cISk
- N1MM CW Interface
  https://www.youtube.com/watch?v=tgT5xJPPsFg
- N1MM Automated SSB Contesting
  https://www.youtube.com/watch?v=cSzsqgH6prc
- N1MM CW & RIG Control
  http://slideplayer.com/slide/9816742/

N1MMplus Quick Sheet

- Set Date/Time on Computer to WWV (2.5,5,10,15,20 MHz)
  CHU on 3.330, 7.850, 14.670 MHz
  N1MM Networking should take care of this.
- Install N1MMplus Software (Full Install then a Recent Update)
- Recent Update will be provided by the Field Day Chairman (W1TR)
- Open Existing Database …\2018 CMARA Field Day.s3db
- Open Log In Database - FD
- All Station and Contest Parameters are Already Setup
- Set Operator Callsign (KB1VUA, etc) not to be confused with Station Callsign – CTRL-O
- Set Frequency in KHz (e.g. 3550, 3850) use typical CW or SSB frequency accordingly
- Set Mode (USB, LSB, CW, AM, FM)
- 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

EXTRA SLIDES

N1MM+ Overview

- Totally FREE ! (no license fee)
- Runs on Windows XP, Vista, Win7, 8, 8.1, 10(32 or 64 bit) (not 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

CMARA Field Day WiFi Network

WiFi SSID:
Router: W1BIM
Repeater#1: W1BIM_South
Repeater#2: W1BIM_North
Password: open / no password